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**THE ROLE OF PERFORMANCE CONTRACT (IMIHIGO) IN THE  
TRANSFORMATION OF AGRICULTURE IN RWANDA**

**MSc Thesis**

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## **ABSTRACT**

### **The role of performance contract (Imihigo) in agricultural transformation in Rwanda**

The agricultural transformation in Rwanda is one of the best solutions to improve households living conditions and achieve the county' s economic development. Committed to this end, the government of Rwanda has set up a good number of policies and initiatives to channel different interventions within the domain. One of the recent introduced initiatives is the performance contract known as Imihigo and through which all stakeholders have to perform a good number of targeted activities on annual basis. This study looked at how this initiative contributed to the process of agricultural transformation in Huye and Kirehe districts of southern and eastern provinces of Rwanda. The field data collected through formal and informal surveys from a representative sample of household heads are discussed in the line with available literatures.

Positive changes in agricultural sector observed by interviewed farmers include the use of improved agricultural practices and improved seeds and most of these changes are initiated by local authority and support providers who dominate also the decision making process. Although Imihigo at household level are prepared by authorities, farmers are consulted and sensitized for active participation in planning meetings. The importance of these meetings is recognized by farmers who acquire more knowledge and learn how to increase production in order to meet their Imihigo.

The results showed that Imihigo strengthen partnership among stakeholders and encourage people and authority to look for more stakeholders, the key for successful implementation of Imihigo. This partnership increases the rate and frequency of contact between farmers and stakeholders. Many achievements like the increased rate of the use of improved seeds and other inputs were highlighted but also challenges faced are identified.

The need for local authority to invest more in coordinating different effort scattered and to sensitize all people on the targets included in Imihigo is recommended.

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#### LIST OF ACRONYMS

<b>BNR:</b>	Banque Nationale du Rwanda (National Bank of Rwanda).
<b>CDF:</b>	common development fund.
<b>EDPRS:</b>	Economic Development and Poverty Reduction Strategy.



<b>GDP:</b>	Gross Domestic Product.
<b>ICT:</b>	INFORMATION and Communication Technologies.
<b>IDA:</b>	International Development Agency.
<b>IFAD:</b>	International Fund for Agricultural Development.
<b>IFDC:</b>	International Research, Technical Development and problem Solving and Agricultural sustainability.
<b>IFPRI:</b>	International Food Policy Research Institute .
<b>ISAE:</b>	Institut Supérieur d' Agriculture et d' Elevage (High Institute of agricultural and animal husbandry).
<b>ISAR:</b>	Institut des Sciences Agronomiques du Rwanda (National Agricultural Research Institute).
<b>MFI:</b>	Micro Finance Institution.
<b>MINAGRI:</b>	Ministry of Agricultural and Animal Resources.
<b>MINALOC:</b>	Ministry of Local Government and Community Development.
<b>MINECOFIN:</b>	Ministry of Finance and Economic Planning.
<b>MINILENA:</b>	Ministry of Land, Environment, Forestry, Water and Mines.
<b>NGO:</b>	Non Governmental Organization.
<b>NISR:</b>	National Institute of Statistics of Rwanda.
<b>OSSREA :</b>	Organization for Social Science Research in Eastern and Southern Africa.
<b>PAPSTA :</b>	Projet d' Appui au Plan Stratégique de Transformation de l' Agriculture (Support Project for Strategic Plan of Agricultural Transformation).
<b>RADA:</b>	Rwanda Agricultural Development Authority.
<b>RARDA:</b>	Rwanda Animal Resources Development Authority.
<b>REMA:</b>	Rwanda Environmental Management Authority.
<b>RHODA:</b>	Rwanda Horticultural Development Authority.
<b>SOE:</b>	State Owned Enterprise.
<b>SPSS:</b>	Statistical Package for Social Sciences.
<b>TIG:</b>	Travaux d' Interet Generaux (Works for general interest).
<b>UCORIRWA :</b>	Union des Coopératives Rizicoles au Rwanda (Rwanda Rice Growers Cooperatives Union).
<b>UNIFEM:</b>	United Nations Development Fund for Women.
<b>USAID:</b>	United State Agency for International Development.
<b>WFP:</b>	World Food Program

## **0. GENERAL INTRODUCTION**

Rwanda is a small, landlocked and one of the world's most densely populated countries. The country has an area of 26338 km<sup>2</sup> and a population estimated at of 10,117,029 in 2009, that is 784 inhabitants/km<sup>2</sup> (NISR, 2009). Economically, Rwanda is among the world poorest countries, despite the significant progress made in the end of the last decade and the beginning of this decade (World Bank/IDA, 2009). On average, the poverty fallen by 3 % in five years from 60 % of the population living under the poverty line in 2000/2001 to 57 % in 2005/2006 with significant decrease of 12 % in Eastern province and a slight increase of 1 % in Southern province(MINECOFIN/NISR, 2008).

From an annual rate of 10.5 % attained over 1996-2002, the average real Gross Domestic Product (GDP) growth rates reached 5.6 % in the period from 2003 to 2007 before picking up once again. In 2007 Rwanda's economy grew by 7.9 % and it was expected to grow by 8.5 % in 2008; the main driving force for this increase is the strong agricultural progress (World Bank/IDA, 2009). In fact, according to this source, increased productivity in the agricultural and service sectors, accompanied by strong public and private sector investment activities are key sources of growth, employment and poverty reduction in the short to medium term (World Bank/IDA, 2009).

Agricultural sector in Rwanda which employs 90 % of the population and contribute to Gross Domestic Product (GDP) by 41 %, was expected to grow nearly 15 % in 2008 (World Bank/IDA, 2009; NISR, 2009). Statistics for 2008 indicated an increase of 19.2 % for food crops production and a combined increase of 15.7 % for coffee and tea, the two major export crops in Rwanda (BNR, 2009; NISR, 2009). In spite of this 2008 increase, the agricultural production trend experienced two periods of production decrease in the previous decade: 2002-2004 and 2005-2007 (BNR, 2008; BNR, 2009).

The population, on its part, keeps growing and this makes smaller and smaller the food availability per capita per day. The survey conducted in 2007 showed that during the last two decades, food availability per capita per year experienced a significant decrease with high proportion in the first six years of the previous decade. In fact, the food availability per capita per year dropped by 12.7 % from 886 kg per capita in 1990 to 786 kg per capita in 2000 but from 2000 to 2006 it dropped by 85.4 % from 786 kg per capita in 2000 to 424 kg per capita in 2006 (MINECOFIN/NISR, 2007). This trend of food availability per capita per year leads to food insecurity and calls upon all stakeholders involved in agricultural sector to take appropriate measures in effort to increase the agricultural production and then guarantee food security.

In recent years, government has shown a strong commitment to further develop agriculture by introducing a range of initiatives in order to create a much more favourable environment for private investment and public-private partnerships. Imihigo, a performance contract between the state and people is one such example. Imihigo however meets strong support and critique. This study is undertaken to examine what Imihigo stands for and their role in agricultural transformation.

The thesis is articulated around the following five chapters:

Chapter 1 clarifies the problem to be dealt with and formulates research objectives and research questions. It also elaborates Imihigo per se and how to study them and also what is meant by agricultural transformation. Drawing on management studies and development

studies we hope to define a framework to order and interpret the data that was collected with the help of a field survey.

Chapter 2 looks at Imihigo, a form of performance contract that governs the relationship between government institutions and Rwandan population in terms of development. It describes the background of Imihigo in the Rwandan context: why Imihigo? How designed and by whom. The second section of this chapter provides a portrait of agriculture in Rwanda and how it is evolving towards its transformation

Chapter 3 looks at the description of survey areas and population sampled. It provides the general characteristics of Kirehe and Huye districts with a special focus on agriculture sector. This chapter presents also the field results related to general characteristics of the sampled farmers.

Chapter 4 focuses on how Imihigo shape the relationships among different stakeholders involved in agricultural transformation in surveyed areas. It identifies the changes induced since Imihigo are implemented and it deals with constraints that threaten the sustainability of the achieved results in terms of agricultural development. This chapter includes both farmers and key informant responses but also it includes our observations during our field survey. These findings are discussed in the line with desk study findings and other literature.

Chapter 5 tries to summarize the field results according to different ways of seeing Imihigo; it provides responses to research questions and suggests some policy implications for the sustainability and improvement of Imihigo's achievements in developing agriculture sector in Rwanda.

## CHAPTER 1: PROBLEM STATEMENT AND METHODOLOGICAL APPROACH

### 1.1 TOWARDS A PROBLEM STATEMENT

The recent poor performance of food production in Rwanda has led to food shortages. These are not new in Rwanda and sometimes they used to last for a long time and followed by a period of serious hunger. After such periods, a series of measures were implemented derived from agrarian policies and strategies of the state. New crops were introduced and initiatives to improve agricultural practices were taken to prevent its recurrence. For instance, the colonial regime imposed roots crop cultivation and wetland development in 1945 after a five years of serious hunger (Takeuchi and Murara, 2000). These policies which are considered as the first steps of rural development in Rwanda “*were aimed at increasing the agricultural production, diffusing modern techniques, promoting commercialization and urging effective land use to prevent erosion*” (Ibid., 21). It was believed that once this was achieved, the problem of food shortage and low food production would have been efficiently resolved. However, the period from 1975 up to 1994 also turned out to be critical for the Rwandan population. During this period, Rwanda applied the lowest amount of fertilizer per capita in the world, some areas experienced crop failure and several thousand people were forced to emigrate, a large number of children dropped out of school and many others died because of starvation (Verwimp, 2002). The government has tried to respond to such situation by either elaborating and extending already existing policies and measures like soil erosion control or by introducing new industrial crops like coffee. Verwimp (2002) argues that the implementation of these policies contained elements of force. For example, farmers were forced to dig ditches on their plots and plant coffee with serious punishment for those who refused to implement these policies.

Despite important achievements in the field of soil erosion control, studies show that Rwanda is continuously losing 1.4 Million tons of fertile soil per year which in turn corresponds with a decline in the country's capacity to feed 40,000 people per year (MINAGRI, 2004). So, are there solutions to land degradation problems which perhaps go beyond the farmers' control? (Moges and Holden, 2007). The answer will definitely be “no” since a good number of farmers managed to prevent soil erosion by using different practices some of which are low cost practices and others involve high monetary cost. For instance, farmers in Northern province managed to get credits for making bench terraces on their plots especially because they have witnessed the production increase on plots under this practice owned by catholic church brothers in the neighbourhood (Bugwiza, 2000).

After the 1994 genocide in Rwanda, the agricultural sector has quickly recovered. However, few years after production started to decline while population growth continued and more and more people returned home from abroad. Food shortage became again serious. The government embarked on what it refers to as the agricultural transformation. In 2004, the first phase of a strategic plan for agricultural transformation was initiated and from then on a range of government initiatives and policies aimed at transforming agriculture were implemented in an effort to meet the population growth. The government initiatives include the crop intensification program and one cow per poor family program which is locally known as Girinka as well as a performance contract (Imihigo) and exemplary site (agasozi ndatwa) (MINAGRI, 2009).

The above initiatives are proof of the government's commitment to transform the agricultural sector in Rwanda. However, no significant improvement in food production increase was recorded till 2008. The 2004 – 2007 period was mostly characterised by a general decline in

terms of agricultural production. The following are some of the possible explanations to this situation:

1. These policies are recent and it will take time to show effect. This may be supported by the agricultural production increase observed in 2008 and 2009 probably as the effect of government initiatives introduced from 2004 to 2007.
2. The predominance of natural resource related constraints (soil and weather conditions) are considered to be the main challenges for agricultural development. This position is supported by authors like Dudal, (1980) and Drechsel *et al.*, (1996) in the case of Rwanda.
3. Some authors like Timmer (1998) and Deininger and Olinto (2000) consider government policies as the major constraint limiting agricultural development by impeding rather than inducing appropriate technical and institutional innovations. Others like Hezell and Hojjati (1995) challenge this by stating that the government reforms contribute positively to the agricultural production growth.
4. Authors like Voortman *et al.* (2003) attribute the poor performance of agricultural production to a combination of government initiatives the predominant soil and weather conditions.
5. Local knowledge and practices are sometimes ignored and this may limit the farmers participation in the whole process of agricultural production.

The role and impact of state agrarian policies are fiercely debated. For the purpose of this study, we are interested by the controversies raised by the role played by government initiatives in Rwanda regarding agricultural transformation. Our particular interests is an analysis of the dynamics involved with the initiative known as Imihigo (Performance contract). Imihigo are a form of contract stating different activities to be achieved within one year in the framework of improving household welfare. In their early stage an Imihigo were a contract between the President of the Republic and district mayors on the behalf of the population living in these districts. Currently, Imihigo are popular in every public institution and it is signed even at the household level between household head and the authority.

The focus on Imihigo is motivated by the fact that they received strong support from government and state authorities, while on the other hand Imihigo have received strong criticisms from various commentators. The proponents of Imihigo stress that they are rooted in the historical and traditional context of Rwanda hinging on the culture of public bravery. Each of the people involved should work towards the achievement of his targets that were set. The achievement was rewarded and the failure was not physically but only morally sanctioned. In this regards Imihigo may be considered as a rather neutral institutional arrangement since the driving forces towards the achievement of targeted objectives are endogenous. This position is also described in different government documents and some research findings. Imihigo are pictured as a bottom up approach where farmers set up their targets depending on their will, priorities and means. Other different stakeholders involved in agricultural development intervenes to facilitate the implementation and not to impose their will. It is in this context of bottom up approach that we can understand the following statement: *“The spirit of imihigo emphasizes setting ambitious goals that require a deep commitment to action and personal responsibility. imihigos embody a ‘reciprocity of obligations and mutual respect’ wherein each strata of the social hierarchy makes promises to higher and lower ranks. The chain of responsibilities goes all the way up to the President, who in turn provides support for the imihigos”* (Ryan *et al.* 2008: 9)

On the other hand, commentators such as Huggins (2009) view Imihigo as top down like most of the government initiatives. According to him, decision making is centralized and the authorities are responsible for elaborating targets and decide which and how activities will be carried out to achieve the targets that were set. These decisions are usually based on technical information provided by experts and the farmers took part in Imihigo as the implementers of authorities' will. Farmers are dictated and imposed what to do and they have to obey otherwise they are severely punished. In this case he added "*local authorities use measures such as fines and destruction of property to ensure targets are met. (...) Moreover, in many areas, farmers are obliged to join 'cooperatives' through which decisions are made regarding all aspects of farming. Farmers are forced to buy particular kinds of seeds and fertilizer from the local authorities. Such agricultural inputs are usually supplied on credit that is repaid at harvest time. The important point, as far as the farmers are concerned, is that when the choice of crop, types of seed, amount of fertilizer, time of planting, harvest, and sale are all controlled by the local authorities, they have effectively lost control over how they use their land*" (Huggins 2009: 299-300).

These two ways of seeing Imihigo are closely related to two views of policy in development. Mosse (2004) talk of instrumental view that sees policy as rational problem solving and critical view that sees policy as a "cloak" of rational planning with hidden purposes of dominance or bureaucratic power. In the same line, these views may be linked to Ferguson (1990) liberal and marxist views of development. In fact, liberals believe in the improvement of interventions and approaches used while the Marxists find these interventions hypocritical.

By analysing some documents, another way of seeing imihigo through which government provides guidelines and leaves some spaces to farmers to participates may be identified. However, this position is not clear and the field data may bring more clarifications.

Brief, these different positions provide more incentives to undertake this research but this will not evaluate or judge Imihigo. The study tries to explore Imihigo and their role in agricultural productivity.

## **1.2 CONCEPTUALISATION**

### **1.2.1 Performance contract**

The concept "Performance contract" is well known and used in the field of management, especially the management of public enterprises. According to the commonwealth secretariat performance contract is "*a contract between the owner of an enterprise on the one side and the management of the enterprise on the other, setting out certain targets/results to be achieved in a given time frame. It also enumerates the mutual obligations of the two parties in achieving the targets set in the contracts*" (Commonwealth secretariat, 1995: 1).

Originating from France in 1960s, this system of managing public enterprises has evolved and used in a good number of countries before and mostly after getting a World Bank approval as one of the principal measures of reform for public enterprises (Commonwealth secretariat, 1995). For this system of managing public enterprises, two sets of purposes are identified by Schweiger and Sumners (1994): on one hand we have development purpose which is associated with communication, feedback on past performance discussing strengths and weaknesses, clarifying future performance expectations, establishing future goals and assessing training needs. On the other hand we have the judgmental purpose which is associated with process issues such as salary increases, promotions, probations and lay-offs.

In terms of advantages and disadvantages of this system, Pullin and Haider build on Longenecker's observation on the one hand and Wiese and Buckley on the other hand to state: *"The contribution of performance appraisal is sometimes doubted due to limitations which include: unclear performance criteria, poor working relationships with assessors, poor information on actual performance, lack of ongoing feedback, second guessing, and ineffective links to reward systems. Despite the limitations, perceived and real, the contribution of performance appraisal is valued as it allows an organisation to measure and evaluate an individual employee's behaviour and accomplishments over a specific period of time"* (Pullin and Haider, 2003: 280) .

In case of Rwanda the performance contract is known as imihigo and it originates from the traditional notion through which people vowed to attain community self-assigned targets and the achievement was followed by celebrating collective success. In his article, Chu (2009) consider imihigo as a traditional Rwandan concept in which two people or groups publicly pledge to work toward a stated task.

In the same line, UNIFEM and MINAGRI considered Imihigo as a traditional accountability mechanism that Rwanda institutionalized as a means to enhance local government reform and stimulate development. According to UNIFEM, this mechanism draws on a long-standing cultural practice in Rwanda whereby two parties publicly commit themselves to the achievement of a particular task. Failing to meet these public commitments leads to dishonour, not only for the individual or groups committed to achieve the tasks but also it is a shame for the community in general (UNIFEM, 2008; MINAGRI, 2009).

From the above considerations, performance contract in Rwandan context implies almost three main points:

1. Contract or agreement aiming at attaining a target or many targets set up by a group of people who are committed to achieve them;
2. The contract involves two parties and it should be made public; and
3. The implementation of this contract should be evaluated ; the success is celebrated and the failure brings dishonour particularly to the people committed to attain the targets and the whole community in general.

Currently, performance contract (*Imihigo*) refers to *"performance management contracts signed between the President of Rwanda and district mayors on behalf of their constituents. The process is recorded publicly in a written contract that presents a list of development targets backed by specific performance indicators over a one-year period. Sectors and cells are solicited to develop their own action plans and targets and they are expected to mobilize their populations to meet these local development targets. Imihigo are also signed locally between districts and sectors to reinforce the importance of harmonizing local and national government development objectives"* (USAID; 2009: 10) Imihigo are currently being implemented at the cell, village and household levels to encourage grassroots participation in meeting development objectives and it is also used by the Government of Rwanda as a mechanism for holding local officials accountable of the performance.

### **1.2.2 Agricultural transformation**

This concept gained more importance in development studies since agriculture is the backbone of the economy of a good number of countries across the globe and source of food for the entire population. It contributes highly to GDP and employs many people especially in developing countries. Even in developed countries where the economy is mostly based on

industries, the development of agricultural sector is also a necessity. Citing Lewis, Timmer justified this necessity in the following terms: “Now if the capitalist sector produces no food, its expansion increases the demand for food in terms of capitalist products, and so reduces profits. This is one of the senses in which industrialization is dependent upon agricultural improvement; it is not profitable to produce a growing volume of manufactures unless agricultural production is growing simultaneously. This is also why industrial and agrarian revolution always go together, and why economies in which agriculture is stagnant do not show industrial development” (Timmer, 1988: 276).

From this justification of how agricultural transformation and agricultural development in general is important, the question is now what does this transformation imply? Many answers to this question are economically oriented and often challenged. Timmer (1992) defines agricultural transformation as the process of converting household-oriented, subsistence-type structures to commercial units that have highly efficient linkages to the urban and world economies. Staatz (1998) insists on specialization and defines agricultural transformation as the process by which individual farms shift from highly diversified, subsistence-oriented production towards more specialized production oriented towards the market or other systems of exchange (e.g., long-term contracts). This process involves a greater reliance on input and output delivery systems and increased integration of agriculture with other sectors of the domestic and international economies. Seckler (1993: 8) goes further and provides six characteristics of agricultural transformation. According to him, agricultural transformation occurs when “a substantial number of rural household (1) have incomes exceeding the poverty level, (2) operate farms commercially (selling a substantial portion of the value of their output), (3) specialize in production at the farm level, (4) invest more heavily on the farm, (5) purchase commercial inputs, including hired labor, in significant quantities, and (6) adopt new technologies on a regular basis”.

Mushtaq et al. (2009) summarize the above definitions in the following figure:

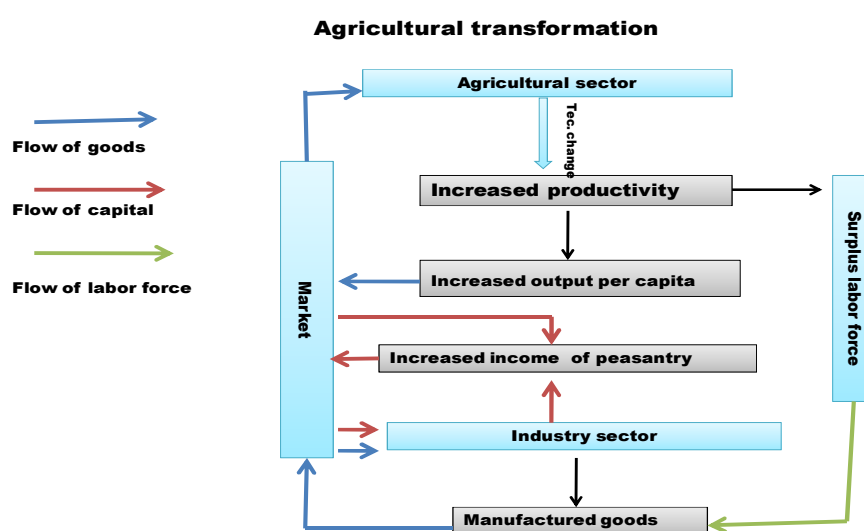


Figure 1: Agriculture transformation (Adapted from Mushtaq et al. (2009))



This way of defining agricultural transformation has been criticized by some authors. Strout (1985) simply defines agricultural transformation as the movement of large numbers of people out of agriculture resulted from the creation of larger average farm size through land consolidation. He adds that these inevitable structural changes can give rise to severe social distress. Cowan (1970) and Feldman (1970) pointed out that the process of transforming agriculture remove much of the decision making function from the farmer.

Van der Ploeg (2010) established a parallel between agricultural transformation and modernization theory by defining modernization process as the multidimensional restructuring of agriculture towards highly specialized, large-scale, intensive and market-oriented production. According to him the modernization of agriculture is influenced by modernization theories which have in common with marxist approaches that consider the peasantry as the main obstacle for development.

The strategic plan for the transformation of agriculture in Rwanda perceived this transformation as the productivity increase of production factors, maximum valorisation of products, diversification of sources of income, conservation and rational management of environmental natural resources (MINAGRI, 2004). Concerning the opportunities available in rural areas so that these changes may be carried out, Donovan *et al.*, (2004) found Rwandan agriculture highly dynamic and capable of adapting quite quickly in response to new opportunities and constraints. In fact, according to these authors, farmers in Rwanda face both favourable and unfavourable forces. On one hand rural households are responding to pressures created by reduced availability of land per capita, rainfall deficit, reduced prices and yields of selected crops, etc. On the other hand, farmers are responding to better marketing opportunities.

According to the Ministry of Agriculture and Animal Resources (MINAGRI), agricultural transformation should be in line with Vision 2020 and Strategic Framework for Poverty Reduction. It should also be inspired by the National Agricultural Policy's orientations. These orientations are related to the modernization of agriculture through horizontal and vertical actions. The horizontal actions are linked to the increase in crop productivity while the reinforcement of producers' professionalisation and specialization of agriculture is done through vertical actions of the development. Among other principles that guide this transformation of agriculture in Rwanda, the Ministry of agriculture consider the participation of the beneficiaries as the cornerstone to achieve better results. The role of state will be refocused in order to reinforce ownership and assumption of responsibility by the farmer communities and organizations and private operators as well as partnership between the State and those other actors (MINAGRI, 2004).

For the purpose of this study, we will focus on the changes induced by Imihigo in terms of agricultural productivity. The agricultural transformation is looked from the agricultural productivity perspective.

### **1.2.3 Performance contract: institutional arrangement that induces or limits changes**

Processes of agricultural transformation are embedded in institutional arrangements that govern, motivate or block changes. Institutional arrangements reflect the nature and dynamics of the evolving social relationships between the various actors involved and simultaneously reflect elements of consensus (one agrees with one another) as well as of contestations

(ideas are not necessarily shared but contested). Depending on the institutional arrangement that is forged change may be quick, slow or simply failed to happen. In this section we will explore how performance contract, as institutional arrangement, stimulate or block changes.

### **1.2.3.1 Performance contract as an institutional arrangement**

The concept “ Institution” gained much importance in sociology and economics and many of its definitions are related to a broad range of social science disciplines. Institution is defined as fundamental legal rules that govern the economic relations between people while institutional arrangement is considered as an arrangement between economic units that govern the ways in which these units can cooperate or compete (Davis and North, 1970). Lin (1989) tried to be more general and defined institutional arrangement as a set of behavioral rules that govern a specific pattern of action and specific relations. For the purpose of our study, we build on the definition provided by Nelson (1978a) and consider institutional arrangement as different forms of government, agencies, civil and criminal laws, legislation, and other means of influencing human behavior and effects on agricultural development.

The study on institutional arrangement revealed that this concept encompasses a set of variables. According to Mitchell (1989), this study should focus on the interaction of multiple variables: (1) legislation and regulation, (2) policies and guidelines, (3) administrative structures, (4) economic and financial arrangements, (5) political structures and processes, (6) historical and traditional customs and values, and (7) key participants and/or actors. Nelson (1978b) adds the 8th variable which is management techniques.

With regards to the above eight variables of institutional arrangement, the performance contract, either as a management tool like in public or private enterprise or as a government initiative like Imihigo in Rwanda, fits with the concept “ institutional arrangement. As mentioned, the way, institutional arrangement governs relations may stimulate quick development or may slow the process or simply block the process. In the following two sections the institutional arrangement as a motivator or as a constraint to process of change and development in general is explored.

### **1.2.3.2 Performance contract induces changes and development**

Generally, contract implies the detailing of roles and responsibilities to be performed, specifying procedures for monitoring and penalties for noncompliance, and, most importantly, determine outcomes or outputs to be delivered. The manager’s task is to craft governance arrangements with minimal cost that ensure the delivery of the desired quantity, price, and quality of a supplier’s services (Poppo and Zenger, 2002). A performance contract thus plays on both designing the contract by providing motivation to the contract and on outcomes through determining the quality of goods or services to be delivered. In the context of agricultural development there is experience with contracts in the sense of a contract with a supplier for a fixed price in advance. The choice of a farmer for such a contract is generally motivated by three functions namely a security device, a provision of incentives and a provision of information. On the outcomes side, a contract implies ideally equity, efficiency and sustainability (Sáenz-Segura, 2006). In fact, on security function, a farmer has the guarantee that his output will be purchased at a fixed price and this will create an incentive to invest by increasing for instance the use of fertilizers and pesticides. In addition, contracts function as a mechanism to provide farmers with information about the structure of the market where they operate and this is very important to prevent false expectations and

adverse selection problems. On the outcomes side, the contracts have proven to be a mechanism for enhancing equity by incorporating certain types of producers into specialized (inter)national markets, they have positive effect on resource allocation and product quality (efficiency) and finally, they play an important role in intensifying farmers' production systems by enhancing land use and involving more labor in crop management and postharvest handling (Sáenz-Segura, 2006).

By taking into consideration the above functions and implication of contract, it is obvious that changes may be induced following implementation. Farmers are stimulated and motivated to invest in agriculture and consequently transform their agriculture. Nevertheless, the government initiated institutions arrangements like the performance based contracts and other policies are seen either as development driving forces or as factors leading to development failure. (Mosse, 2004; Rondinelli, 1993).

### **1.2.3.3 Performance contract and policies initiated by government fail to induce changes**

#### **a. State Owned Enterprises and performance contract**

Following the failure of State Owned Enterprises (SOEs) that destabilized the entire economies and impeded efforts to improve international competitiveness for most developing countries; the performance based contract was one option to deal with the situation in 1980's (Mallon, 1994; Choe and Yin, 2000). Motivated by incentives, these contracts have experienced different situations but the general trend in terms of productivity was the poor performance of those SOEs under performance based contract. The main reason for this poor performance was the failure to provide incentives to managers for expected profit maximization (Choe and Yin, 2000). In case of China for instance some authors observed an increased productivity (Groves *et al.* 1994; Li 1997 and Yao 1997), others observed no change (Woo *et al.*, 1994) and finally others indicated that the performance based contract has lead to productivity decrease in SOEs(Huang and Meng, 1995).

In the case of Bolivia, Mallon (1994) found that the experience with performance based contract has been mixed because they appear to have contributed to improved performance of contracting enterprises, but they have also been criticized for being open to abuse. He went further to mention the politicization of the results which obscured the lessons that might be learned from the Bolivian experience.

In case of Rwanda, Imihigo do not only govern the relationship between government and public institutions but also the government and population. That is why we tried to link it to government policy by looking briefly on how it affects the process of change.

#### **b. Government policy**

The government policy follows usually a top down model with two distinct phases: Formulation and implementation (Karen and McGee, 2004). Depending on the variable of institutional arrangement you are dealing with and depending also on the author who deals with the variable, these two phases have been detailed. For instance in case of policy, Grindle and Thomas (1990) and Jann and Wegrich (2005) talked of three phases; Sutton (1999) and Phillips and Orsini, (2002) talked of six phases while Bindraban and Vellema (2006) state that the policy process pass through seven stages. By going through these different stages we found that the main stages are: Problem identification and analysis, policy formulation and decision making and finally the implementation and evaluation. In this

regards, the performance contract is built on a problem or a situation that needs to be improved; it is expected to provide solutions, it details different steps of implementation and stipulates some indicators for evaluation.

This top down and linear model used in most state initiated institutional arrangements, has been attacked several times for its inefficiency but it remains popular. In this way of thinking Karen and McGee (2004: 7) wrote *“The linear model may be old but it remains popular (...), despite having been under attack for thirty years. Although, patently far removed from real life, it is surprisingly alive and well in policy, development and political circles, and even in many policy actors’ own accounts of what kind of process they themselves are involved in.”*

Regarding the criticism of this model, different authors have different views on who or what to blame when an institutional arrangement fails to achieve the expected outputs. In fact, some blamed the lack of political will, poor management or shortage of resources (Sutton, 1999). Others like Juma and Clark (1995) said that when policies do not achieve what they are intended to achieve, policy itself should not be blamed, but rather blame should be laid on political or managerial failure in implementing it. On his part Scott (1999) went further in analysing the failure of state-initiated institutional arrangements and argued that the most tragic episodes of state-initiated social engineering originate in the pernicious combination of: (1) the administrative ordering of nature and society; (2) A confidence about scientific and technical progress that leads to the conclusion that science comprehends all knowledge and therefore maximizes all productivity, the “high-modernist ideology”; (3) An authoritarian state that is willing and able to use the full weight of its coercive power and (4) A prostrate civil society that lacks the capacity to resist these plans (Scott, 1999).

#### **1.2.3.4 Possible remedy for the top down and linear model**

From these reasons of a possible failure of a linear model of policy, authors have developed more participatory models and others have tried to look at what stage different actors/stakeholders may be involved in policy processes so that the linear model may be improved. One of the reasons to justify the involvement of different stakeholders in policy processes is *“to advance the goal of producing better policy. By providing mechanisms through which citizens and their organizations can make claims for certain policy outcomes and through which information about public values, preferences, and priorities can be transferred, the resulting policy is more likely to achieve its intended objectives and be perceived as legitimate. In addition (...) the value of active civic participation for fostering more responsible citizenship has been claimed by quite different schools of thought”* (Phillips and Orsini, 2002: 8). These authors went on by identifying eight dimensions of citizen involvement in policy processes and those are: mobilizing interest, claims making, knowledge acquisition, spanning and bridging, convening and deliberating, community capacity building, analysis and synthesis and finally transparency and feedback.

On their side, Karen and McGee (2004) go beyond the linear model of policy processes and propose a more participative model where different actors came together in what they call “policy space” to share knowledge. Then they stressed the interaction among those different actors in sharing knowledge within the policy space. In the same line of ideas, Keeley and Scoones identified three broad approaches to understand policy: the linear model based on clear distinction between processes of decision and processes of execution; the second approach is mainly based on on-going processes of negotiation and bargaining between multiple actors over time and the last approach is more bottom-up view of policy where the

analysis of practitioners and their day-to-day dealings with policy issues is the key (Keeley and Scoones, 2003).

### **1.3 OBJECTIVES AND RESEARCH QUESTIONS**

#### **1.3.1 General objective:**

The general objective of this study is thus to explore Imihigo as a government initiative and their role in agricultural transformation.

#### **1.3.2 Specific objectives:**

- 1 Identify the stakeholders involved in process of decision making and implementation of the performance contract initiative in line with agricultural transformation in Rwanda;
- 2 Analyse the relationship among different stakeholders and how they influence activities related to agricultural transformation in Rwanda;
- 3 Identify the stakeholders' potentials and challenges faced and how they affect agricultural transformation in Rwanda.

#### **1.3.3 General research question:**

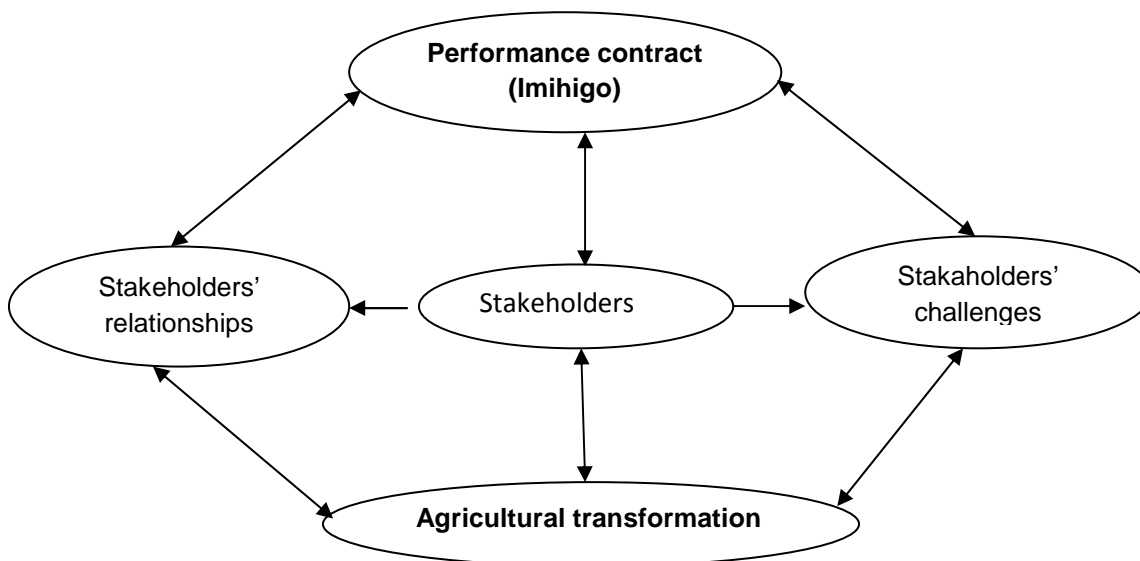
Where do Imihigo stand for in reality and how do they induce agricultural transformation in Rwanda?

#### **1.3.4 Specific research questions:**

1. Which stakeholders are involved in decision making and implementation of a series of activities to be carried out in transforming agriculture in line with Imihigo initiative?
2. How do these stakeholders collaborate in their effort to transform agriculture?
3. What are the farmers opportunities and constraints in their process of implementing related to agricultural transformation?

#### **1.3.5 Operationalization of research objectives and questions**

The achievement of the objectives assigned to this research results from the field survey findings guided by the above research questions. By linking the objectives to research questions, we suggested the following analytical framework (Figure 1).



*Figure 2: Analytical link between Imihigo and agricultural transformation*

According to the figure above, the way Imihigo encourage the involvement of different stakeholders in agricultural transformation and the way they deal with the relationship and manage the constraints faced by those stakeholders may determine the degree of agricultural transformation. In the same line, this degree may induce the reformulation of Imihigo in effort to meet the situation.

From the above figure, we tried to look at some indicators that will guide our field survey in our effort to achieve the assigned objectives and find appropriate answers to the research questions. This is synthesized in the following table.

**Table 1: Operationalization of research objectives and questions**

Research question	Objectives	Dependent Variable	Independent variable	Indicators	Sample questions
Which stakeholders are involved in decision making and implementation of a series of activities to be carried out in transforming agriculture in line with the Performance contract initiative?	Identify the stakeholders involved in process of decision making and implementation of the performance contract initiative in line with agricultural transformation in Rwanda.	Performance contract	stakeholders	Research, input providers, financial schemes, extension officers,	Who are the main stakeholders in decision making in agriculture? What kind of support do you receive? Who are the main support providers?
What kind of relationship did these stakeholders have and how they influence each other?	Analyse the relationship among different stakeholders and how they influence activities related to agricultural transformation in Rwanda.	Performance contract	Stakeholders interactions	Individual /group contacts, Planning meetings and their importance Imihigo signing, progress and achievements, Monitoring and evaluation	Are you in contact with agricultural officers or local authorities? If yes, what is the frequency? Do you usually have planning meetings? With whom? The frequency and the main topics discussed? What were your main targets in agricultural production this year and how far are you approaching them? Did you sign any performance contract in this domain? If yes with who? Who establish this contract? What were main points in the above contract? Do you easily receive agricultural services? If yes who are the providers? Are these services demand driven? Who is in charge of monitoring and evaluation of the planned activities
Which resources and knowledge did performance contract implementers have to implement efficiently activities related to agricultural transformation and what are the main challenges faced.	Identify the stakeholders' potentials and challenges faced and how they affect agricultural transformation in Rwanda.	Performance contract	Farmers' opportunities and constraints	Resources Knowledge & Skills Inputs availability Climate conditions Marketing	What do you think are the main resources to implement the planned activities? Do you think all farmers have required knowledge and skills to implement those activities? What are the main problems do you face? What do you suggest as affordable solutions?

## **1.4 METHODOLOGICAL APPROACH**

### **1.4.1 Types and sources of data**

In order to achieve the objective assigned to this study, we proceed by desk study through which we went through available literature from public institutions, academic and research institutions, international agencies and in project reports. From these different sources we elaborated more on the topic and get a clear picture of what have been done. The desk study is complemented by a field study conducted in different stages depending on the information required.

On one hand a structured questionnaire was designed and administered to a sample of farmers residing in two districts selected for the purpose of this study. Interviews were conducted with heads of households or their representatives (wife or one of their children over 18 years). The questions in this survey tool addressed the issues of definition of performance contract; identification of stakeholders involved in agricultural production and their interactions; the changes observed in terms of agricultural productivity since the performance contract was initiated (the change in use of inputs and other productivity factors); and finally the farmers' opportunities and constraints in implementing imihigo related to agriculture.

On the other hand, key informants such as agricultural officers, local authorities and some other support providers operating in agricultural sector and having activities in the sites selected were interviewed to enrich the collected information. The data collected from these key informants concerned mostly the relationship among different stakeholders and how they influence each other in terms of the implementation of government performance contract initiative; the different services provided to farmers and how these services are provided. The following section gives more details on how the sample size was determined and how the interviewed farmers were selected.

### **1.4.2 Sample size and sample selection**

#### **1.4.2.1 Sites selection**

Collecting data on entire population would be efficient since each individual characteristic will be identified and taken into consideration during analysis; however, this practice is in most cases impossible considering how large is the population. In almost all surveys, researchers have tried to select a representative sample among the entire population. In this regard for instance, Bartlett et al. (2001: 43) said: "*A common goal of survey research is to collect data representative of a population. The researcher uses information gathered from the survey to generalize findings from a drawn sample back to a population, within the limits of random error*". In this study the sample selection was done through different stages: first of all, we select two provinces among four provinces that composed the country and the selection was motivated by recent achievements in terms of poverty reduction. Eastern province was selected as the province that reduce significantly the number of population living under poverty line while the southern province was selected as the province where the proportion of population living under poverty line increased rather than decreased.

The second stage concerned with the selection of one district that has competitive advantages in terms of agricultural production. In this line, Kirehe was selected as a district that accommodate one of the 6 pilots sites of the Support Project for Strategic Plan of



Agricultural Transformation (PAPSTA) and Huye district was selected as the one accommodating the different research institutions including the National Agricultural Research Institute (ISAR).

At the level of sectors and cells, the selection was based mainly on sectors and cells that have a good number of important stakeholders in terms of agricultural support providers and sectors and cells that present other advantages like large area of marshlands developed. Brief, Kiruhura and Buhimba cells were selected in Rusatira sector of Huye district in the southern province while in eastern province Rwabutazi and Butezi cells were selected in Gatore sector of Kirehe district.

#### **1.4.2.2 Sample size determination**

Determining a sample size and deal with non response bias is an essential practice in quantitative research design since it is one of the advantages offered by quantitative methods in order to make inferences about larger groups that would be prohibitively expensive to study (Holton and Burnett, 1997; Bartlett et al., 2001). However, the question on how large a sample should be in order to represent the whole population has lead to different research and different formula were created. One of the basic assumption on the sample size is that “ the large the sample, the representative it is” and the sample size depends mostly on homogeneity and heterogeneity of the entire population. For the homogeneous population a small sample size is preferable while an heterogeneous population need a large sample size.

Based on these basic principles different authors have elaborated formulas to determine the sample size and how large the sample is, varies with the margin error, the confidence interval and the probability of choosing an element or a person to be included in the sample.

In our case, we were targeting the households within different sampled cells as the entire population but unable to find the statistics we used the number of households in the two sectors selected as the population from which we should get a sample. The both sectors accommodated 8424 households in 2007 (4504 households in Rusatira and 3920 households in Gatore).

To get a sample out of the 8424 households, we use the following formula got from the Analytical Group inc. ([www.analyticalgroup.com](http://www.analyticalgroup.com))

$$n = \frac{\frac{z^2 P(1-P)}{d^2}}{1 + \frac{1}{N} \left( \frac{z^2 P(1-P)}{d^2} - 1 \right)}$$

Where:

n = the size of the sample,

z= value depending on a given confidence level,

P = 1-P; P = probability,

d = margin of error and

N = the population size (households).

For our sample, we consider a confidence level of 95% which gives a z=1.96; a margin error of 10% which gives d=0.1 and a probability of 0.5.

By replacing values into the formula we have:

$$n = \frac{\frac{1.96^2 0.5(1-0.5)}{0.1^2}}{1 + \frac{1}{8424} \left( \frac{1.96^2 0.5(1-0.5)}{0.1^2} - 1 \right)}$$

After carrying out some calculations we find  $n=94.96 \approx 95$  and for the sake of equal distribution of interviewed farmers within the two selected sectors, we took a sample of 96 households (48 households in each sector). The selection of those households was random meaning that each household had the equal probability to be part of the sample.

### 1.4.3 Data collection and analysis

Prior to data collection, a training session of enumerators in each site was conducted to familiarize them with a structured questionnaire elaborated for the purpose of individual households' interviews. Along this structured questionnaire, a check list of some issues to be addressed during the focus group discussion was established. After a pre test and the adjustment of the survey tool, we proceed by formal survey (Households' interviews) and informal survey (group discussion). Later we organized appointment with key stakeholders in the selected sites.

After the data collection we proceed to data entry and cleaning before we start the analysis. The statistical package for social sciences (SPSS) software was used to analyze data from households' interviews while the group discussion and key informant interviews data were coded on block notes and analyzed manually since these data were mostly qualitative data. However, before the presentation and analysis of the findings from households and key informants' interviews chapter 2 explores different documents available on Imihigo.

## CHAPTER 2: PERFORMANCE CONTRACT (IMIHIKO) AND AGRICULTURAL SECTOR IN RWANDA

### 2.1 INTRODUCTION.

This chapter provides first the context in which Imihigo is implemented. The agricultural sector has certain dynamics and faces a series of challenges to which Imihigo – and other elements of state policies – have to respond. A central feature of agricultural sector development is that historically as well as contemporary the state plays a central role in development (Newbury and Newbury 2000).

### 2.2 AGRICULTURAL SECTOR IN RWANDA

#### 2.2.1 Agricultural production trend

Agricultural sector in Rwanda is the backbone of the economy, it is the main source of food and income for the majority of Rwandan population. It contributes heavily (between 41% and 46%) to the Gross Domestic Product (GDP); accounts for 80% of the total export products and it employs about 87% of rwandan population (World bank,2009; Huggins,2009; MINAGRI, 2004).

In general, food crop production increased on annual basis from 1995 to 2002 before experiencing the two way trend movement (Increasing and decreasing) as shown in figure below (BNR, 2004). According to this figure, the period between 2002 and 2005 was characterized by a crop production decrease as well as the period between 2005 and 2008 (BNR, 2008; BNR, 2009). According to the statistics provided by the national bank of Rwanda, both banana and roots and tubers account for more than 75% of the total food production and this means that the increase or decrease of one of them will obviously lead to the same trend in total production. For instance, the decline observed in food production between 2002 and 2005 was mainly a results of banana and sweetpotatoes production decrease observed in 2003 and irish potato production decrease observed in 2004. The spectacular increase observed in food production in 2008 was mainly attributed to the increase of cassava and irish potato production with respectively an increase of 116.5% and 50.9% in comparison to the 2007 production (BNR, 2004; BNR,2008; BNR,2009). The figure below that combined the statistics provided by National Bank of Rwanda gives more details.

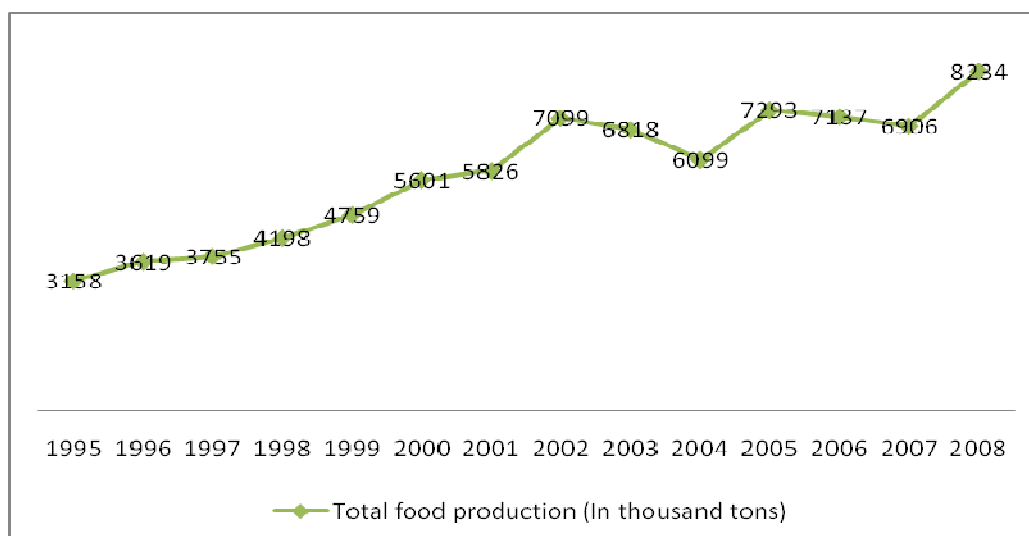


Figure 3: Total production of food crops in Rwanda from 1995 to 2008 in thousand tons (Adapted from BNR of 2003, 2007 and 2008 reports)

Even if the food crops production is the main component of agriculture sector in Rwanda, some cash and export crops are also grown by rwandan farmers and the Government has tried to put more efforts in their development. Coffee and tea are the main export crops grown in many parts of the country. As shown in the figure below, the production of coffee is highly variable in recent years while tea is slightly increasing.

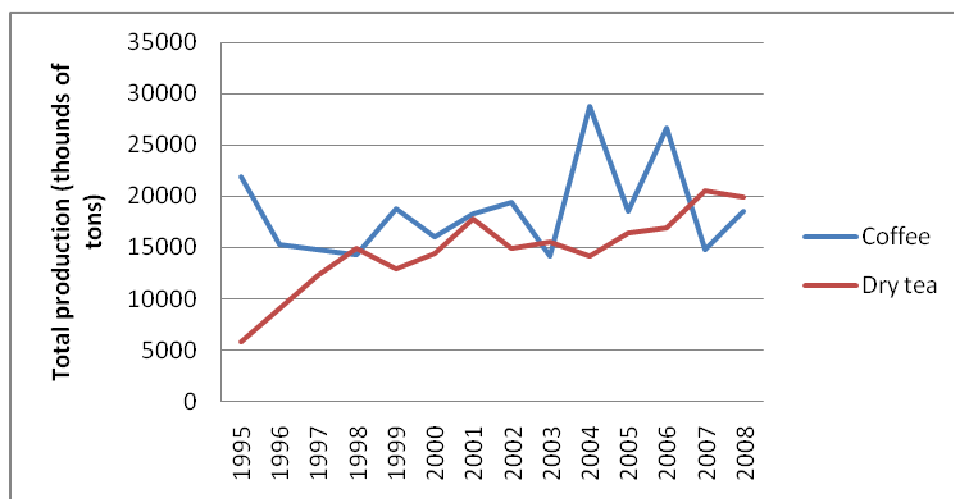


Figure 4: Coffee and tea production trend in Rwanda from 1995 to 2008 in thousands of tons (Adapted from BNR of 2003, 2007 and 2008 reports)

The highest increase was observed for coffee was 102.9%, in 2004 and in 2008 the increase was 25% for coffee and -2.5% for tea.

### 2.2.2 The basic agricultural production factors.

Agricultural production is a function of different factors such as land, labor, input, technology used, etc. According to Ellis (1993), the agricultural production is a function of different inputs used. Based on a three factor agricultural production function used by Echevarria in which production is a function of capital, labor and land (Echevarria, 1998:66); we try to explore three basic factors of the agricultural production function; we look at how land, labor and input influence the agricultural production in Rwanda. Our interest will not be on the economic influence of those three factors but rather on how the current situation of them constitutes a constraint or an opportunity to the agricultural development in Rwanda.

#### 2.2.2.1 Land: Its availability, size and level of fertility.

The Ministry of agricultural and animal resources (MINAGRI, 2009a) estimated the arable land area in Rwanda at 1.4 million hectares, that is 52 % of the total surface of the country. With regards to the population pressure, this means that arable land is exploited to the very limits of agricultural possibilities and often beyond. On this issue, recent statistics indicated that the cultivated area exceeded 1.6 million hectares and the total area under agriculture is now over 70% of the total surface area (MINAGRI, 2009a). By pretending to increase the area under crop cultivation, farmers have also increased the risk and the level of vulnerability; in fact, farmers are now growing crops on steep slopes up to and above 55% while it is generally agreed that slopes of more than 5% need erosion control measures (REMA, 2009) . In addition, this increase did not have a big impact on the size of the farms

since the population was also increasing rapidly. Current statistics showed that half of the population own a portion of land that is less than 0.5ha and more than a quarter of the total population have only less than 0.2ha to grow both food and export crops (MINAGRI, 2009a).

Due to its relief, Rwandan landscape is mostly under risk of erosion and its arable land is degraded seasonally. Only 23% of the total arable land in Rwanda is classified as more or less free from risk of erosion while 40% is said to be highly vulnerable in terms of soil erosion risks. As mentioned above, the impact of this erosion is the loss of 1.4 million tons of fertile soil that result in the decline of country's capacity to feed 40 thousand people each year. The annual loss is estimated to be 945,200 tons for organic matter, 41,210 tons for nitrogen, 280 tons for phosphorus and 3,055 tons for potassium. In some areas the annual rate of loss can go up to 557 tons/hectare (MINAGRI, 2009a).

Reporting on the soil degradation, the Ministry of Land, Environment, Forestry, Water and Mines indicated that a high proportion of the soils have significant acidity, 75% of the land is highly degraded, and overall it has one of the highest negative nutrient balances in Sub-Saharan Africa. (MINILENA, 2008).

Apart from the small size of the land and its degradation that constitute a major obstacle to the agricultural production, the landscape of Rwanda has also some opportunities in terms of land. In fact, the country has a large area of marshlands and its development may contribute significantly to the increase of agricultural production and consequently to the food security and economic growth in general. The total of 165,000 ha of marshlands are available throughout the country and only 11,000 ha are technically well developed in a such way farmers can grow crops throughout the year. However, out of the total marshy surface area available, only 57% are under cultivation with a large part being cultivated without any technical study by peasants grouped into organizations or by cooperative groups supported by local or foreign non-governmental organizations and such developments risk causing ecological disequilibria in the fragile ecosystems (MINAGRI, 2009).

### **2.2.2.2 Labour availability and inputs use**

The agricultural sector in Rwanda employs many people in comparison with other country's economic sectors. As showed above, different sources indicated that between 87 and 90% of the total Rwandan population are employed in agriculture (MINAGRI, 2004; MINAGRI, 2009a; World Bank/IDA, 2009) . This constitutes a great opportunity for the development of the sector since the availability of workers makes the labor less costly and consequently there is a possibility to increase agricultural production. In fact, by holding other factors constant, the reduction of labor cost, induced by the availability of agricultural workers, will probably increase agricultural productivity which is the ratio of agricultural outputs to agricultural inputs. Then, farmers will get more returns and obviously they will invest more in their agricultural production increase (MINAGRI, 2009a).

The agricultural productivity does not essentially depend on availability of land and labour but as we mentioned above the availability and the use of input play also an important role. In case of Rwanda, the use inputs seems to be the key factor for agricultural production increase. The land in Rwanda is losing its nutrients seasonally and the possibility to extend the arable land has been exceeded. The only way to improve soil fertility is the use of fertilizers and other soil conservation measures. Talking on the importance of fertilizer use in recycling the soil nutrients lost, Henao and Banaante (2006) found that the evidence left no doubt that the nutrient recycling mechanisms that sustain soil fertility are insufficient to support the needed growth in food production without fertilizers. In this line, Mugabo (2003)

referring to different studies carried out in Rwanda observed that the low rate of fertilizer use has very high marginal returns and, if correctly used, would be highly profitable for farmers. He added that *“the increase and more efficient use of fertilizer is expected to contribute 4% of the 5.3% growth of the agriculture sector”* (Mugabo, 2003: 2). The rate of fertilizer application in Rwanda remains among the lowest in the world and the application is mostly dominated by few crops such as tea, potato, rice, wheat, and maize. On average, it is estimated to be 8 kilograms of nutrients per hectare compared to the Continent and Asia's average of 10 and 148 kilograms per hectare, respectively (Kelly et al., 2001; MINAGRI, 2007).

During the whole last decade and even before 1990, the rate of fertilizer use did not change significantly in spite of good returns observed. This situation leads many people to explore the sector and try to find out the main reasons that should be responsible for this low rate of fertilizer use. Based on different studies and assessment carried out by IFDC (2007), Donovan et al. (2002), Bingen and Munyankusi (2002) and Kelly et al. (2003), the Ministry of Agriculture and Animal Resources in Rwanda pointed out a long list of constraints related to both sides of the chain: demand and supply sides:

On the demand side, the above mentioned studies indicated that farmers' demand for fertilizers is extremely weak and this is essentially constrained by inadequate incentives and lack of financial capacity to invest in fertilizer. The lack of adequate information on fertilizer use leads to low effectiveness and minimal profitability of fertilizer use. The small range of available fertilizers, the quality and excessive costs of fertilizers in a country like Rwanda where the purchasing power of most farmers is very weak, the market access that is not guaranteed for agricultural outputs and the fact that most soils are acidic are also some important reason identified on demand side.

On the supply side, the same studies identified also a list of seven constraints that limit the expansion and strong performance of fertilizer use. These constraints are:

1. Low, irregular and dispersed demand for fertilizer;
2. Lack of access to finance;
3. High Marketing Costs;
4. Lack of Market Information Systems;
5. Heavy Institutional Constraints;
6. Inadequate Knowledge and Lack of Business Skills;
7. Uncertain Policy Environment.

(MINAGRI, 2007)

Apart from the low rate of fertilizer use that constrained the agricultural production in Rwanda, the low rate of use of improved seeds played also an important role in the production decrease. In fact, this importance is recognized in the following terms: *“Seeds are very important in farming because they constitute a critical determining factor of production without which no other input or agricultural investment can be valorized.(...) A sustainable increase in production and productivity depends to a large extent on the development of high yielding varieties and on the elaboration of an efficient seed supply system enabling farmers to easily have access to those quality seeds.”* (MINAGRI, 2007: 11-12). However, statistics showed that the rate of use of improved seeds is very low in Rwanda and the proportion of arable land under utilization of improved seeds is negligible. In Rwanda only 12% of households were using improved seeds and the area covered was only 2% in 2005. Most farmers preferred to keep seeds from previous production cycle and the 2005 same results revealed that 90% of the seeds used came from this source (MINAGRI, 2009).

### 2.2.3 General opportunities in Rwandan agricultural sector.

The underdevelopment of agricultural sector in Rwanda resulted from a combination of different factors. On one hand this sector is constrained by the shortage of land and its degradation due to soil erosion and overexploitation, the very low rate of use of chemical fertilizers and improved seeds. On the other hand the rapid population growth plays a big in slowing down the agricultural production growth and food security in Rwanda. In spite of these different constraints that hinder the development of agricultural sector in Rwanda, this sector has also important strengths that may contribute significantly to its improvement.

In terms of climate conditions, Rwanda experienced a diversity in climatic conditions that allows an important diversification from crops suited for tropical areas to crops adapted to temperate climatic conditions. Throughout the country 12 different agricultural zones were delimited and each zone has a unique combination of land resources that determines the range of well-adapted crops. In addition, with a favorable temperature range and more adequate amounts of rainfall than in many countries Rwanda has three agricultural seasons yearly (Verdoodt and Ranst, 2003). According to The Ministry of Agriculture and Animal Resources (MINAGRI) *“The altitude, which influences the climate, is a benefit for coffee, tea and many non-traditional crops since it creates a longer growing season that, for example, intensifies flavours of fruits and enables them to claim a price premium in international markets.”* (MINAGRI, 2009: 38)

In terms of natural resources, Rwanda has a very good soil, although in many cases the nutrient base needs to be rebuilt and erosion stopped. Among the 12 different agricultural zones, only the Eastern savanna and Bugesera are characterized by strongly weathered soils that are poor or very poor in terms of agricultural value. In Imbo, Birunga and Kivu Lake Borders agricultural zones, the soil is excellent while in Mayaga region the soil is said to be very good. The agricultural value of soil found in Impala, Buberuka highlands and Central Plateau agricultural zones is qualified as good and the one of Congo Nile Watershed Divide, Granitic Ridge and Eastern Plateau agricultural zones is said to be moderate in terms of agricultural value (Verdoodt and Ranst, 2003).

In terms of man power, Rwanda has a valuable human capital. Describing this valuable asset, MINAGRI (2009: 38) indicated: *“Rwanda has dedicated farmers who by necessity have learned to extract the most from a small resource endowment and who are eager to participate in the design and implementation of activities for improving the sector’s prospects.”*

The fourth advantage of agricultural sector in Rwanda lies in diversity of high value crops that can be grown in the different agricultural zones. In fact, it has been shown at the product level that Rwanda can be competitive in the production of a number of high-value products such as specialty coffees, tea, bananas and pyrethrum plus emerging export products such as pineapple, cut flowers, courgettes, French beans, macadamia, physalis, sericulture products, and others. Developing each of these products is a challenge, but the returns to the rural population can be very considerable (MINAGRI, 2009).

The last opportunity is, according to the Ministry of Agriculture and Animal resources (MINAGRI), the country’s strong Government that is committed to agricultural development and poverty alleviation and this is accompanied by the support of international development partners for the agricultural sector in Rwanda (MINAGRI, 2009).

The above Government commitment is expressed through agriculture related policies and strategies like: the 2004 national agricultural policy, the 2007 national seed policy, the 2007 national strategy for developing fertilizer distribution system and recently, the 2009 national

agricultural extension strategy. Some programs and other government initiatives were put in place to facilitate the implementation of those different policies and strategies. Those programs include the crop intensification program and one cow per poor family program (Girinka) while Performance contract (Imihigo) and exemplary site (Agasozi ndatwa) are ranged among other government initiatives (MINAGRI, 2009).

The above government institutional arrangements aiming at developing agriculture sector in Rwanda, are in line with two important national documents: Vision 2020 and the Economic Development and Poverty Reduction Strategy (EDPRS). In 2020, agriculture is expected to be a productive, high value and market oriented sector. The sector is also expected to reduce the population employed in agriculture from 90% to 50% (MINECOFIN, 2000; MINAGRI, 2009).

### **2.3 PERFORMANCE CONTRACT (IMIHIGO) IN RWANDA**

#### **2.3.1 Imihigo: from their origin to the current conception.**

Like many African societies, Rwandan society has strong traditions of oathing and cursing, powerful supernatural instruments that are used, with some success, to hold people to account and Imihigo is one of these oaths. They derived from an ancient tradition whereby warriors used to make pledges to the king about what they intended to accomplish in war. (Golooba-Mutebi F. 2009; Kelsall, 2008; Golooba-Mutebi and Booth, 2008; Ryan et al., 2008). In this context, it was concerned with the 'heroism' of the soldier who attempted through his actions in combat to show his competence and capability as a 'hero' (Ingelaere, 2010). Originally considered as mechanism for regulating people's efforts and energies in their pursuit of security and prosperity, imihigo evolved and refer to the capability to show others and observers that an individual or a group of people are capable and competent in the execution of a given set of tasks. Like in the army, the execution of targeted tasks was done in a competitive but amicable atmosphere. By achieving successfully what one had undertaken to do, one saved his credibility, honor and became role model for other members of the society while the failure brings shame not only on the individual but also on his or her community. A failure was considered as an immense dishonor and those faced with the prospect of failure usually sacrificed their own lives. (Golooba-Mutebi, 2009; Ingelaere, 2010; Ingelaere, 2007; MINALOC, 2006).

Imihigo included an element of evaluation and this was done through a public ceremony where the actor or actors were given a chance to inform the community about their exploits. In such ceremonies, bravery and courage were highlighted and then the individual or group exploits were kept alive through oral tradition passed down the generations (Golooba-Mutebi, 2009). One of the key characteristics of an Imihigo is that they were not based on physical and coercive sanctions in case of failure. They were a system based on bravery, courage, and admiration and it encouraged a competitive spirit among challengers (MINALOC, 2006).

Since 2006 during the retreat that brought together the districts leaders in effort to think of their role as leaders and organized under the theme "Decentralized Management and Service Delivery", the concept of Imihigo re-emerged. This three days retreat raised a good number of issues and tools that local leaders are expected to address and use during their mandate. Then Imihigo came in as a natural way of engaging district leaders publicly regarding the intended undertakings when they return to their office (MINALOC, 2006). The central objective of the Government of Rwanda in introducing this centuries old cultural



practice and incorporating it into modern local government was to improve the quality of service delivery both at central and local levels (Golooba-Mutebi, 2009). One month after the retreat, all district mayors produced a contract based mostly on district development plan and through a public ceremony those contract were signed between the mayors and the president of the republic. In general, these contracts specify the key targets that individual districts are to attain within one year, in line with the government's national priorities and this makes the district the central unit in the decentralization policy, and the core level for national policies and targets to be re-stated in local plans (Ansoms, 2009).

From 2006, in its effort to to strengthen the accountability of local government officials towards citizens through participatory planning and monitoring processes, the government expands Imihigo both vertically (relation between government and citizens) and horizontally (relation between government bodies). The system is then replicated at lower tiers of government and reaches down to the level of the household (Musoni and Kwakwa, 2008).

### 2.3.2 Imihigo: Goals and principles

In terms of practice, Imihigo give more important roles to the community and individuals and this is beneficial for a country like Rwanda long characterized by highly centralized decision making and authoritarian tendencies in policy development and implementation (Huggins, 2009). Imihigo encourage not only the spirit of accountability for local authorities but also encourage population involvement and active participation. In this regards, seven following main goals are assigned to Imihigo as indicated by USAID (2009) and MINALOC (2010) :

1. Speed up local and national development;
2. Promote results oriented performance;
3. Reward innovation and competitiveness;
4. Encourage public participation, voice and accountability;
5. Promote dialogue with civil society and citizens in policy formulation;
6. Promote zeal and determination to achieve set goals; and
7. Encourage regular evaluation.

Imihigo are based on the following three principles (MINALOC, 2010):

- **Voluntary:** It is a choice, however national guidance is necessary to ensure national priorities are matching with local ones;
- **Ambitious:** You promise/vow to achieve only what you do not already have;
- **Excellence:** Imihigo are about outstanding performance: something worth of praise.

### 2.3.3 Imihigo: a results based management tool

Referring to modern results-based management tools, Imihigo share some characteristics as showed by the Ministry of Local Government, Community Development and Social Affairs (MINALOC, 2006). According to this ministry, the approach has the following characteristics:

- Each IMIHIGO identifies a set of clear (and limited) priorities.
- Each IMIHIGO presents a set of specific targets backed by measurable performance indicators.
- Each IMIHIGO undergoes a well defined performance monitoring and evaluation process.
- Each IMIHIGO constitutes an efficient accountability mechanism and an incentive for local government leaders and their population to implement the decentralization policies and to meet regional and national development targets.

### 2.3.4 Process of planning and evaluating Imihigo

### 2.3.4.1 Preparation of Imihigo

The central point in preparing Imihigo is the identification of population and regional priorities but these should be in line with Vision 2020, the Millennium Development Goals, and Rwanda's current poverty reduction strategy. The typical imihigo contract contains approximately 100 indicators and these are related to ten main priorities. These include: social protection, good governance, public service delivery (health, education, public facilities, etc.), economic development, agriculture, justice, or social safety (Brinkerhoff et al. 2009; MINALOC, 2006).

In their initial stage, the preparation of Imihigo was based mainly on the districts development plans complemented by some feedback from the population with no details assessment of priorities. However, with the effective implementation of the decentralization system of governance that is entering the last phase which consist of decentralizing to the sector level and below, down to the cells, and on expanding and deepening local citizen participation and accountability; Imihigo also evolved to include as much as local people priorities. In fact, in 2006, the Imihigo contract was signed by between the president and the mayors of different districts but actually, the contract is signed at all levels up to the household level as shown in the figure below.

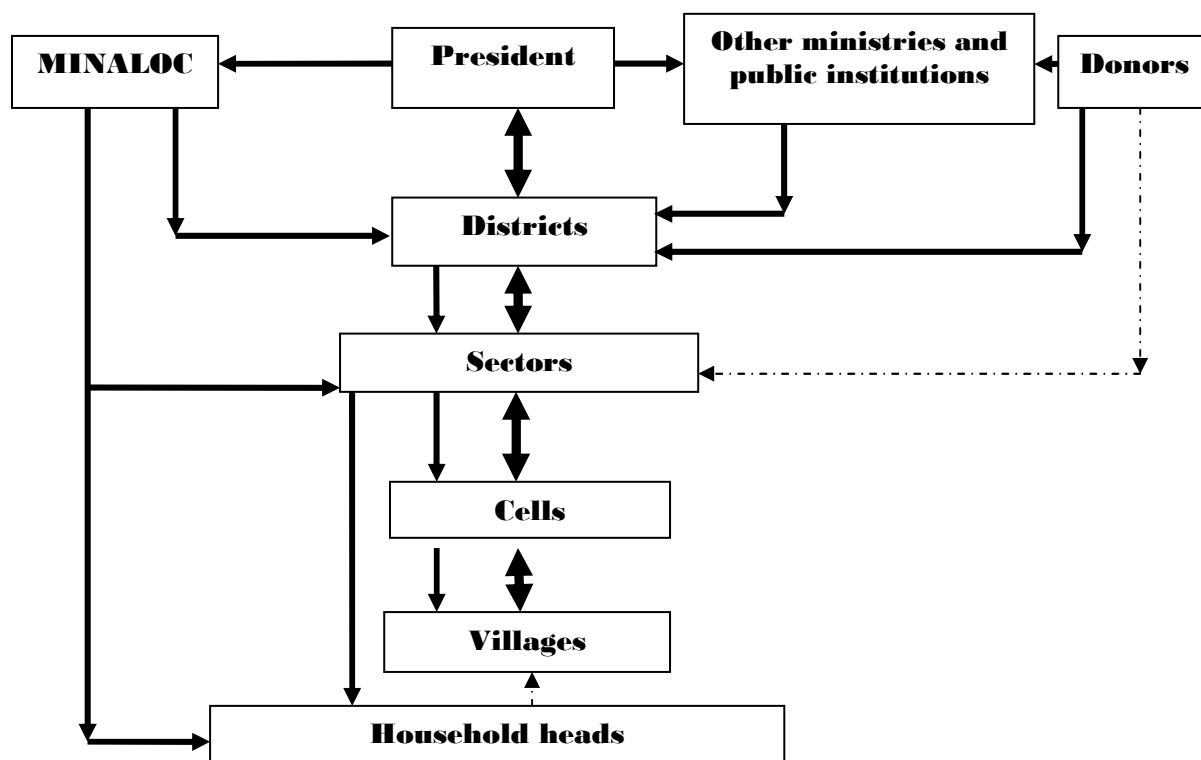


Figure 5: How Imihigo is organized in Rwanda (Own compilation from literature)

In principle, household heads should determine which activities are able to accomplish within one year in consideration of available and expected resources; a list of alternative activities is provided by MINALOC through districts. From the general picture of household heads within a village and the community priorities in terms of public infrastructures, the village head elaborate the targets for the whole village and the document is signed between the village head and cell executive secretary. A document combining the general activities within different villages constitutes a performance contract between cell leaders and sectors

leaders. At sector level each district employee at this level has to sign a contract with the sector executive secretary and from these contracts and those from different cells within a sector, a consolidated performance contract of the whole sector should be made and signed by the district mayor and sector executive secretary. At the sector level each employee should be aware of what is planned by different stakeholders that are intervening in his area and different resources available for carrying out different activities planned.

Like at the sector level, each district employee at the district level should combine contracts from sector level and include different activities planned by government and non governmental organizations operating in his/her area and then formulate a consolidated contract that he/she has to sign with the district mayor who in turn combine all contracts and make one district performance contract to be signed between district and the president of the republic in a public and mediated ceremony.

In this signing process, the districts mayors engage their communities to realize a series of development priorities over a period of one year and the president engages the central government to support the districts and their communities through human, technical, and financial resources.

A harmonized format is provided by MINALOC and each district has to fill in. In this format, each district has to fill the priority services like education, health, agriculture, etc and for each service the district provide the baseline in the district, the national target (based on vision 2020), the local target (what the district plan to achieve), the resources required, the available resources and the financing gap. From this general format, each district draw its action plan that includes the activities and indicators (table 2)

**Table 2: Templet of district action plan under performance contract (Imihigo) in Rwanda**

Service area	Baseline	Local target	Activities	Completion date	Resources required	Responsible unit	Date/methods of monitoring
Education							
Health							
Agriculture							
Water							
Etc.							

In general, the four government pillars guide the elaboration of Imihigo make them uniform for easy evaluation. These pillars are:

1. Good governance: this pillar includes indicators related to security and governance;
2. Justice : the indicators related to “gacaca” courts, “abunzi”, the works for general interest known as TIG and normal judicial system are recorder under justice pillar;
3. Economy: under this pillar we find all indicators related to the country’s development. These include indicators related to the development of agricultural and livestock sectors with special emphasis on the value addition of agricultural and livestock products. The indicators related to housing, infrastructures development, natural resources management and Information and communication technologies (ICT) are also recorded under this pillar
4. Population welfare: this pillar is concerned with all indicators related to health and education, culture and sports.

### 2.3.4.2 Monitoring and evaluation of imihigo

Once imihigo contract is signed between the mayors and the president of the republic, the implementation starts automatically and all stakeholders are fully engaged due to imihigo competitive spirit. The ministry of local government and community development (MINALOC) is the first to be in charge since local authorities are under its responsibility. In this regards, it works closely with districts and gets the progress monthly report

Other ministries evaluate the progress quartely and thereafter the president held a mid term review with mayors and at the end of the year mayors presente the achievements and the targets for the following year during a national dialogue known as “ Umushyikirano” meeting (figure 6).

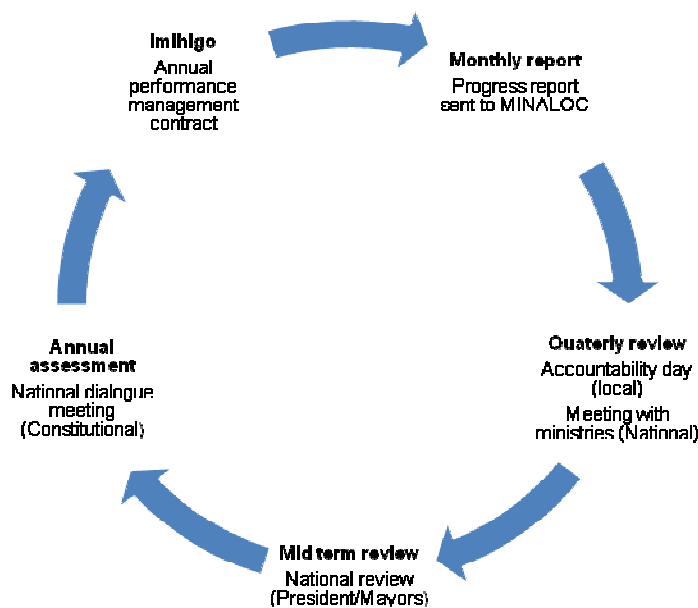


Figure 6: Imihigo performance monitoring and evaluation (Adapted from MINALOC (2006))

## 2.3.5 Imihigo: opportunities and challenges

### 2.3.5.1 Opportunities

The concept of Imihigo is well known in Rwanda and, as expressed above, it connotes a traditional ritual where people tested their bravery in public. It evolved from the pledges soldiers made to the king to include current diverse promises from citizens to their communities and communities to the national government (Ryan et al., 2008).

According to these authors, Imihigo contribute highly to the increase of social capital, civic awareness, and political efficacy by establishing a chain of responsibilities from individual Rwandan up to the president. Individual people are committed to improve their socio economic conditions, communities target the improvement of public infrastructures and the president in his return is committed to provide necessary means for the better implementation of Imihigo. The accomplishment of Imihigo implies also mutual respect and reciprocity of obligations.

Sere and Champagne (2006) consider Imihigo as an efficient accountability mechanism and an incentive for local government leaders and their population to implement the

decentralization policies and to meet local and national development targets. In this regards, Imihigo implies transparency since the evaluation meetings are held publicly and people have the rights not only to raise their targets but also to report the misuse of funds

### **2.3.5.2 Challenges**

Although imihigo offer a good number of competitive advantages in terms of increasing social capital and improving socio economic conditions of population, their implementation face also some challenges. According to Ryan et al. (2008), the main challenges faced by Imihigo include:

- Lack of financial means to implement all targeted goals (districts asked a lot of money that the central government and donors are unable to provide);
- Bureacracy involved in getting available money from government funds like the common development fund (CDF)
- Lack of coordination between the districts and the ministries,
- Limited skills in leadership and administration.

On this list, Ingelaere (2010), adds the lack of downward accountability. According to this author, the chain of accountability goes upwards towards higher authorities and not downwards towards the population. However, by looking how the evaluation of Imihigo is done, this challenge should not be accounted among the main challenges. In fact, during the evaluation process different districts organize an open day where people are allowed to ask their questions about the achievements. During the “Umushyikirano” meeting free telephone lines are provided to people in order to challenge the leaders if necessary. This reduce the intensity of challenge raised by Ingelaere but the challenge remains since few people are able to benefit from the above opportunities.

Concluding on these challenges, Ryan et al. (2008: 10) said: *“Currently, imihigo goals are not being fully met. Exacerbating funding and coordination shortfalls, large capacity gaps have undermined many local government projects”*

## **2.4 PERFORMANCE CONTRACT (IMIHIGO) POTENTIALS AND CONSTRAINTS RELATED TO AGRICULTURE TRANSFORMATION IN RWANDA**

With regard to food production trend and the population growth in Rwanda, the transformation of Rwandan agriculture is more than a priority and the government through MINAGRI and other governmental and non governmental institutions are putting much efforts towards this end. According to MINAGRI (2004), the vision of the agricultural transformation is to achieve a modern, professional, innovative and specialized agriculture and this will be done through a framework of partnership between researchers, beneficiary communities and other actors of rural development.

In this regards, the Ministry of agriculture and animal resources has formulated a strategic plan for agricultural transformation based on a set of programs. These target mainly the increase of agricultural productivity, maximization of profits for agricultural productions, diversification of incomes and protection of environment and natural resources (MINAGRI, 2009). In this strategic plan, the agriculture sector is more market oriented with predominant role of private sectors in the whole process from agricultural production to marketing of agricultural produce. The government is targeting the professionalization of producers, strengthening of inter professional organization and promoting private sector and this will

allow its gradual disengagement of public services from direct extension service delivery (MINAGRI, 2009)

The professionalization of producers and the partnership among different stakeholders involved in agriculture sector fit with imihigo spirit. In fact, imihigo place farmers are at the center of agricultural development ; they are the ones who set up targets to be achieved within one year. Local authorities, agricultural officers, Government institutions and Non Government Organizations involved in agricultural sector development have to provide all necessary inputs and technical advices that will facilitate the implementation of the planned activities. At a farmer level, research and extension agencies; the Non Government Organizations and private service providers; Local government entities and Farmers organizations are in permanent consultation and interaction with farmers in order to respond efficiently on farmers' needs. The following figure gives more details.

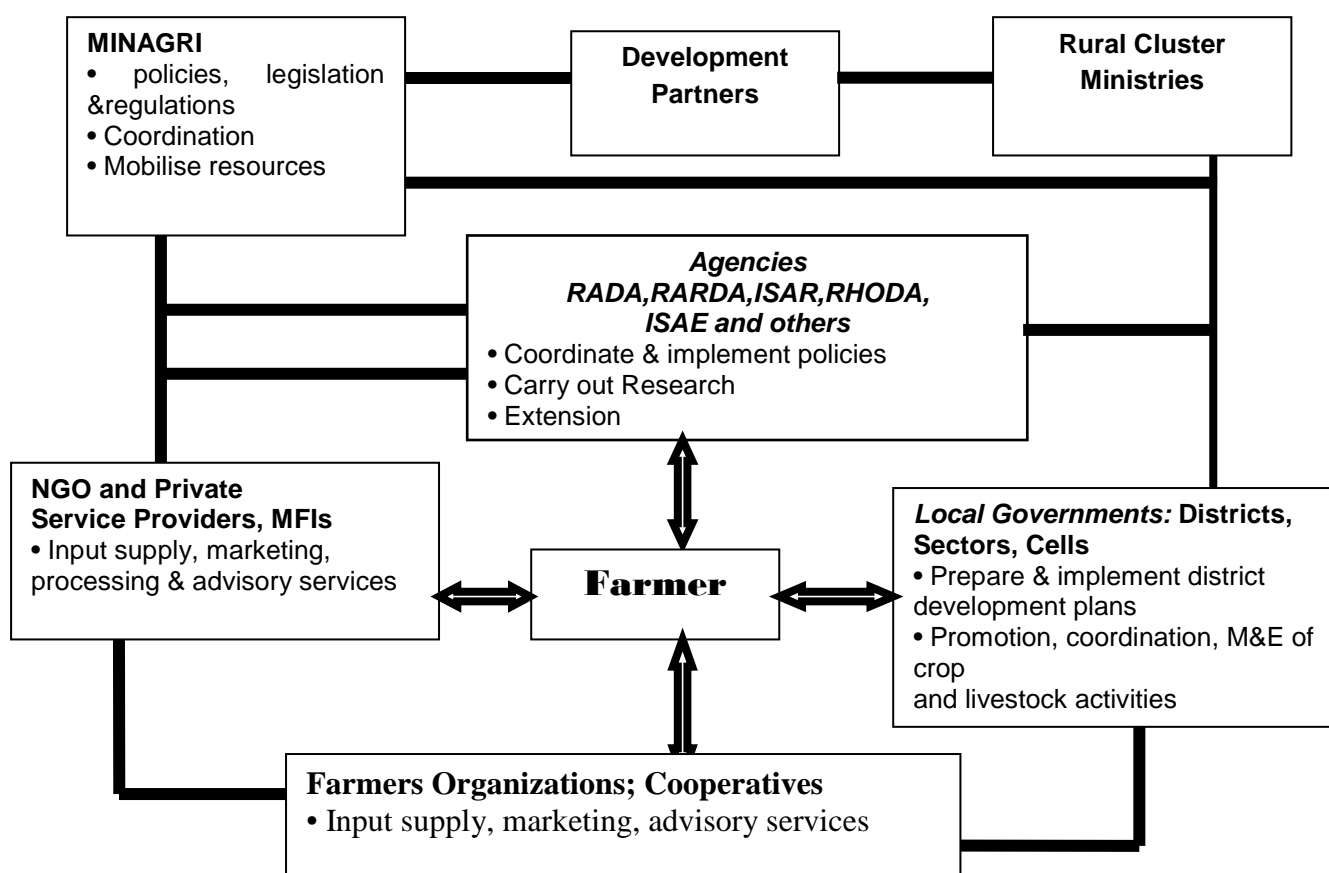


Figure 7: Key stakeholders in agricultural production system (Adapted from Hakizimana, 2007)

Under performance contract, local government entities are expected to play a big role in this process by coordinating all activities carried out at their level and by making a follow up of those activities. Other stakeholders provide technical and material support depending on their expertise and this should be coordinated and followed by local government entities; they are the one in charge of policy implementation at local level.

As observed by Huggins (2009), many key government agricultural objectives are stated in performance contract (imihigo) and they are said to be translating the farmers wishes; however, the implementation differs from region to region due to several factors. On one

hand local sociopolitical dynamics, government conceptions of problem areas that require immediate attention, and national economic priorities that place attention on particular agro-ecological zones are said to be responsible for rapid or slow implementation of government's initiative in terms of agricultural development. On the other hand, the agricultural production process is slow down by lack of collaboration and the coercive power used by local government entities upon farmers. In effort to explain the reasons behind this coercive power, Huggins said: *"If targets are not met, district authorities can expect their careers to be negatively affected. Not surprisingly therefore, local authorities use measures such as fines and destruction of property to ensure targets are met"* Huggins (2009: 299). To illustrate his thesis, the same author referred to the survey commissioned by the Organization for Social Science Research in Eastern and Southern Africa (OSSREA) from mid-2007, where more than half of the respondents confirmed some forms of compulsion used to achieve the performance contract targets. These included the most widespread phenomena of destroying privately owned banana plantations on the orders of local administrators in favor of more valuable crops such as fruit trees (ibid.). This author recorded a good number of cases where farmers were forced to act according to the will of local authorities who were first of all concerned by the achievement of their performance contract. By concluding on this forced commoditization of household agricultural production Huggins said: *"The principal winners will be those businesspeople in a favorable position to negotiate with the state for the rights to purchase the harvest at beneficial terms. The principal losers will be the rural poor, for whom a delay or an increased level of uncertainty in the direct consumption or sale of the harvest can mean immediate food insecurity or financial disaster, and whose traditional local markets have been undermined."* Huggins (2009:302)

In general, the available literature on performance contract (Imihigo) in Rwanda approaches the concept in two opposing ways as expressed in the problem statement. However, by going through those different documents, we observe that Imihigo do not follow a pure top down approach since they are initiated at different level and follow the upwards movement (from the low level to the higher level). In addition, Imihigo are not neutral: although Imihigo are elaborated at low level of hierarchy, the main guiding principles came from the government and those who elaborate Imihigo at each level should follow these guiding principles.

In effort to get more clarifications on these different ways of seeing imihigo and link them to the current progress observed in agricultural production in Rwanda, the following two chapters describe the surveyed area and population (Chapter 3) and present the field research findings from interviews with farmers, key informant and the researcher's observation (Chapter 4).

## CHAPTER 3. DESCRIPTION OF SURVEY AREA

### 3.1 INTRODUCTION

The two sites selected for the purpose of this study are located in Kirehe district in Eastern Province and Huye district in the Southern Province. Specifically, we sampled farmers in two cells of Rusatira sector in Huye district and two cells of Gatore sector in Kirehe district. Due to insufficient information regarding the sites at the cell and sector levels, the description provided below concerned the districts that accommodate our study; however, the two sectors will be stressed where the data are available.

As explained above in the introduction, the selection of provinces was based on the improvement made to improve the socio economic welfare of the population which led to the reduction of people under poverty line. The available data showed that the Eastern province reduced poverty by 12 % while in Southern Province the proportion of population living under poverty line increased by 1 % within the five last years (NISR,2008). The figure 8 below shows approximately the location of the two sites.

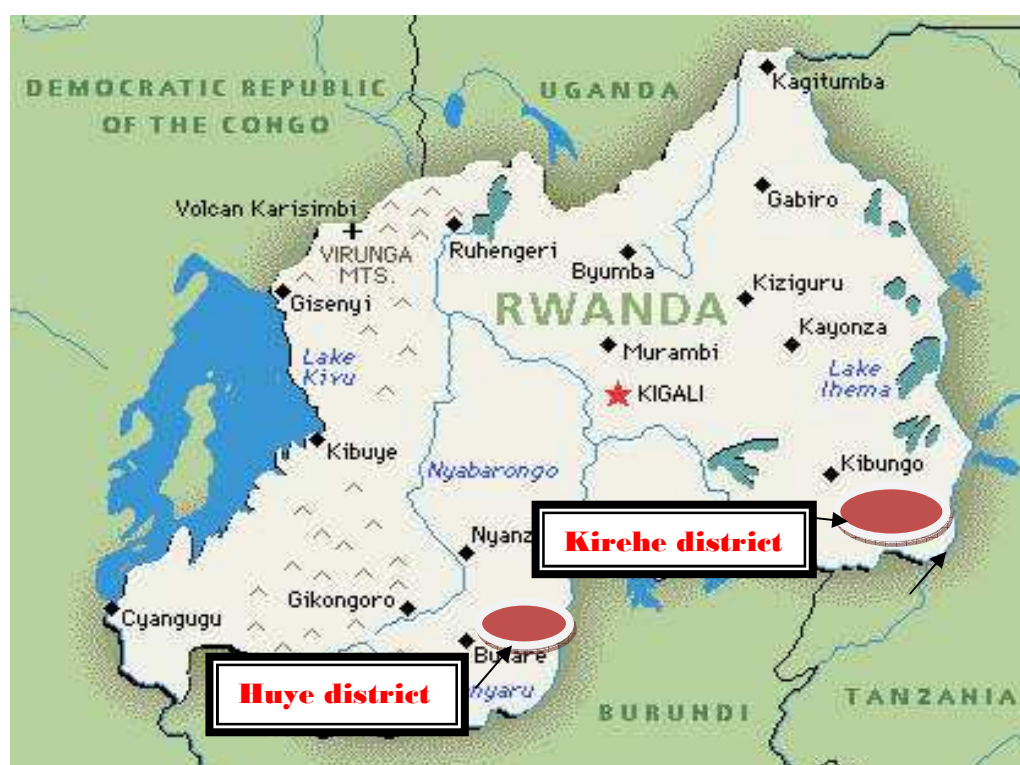


Figure 8: Location of surveyed districts

### 3.2 GENERAL DESCRIPTION OF HUYE AND KIREHE DISTRICTS

#### 3.1.1 General characteristics<sup>1</sup>

Huye and Kirehe are two of the 30 districts that form Rwanda and they are located in Southern and eastern provinces respectively. Their main characteristics are presented in the table 3 below.

<sup>1</sup> Available statistics are for 2006 for Kirehe and 2007 for Huye



**Table 3: The main characteristics of Huye and Kirehe districts**

Characteristic	Huye district	Kirehe district
Delimitations:	North	Nyanza district
	East	Gisagara district
	South	Nyaruguru district
	West	Nyamagabe district
Area	581.5km <sup>2</sup>	1,225.4 km <sup>2</sup>
Administrative subdivisions	14 sectors, 77 cells and 509 villages	12 sectors , 60 cells and 613 villages
Population	290,677inhabitants with 52.7 % being female	229,468 inhabitants with 54.9 % being female.
Density	500inhabitants/km <sup>2</sup>	187inhabitants/km <sup>2</sup>

The climate of both districts is favorable for agriculture. Four seasons are alternating the whole year as follows: short rain season, short dry season, long rain season and long dry season. This alternation make possible the two harvest of almost all crops grown in the region except the crops that took much time to mature like cassava and sorghum.

Within the selected sectors, Rusatira has some specificities in terms of population structure. In fact, the population statistics showed that this sector has the lowest proportion of female (50.2 %) and the highest proportion of population living in extreme poverty (26.3 % against the average of 4.8 % in the whole district).

### 3.1.2 Agricultural sector.

Like in many parts of the country, agriculture is the backbone of the economy in Huye and Kirehe district where around 90% of the total population practice the subsistence agriculture targeting mostly the household food security. Due to their favorable climate conditions a wide range of crops are grown in both districts. The common food crops grown include: beans, maize and sweetpotatoes. Banana is the most grown in Kirehe with 63 % of the total production (Kirehe,2007) while cassava is among the first food crops grown in Huye. Rice is gaining more importance since the development of marshlands and it is grown in both districts by a good number of farmers as cash crop. Regarding the export crops, only coffee is grown with a high proportion of growers in Huye district.

According to MINAGRI (2009c) the yield of those main food crops in both districts does not show significant differences expect banana where the yield in Kirehe is more than three times the one of Huye (12tons/ha in Kirehe against 4tons/ha in Huye). The yield of beans is also relatively high in Huye than Kirehe (2.4tons/ha in Huye against 1.9tons/ha in Kirehe).

### 3.1.3 Livestock sector

Livestock sector is mostly dominated by cattle keeping with about 27 % of the total animals reared in Kirehe district against 20 % in Huye district. In both districts we find also small ruminants and poultry in a non negligible number as shown by the table 4 below.

**Table 4 Livestock production in Huye and Kirehe districts<sup>2</sup>**

<b>Animal reared</b>	<b>Size in Huye</b>	<b>Size in Kirehe</b>
Cows:		
- Local breed	25788	36056
- Exotic breed	1650	981
Poultry	34415	56176
Rabbit	15005	1332
Goat	41000	39725
Sheep	6288	2070
Pigs	17840	1891
Beehives	2663	1060

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<sup>2</sup> The available statistics concerned 2006 for Huye and 2007 for Kirehe

## CHAPTER 4. IMIHIGO IN MODERNIZING AGRICULTURE: SURVEY FINDINGS AND DISCUSSION

### 4.1 INTRODUCTION

The results presented in this chapter came mainly from sampled farmers interviews but they are enriched by key informant interviews and observations as explained above. The main themes covered in the following data are:

1. Knowledge on what and how Imihigo work: this covers the importance of Imihigo among other government initiatives in terms of changing agriculture; how farmers define Imihigo in relation to agriculture and how Imihigo are currently working.
2. The preparation and implementation of Imihigo: under this theme, we explore the whole process of Imihigo from planning to the evaluation
3. The achievements: this theme covers the 2009 progress and the general achievements since Imihigo are implemented.
4. The way forward that covers constraints, suggested solutions and recommendations for better and sustainable results.

### 4.2 KNOWLEDGE ON WHAT AND HOW IMIHIGO WORK TO CHANGE AGRICULTURAL SECTOR IN RWANDA

#### 4.2.1 Farmers' perception on agricultural production trends and performance contract initiative.

Almost all farmers interviewed (99 %) observed changes in agricultural production within their areas and these changes are not spontaneous; they are brought in by different stakeholders involved in the implementation of government policies and initiatives. Among different changes observed, the use of improved seeds and improved agricultural practices are ranked on the top in both sectors covered; the production increase, the acquisition of more agricultural skills and the use of inorganic fertilizers have been stressed in Gatore sector. At the bottom of the list of changes observed by farmers, we find the practice of zero grazing and planting on time (table 5).

**Table 5: Changes observed in agricultural sector by farmers**

Changes observed	Rusatira sector		Gatore sector		Total	
	count	%	count	%	count	%
The use of improved agricultural practices	31	65.96	15	31.25	46	48.42
The use of improved seeds	24	51.06	24	50.00	48	50.53
Priority crops	2	4.26	6	12.50	8	8.42
Monoculture	5	10.64	3	6.25	8	8.42
More agricultural skills are acquired	4	8.51	18	37.50	22	23.16
Production increase	7	14.89	20	41.67	27	28.42
The rate of inorganic fertilizer is increased	3	6.38	16	33.33	19	20.00
Soil erosion is controlled	7	14.89	5	10.42	12	12.63
Planting on time	0	0.00	2	4.17	2	2.11
Zero grazing	1	2.13	5	10.42	6	6.32
Total*	47	178.7	48	237.5	95	208.4

\*The total percentage is over 100 % due to the effect of multiple responses (interviewed people are allowed to mention all changes observed).

The proportions in the table above showed that farmers are now benefiting more from developed agricultural technologies and this is in contradiction with the observation made by Trutmann et al. (1996) when they said that most farmers benefited little from developed technological advances. They added: “Technologies developed for these farmers frequently have not been adopted, or have failed with negative social consequences, mostly because the research was conducted without adequate participation of farmers and with little consideration of farmers’ own knowledge, practices, needs, and desires” (Trutmann et al., 1996:1). With reference to 2005, we observe a spectacular increase in use of improved seeds from 12 % to 50.5 % and the use of inorganic fertilizer raised from than 5 % in 2003 to 20% (Kelly et al., 2003; MINAGRI, 2007).

According to interviewed farmers, these changes are resulted from external interventions; they are either a result of stakeholders’ interventions or an impact of government initiatives. This may then feed the common misconception that farmers in resource-poor areas have little to contribute in the way of advancement, whether scientific or technological (Chambers, 1989).

Regarding these government initiatives that induced the above changes, exemplary site (Agasozi ndatwa), one cow per poor family and performance contract (Imihigo) are ranked on the top with 54.6 %; 33.7 % and 24.4 % respectively (Table 6).

**Table 6: Government initiatives that brought changes in agricultural sector**

Government initiatives	Rusatira sector		Gatore sector		Total	
	count	%	count	%	count	%
Land consolidation	6	14.29	8	18.18	14	16.28
Exemplary sites	29	69.05	18	40.91	47	54.65
Performance contract	10	23.81	11	25.00	21	24.42
Priority crops	10	23.81	8	18.18	18	20.93
One cow per poor family initiative	4	9.52	25	56.82	29	33.72
Kitchen garden	3	7.14	1	2.27	4	4.65
Total*	42	147.62	44	161.36	86	154.65

\*The total percentage is over 100% due to the effect of multiple responses.

The exemplary site (Agasozi ndatwa) is a government initiative aims at facilitating the adoption of agricultural technology and each cell has at least one site. Different agricultural technologies are introduced in this sites and all farmers who own a portion of land in the site have to follow the instructions regarding what to grow and how to grow it. All support providers available in the region are encouraged to concentrate their efforts in the site and it is expected to be a model for diffusing better results. As indicated in the table 9, more than half of farmers interviewed (54.6 %) mentioned these sites. In effort to find out why farmers stressed the exemplary site, especially in Rusatira where the proportion was 69 %, the free seeds, fertilizers (Organic and inorganic) and technical assistance seemed to be a motivating factor.

To get more clarifications what changes should be attributed to this or that government initiative, Rusatira and Gatore sectors’ agronomists provided more explanations. According to them some initiatives like “Agasozi ndatwa” (exemplary sites) are newly introduced and come easily in farmers’ minds than Imihigo which started a bit earlier. However, the most important point that comes from the interview is how the above initiatives are interlinked. In fact, Imihigo are constituted by different targets that need to be achieved within one year and

the other initiatives were initiated in effort to achieve the Imihigo targets. In this regards for instance, the increase of farmers using improved seeds may be a target and the increase cooperation with research and extension institutions to facilitate the set up of exemplary sites may be one of the possible ways to achieve this target.

#### 4.2.2 Performance contract (Imihigo): What is it and how it works?

The results on how farmers define Imihigo in relation to Agriculture indicate a relatively ambiguous knowledge. Most of the interviewed farmers give some incomplete definitions. Table 7 below gives more details.

**Table 7: what does performance contract mean in the line with agriculture?**

Meanings of performance contract	frequency	%
Determining the area to be cultivated within a period of time	3	3.1
Set up agricultural priorities to be achieved in a certain period of time	12	12.5
Purpose driven agriculture	32	33.3
Agriculture that targets food security	21	21.9
Determining the amount of production increase to achieve in one year	17	17.7
Determining the amount of production to be harvested	2	2.1
Do not know	2	2.1
Missing	7	7.3
<b>Total</b>	<b>96</b>	<b>100</b>

Even if more farmers were able to provide some meanings of performance contract in relation to agriculture, none was able to indicate exactly how it works. Most farmers confused the meaning and function of this initiative; for instance 31.2 % of them said that it works through choosing agricultural activities to be implemented in one year and this is one component in defining the initiative rather than explaining how it works. In addition, other farmers said that it works through sharing responsibility (12.5%) or through agreements achieved during agricultural planning meetings (14.6%) and this also indicate the total confusion between the meanings of the initiative and how it works. However, a good number of farmers (26%) do not know how performance contract works and others (15.6%) did not provide responses to this question. On the definition of Imihigo one lady from Rusatira sector said *"I hear our executive secretary talking of Imihigo during the meetings, he told us to use efficiently the seeds received from ISAR and to fight against erosion but he did not explain why, so I think Imihigo mean the use of improved seeds and fight against erosion"*. Asked on how Imihigo work, she said *"I do not know but I see those with enough resources getting rewards from authorities"*. For this farmer and probably for few others, the initiative is imposed by the authority and the sensitization is necessary to make it sustainable. However, there are many other farmers who know better the initiative and sensitize others. For instance, a farmers association member in Gatore sector said *"Imihigo is a government policy that invites us to practice a purpose driven agriculture, we are advised to adopt high value crops like fruits and rice and technicians are provided to help technically"*. On how imihigo work he added *"we select different activities to achieve within one year from a list provided by our cell executive secretary. This list includes activities like getting a cow, increase agricultural production and fight against erosion."*

In general, the above results showed two different positions: some farmers like the quoted lady in Rusatira sector, saw Imihigo as an imposition from the government while for others,

the government provides guiding principles and farmers have to make their choice. However, more findings are required to find out the position of Imihigo and explain their role in modernizing agriculture. The following section looked at Imihigo from their design up to their evaluation and the role of farmers in the whole process will be the main focus.

### 4.3 THE PREPARATION AND IMPLEMENTATION OF IMIHIGO

#### 4.3.1 How Imihigo at the household level are elaborated?

Imihigo at the household level were signed by 93.8% out of the total interviewed farmers; most of these farmers (92.2%) received a pre-established list of targets and they indicate which targets they can achieve within one year. Interested to know whether this list contains the farmers' priorities, almost half of the interviewed farmers (48.9%) said yes (Table 8).

**Table 8: Performance contract elaboration and farmers' priorities consideration**

Who elaborate imihigo for the household?		Are your priorities considered?		Total
		Yes	No	
Myself	Count	3	4	7
	% of Total	3.3	4.4	7.8
Local authority	Count	41	42	83
	% of Total	45.6	46.7	92.2
Total	Count	44	46	90
	% of Total	48.9	51.1	100,00

Four farmers in the above table agreed to elaborate their Imihigo and at the same time thought that their priorities were not considered. This implausible situation pushed for more insights on how Imihigo signed at household level are prepared. Then, one cell executive secretary said " *I think the list of targets is elaborated at the MINALOC level based on different development indicators and when they get to farmers, these choose which activities they should accomplish in a period of one year*". Asked on how farmers' priorities are taken into consideration he added " *It is almost impossible to consider all priorities of every farmer but the main problems in each region are identified through different studies like the district development plan and people in charge of elaborating Imihigo refer to those studies. In addition, Imihigo at houserhold level remain at the initial stage and the government is initiating farmers how to elaborate imihigo so that in the future farmers will took over and be fully responsible for their imihigo*". However, a deep analysis of these studies is required to see whether the approach used favor the farmers participation.

From these interviews it is clear that Imihigo at household level are elaborated by authorities based mostly on farmers' priorities gathered through different means: projects baseline studies like the one of PAPSTA in Gatore sector (Bazihizina, 2006), district development plans, other different studies and some direct consultations. Then, farmers made their choices among different alternatives depending on their priorities and available resources.

#### 4.3.2 How Imihigo at household level are implemented

Once farmers have selected the activities and signed a contract, the implementation process starts and benefits from both internal and external factors. In fact, the agricultural production function, as explained above, requires not only land and family labor (Internal factors) but

also different inputs (external factor); then, farmers are involved in different relations with stakeholders in effort to achieve their targets. In this regards, the following section will focus mainly on relationship and partnership among different stakeholders that intervene to help farmers in their process of implementing Imihigo. The role of farmers in decision making, their voice in planning meetings will be some of the highlights of this section.

#### 4.3.2.1 *Agricultural support providers and areas of interventions*

The identification of stakeholders involved in the development of agricultural sector in the four cells covered by this study is the start point for analysing how their interactions with farmers and among themselves induce or speed up the process of agricultural productivity and agricultural transformation in general. During our interview with farmers, a list of support providers and their main areas of interventions was made and the cross checking was made through the interviews with extension officers in Rusatira and Gotore sectors.

According to farmers, the main support providers in four cells covered by this study are ISAR that provides 45 % of the total support provided in terms of coverage and PAPSTA with 33.1 % while the main areas of interventions are: the provision of seeds (38 %), the provision of fertilizers (31.2 %) and the farmers capacity building through trainings (19.3 %). the table 9 below gives more details.

**Table 9: Support provided and providers**

Provider Support	ISAR		Local authority		CONCERN		PAPSTA		RADA		TOTAL	
	count	%	count	%	count	%	count	%	count	%	count	%
Seeds	63	17.8	16	4.5	10	2.8	40	11.3	5	1.4	134	38
Fertilizer	59	16.7	17	4.8	9	2.6	21	6	4	1.1	110	31.2
Stakes	15	4.3	0	0	0	0	0	0	0	0	15	4.3
Trainings	22	6.2	6	1.7	5	1.4	32	9.1	3	0.8	68	19.3
Cow	0	0	1	0.3	0	0	22	6.2	1	0.3	24	6.8
No support	0	0	0	0	0	0	2	0.6	0	0	2	0.6
<b>Total*</b>	159	45	40	11.3	24	6.8	117	33.1	13	3.7	353	100

\*The total counts is over 96 farmers sampled due to the effect of multiple responses (many responses were allowed).

Within the sectors covered, ISAR is more active in Kiruhura cell of Rusatira sector where it provide the complete technological package of bush and climbing beans for free while PAPSTA is more active in Gatore sector where it initiated an input shop and provided freely initial quantities of different inputs. PAPSTA provides also cows for milk and manure as well as technicians both an agricultural officer and a veterinary technician to look after crops grown and animals provided.

In order to cross check and supplement the information provided by farmers Gatore and Rusatira sector agronomists mention ISAR and CONCERN as the main support providers in Kiruhura and Buhimba cells of Rusatira sector while PAPSTA is mentioned in Gatore sector. According to those officers, CONCERN, the international humanitarian organisation dedicated to reducing suffering and ending extreme poverty (<http://www.concern.net/about>, retrieved on April 12th, 2010), is working closely with farmers association in Kiruhura cell by providing trainings, improved seeds and inorganic fertilizer. Rwanda agricultural research

institute (ISAR) conducted some on farm trials in Kiruhura cell since many years ago. Recently, this institute, through technology transfer research unit is transferring different technology packages to farmers of Kiruhura cell and to some farmers of Buhimba cell.

In Gatore sector, the Support Project for the Strategic Transformation of Agriculture (PAPSTA) is the leading support provider in the cells covered by our study. PAPSTA funded some governments institutions like ISAR to carry out different agricultural activities and organizing some farmers trainings in the sites. It supports also local Non Governmental Organizations (NGOs) and farmers organizations that are in direct contacts with farmers. For instance, in Gatore we identified “send a cow”, a local NGO in charge of distribution of cows to poor families and their follow up through the government initiative known as “one cow one family programme”. In Gatore we have also UCORIRWA (Union des Coopératives Rizicoles au Rwanda) which is an umbrella of rice producers; it receives funds from PAPSTA to support their members in rice production within Gatore sector.

During our interviews, both sector agronomists recognize the insufficient number of stakeholders in their respective regions and said that they are approaching others. For instance the one of Rusatira said *“ISAR and CONCERN are not enough to help farmers in the achievement of imihigo but we are trying to approach more stakeholders. The successfull achievement of Imihigo depends essentially on building strong partneship with many stakeholders”*. This will of bringing more stakaholders is also noticed as one main role of Imihigo and Andrews et al. (2010) call this fact of “bringing more partners in” a “connecting function” of Imihigo.

In addition to this identification of stakeholders and their areas of interventions, this study was also interested on how these supports reach farmers. The mode of acquiring the different support may influence the use or adoption of the latter. In this regards, we asked farmers whether the support recieved was demand or supply driven. On this issue, most farmers (90.7 %) get support through the supply driven channel. All farmers interviewed in Rusatira agreed that all support provided are supply driven while the proportion in Gatore is a bit less (81.25 %).

**Table 10: Mode of acquiring support**

Modes of acquisition	Sectors	Rusatira		Gatore		Total	
		Count	%	Count	%	Count	%
Demand driven		0	0	8	19.5	8	9.3
Supply driven		45	100	33	80.5	78	90.7
<b>Total</b>		<b>45</b>	<b>100</b>	<b>41</b>	<b>100</b>	<b>86</b>	<b>100</b>

Regarding these modes of acquiring support, the demand driven agricultural service provision is usually very important since it *“emphasizes the need to provide services that meet the needs and priorities of farmers, even if the market mechanism—Adam Smith’s famous “invisible hand”—fails to make sure that extension services are supplied in the quantity and quality expected by farmers”* (Birner and Anderson, 2007: 4).

Once stakeholders are identified the next step would be to investigate how they interact with farmers and how these interactions stimulate farmers to produce more. Then, the following section stresses the interaction between farmers and the above stakeholders.



### 4.3.2.2 Farmer' s interaction with stakeholders

Farmer's interaction with stakeholders involved in agricultural sector, especially the extension officers, is an important step in developing this sector; it allows farmers to get appropriate information and their agricultural concerns are quickly and efficiently treated. On this issue, 63.5 % of the interviewed farmers agreed to be in permanent contact with at least one of the stakeholders. The home visits are the main means of interaction between the two groups. In fact, out of 61 farmers who are in contact with stakeholders, 47 i.e. 77.7 % are visited by one or more stakeholders at least once a season. Table 11 below gives more details.

**Table 11: Frequency and means of interaction between farmers and stakeholders.**

Contact	Frequency	Means of contact				Total	%
		Telephone	Home visit	Office visit	Meetings		
No	-	-	-	-	-	35	36.5
Yes	At least once a month	-	22	1	4	27	28.1
	At least once a season	1	25	-	7	33	34.4
	At least once a year	-	1	-	-	1	1
<b>Total</b>		<b>1</b>	<b>48</b>	<b>1</b>	<b>11</b>	<b>96</b>	<b>100</b>

In comparison with other countries like India, Uganda and Malawi, these proportions are relatively high. According to a survey commissioned by the International Food Policy Research Institute (IFPRI) and the World Bank, India has the lowest proportion of farmers interacting with extension workers in those three countries with only 6 %. Uganda comes second with 14 % of farmers who agreed to have been visited by extension workers while Malawi has the highest proportion of 46 % of farmers interacting with extension workers (Birner and Anderson, 2007). In addition, the frequency of these contacts is essentially monthly (43.5 %) or seasonally (54.8 %) and only one farmer agreed to have contact with decision makers on annual basis. The frequency of those visits make also a difference with the above countries where the period considered was as long as 12 months (Birner and Anderson, 2007). Reporting on these contacts, especially the visits that local authorities, agricultural officers and other support providers paid to farmers in their home De Boef, (1993) find them very important since they facilitate communication with farmers and these feel not only important in the process of agricultural production but also respected.

In the line with this remark of De Boef, it is important to investigate whether this feeling of being important is materialized or recognized in the process of agricultural decision making and planning. This will constitute the main essence of the following two sections.

### 4.3.2.3 Farmers in agricultural decision making

Like other processes, the agricultural production started by deciding on what to grow and where to grow them. On this issue, we were interested by who decides on agricultural activities to be implemented in the regions covered by the study. Results indicated that in many cases, the decision came from local authorities (59.5 %) while in any case farmers took decisions themselves. Within the sectors covered by our study, local authorities played a big role in Gatore in terms of decision making while in Rusatira, ISAR which is the main support provider played also a non negligible role as detailed in the table 12 below.

**Table 12: Who decide on agricultural activities to be carried out in Rusatira and Gatore?**

<b>Decision maker</b>	<b>% of responses in Rusatira</b>	<b>% of responses in Gatore</b>	<b>% total</b>
Local authorities	47.9	68.8	59.5
Support provider (ISAR)	18.8	0	9.4
Local authority and support provider	16.7	0	8.3
Local authority and farmers	10.4	31.2	20.8
Missing	0	0	0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

According to this table, the implication of farmers in decision making about the agricultural activities to be implemented in the region is limited especially in Rusatira where in only 10 % of the cases farmers intervene along local authorities to decide. This may impact positively or negatively on agricultural production increase and agricultural development in general. Usually the decision in policy process is usually based on scientific knowledge (Karen and McGee, 2004); if it is the case for the crops to be grown the output should be better. However, the implementation may be constrained by farmers who usually resist to change for different reasons (Bucyerimanza, 2001). Among these reasons the lack of participation in decision seems to be the main according to different authors. In fact, those authors who advocate for farmers participation agreed that farmer participation increases the success of different programs introduced in their respective areas. In this line, Arora (1997) and Jiggins (1989) found that farmers are more likely to adopt newly-designed systems if they feel they have had a hand in the designed process and they will remain invested in programs if they understand that they have a predominant role in future extension and research policy.

#### **4.3.2.4 The agricultural planning meetings and the role of farmers**

The planning meetings are a very important occasion to mobilize resources and share responsibilities among different stakeholders involved in agricultural production process. According to 92.7 % of interviewed farmers, these meetings are held at least once a season and it is the responsibility of local authorities and support providers to invite farmers in order to plan together what should be done and how. During these meetings, farmers are encouraged to take part and participate actively; however, their voice and opinions are not in some cases taken into consideration in decision making. As shown by interviewed farmers, only one farmer found farmers' opinions as very important in planning meetings and 12.5 % of the total farmers consider their opinions as having no importance at all. Even if farmers opinions are not very important, a good number of farmers consider their opinions important especially in Rusatira sector where the proportion goes up to 80 % of interviewed farmers in the sector as shown in the figure 9 below.

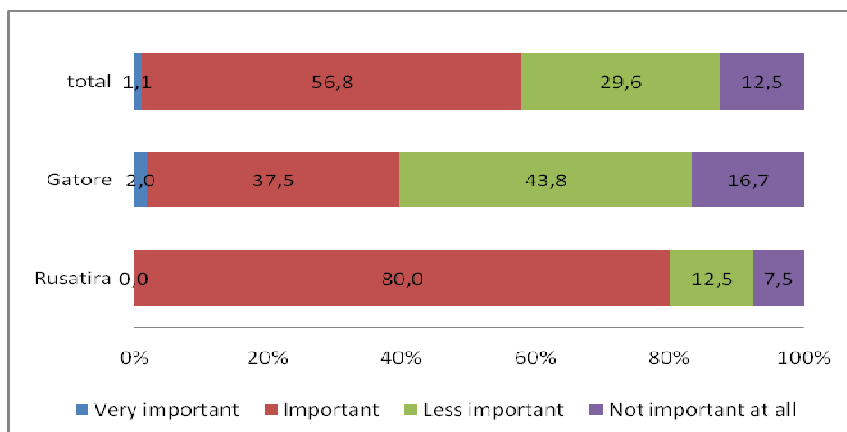


Figure 9: The importance of farmers' opinions in planning meetings

The results presented in the above figure, show that farmers are key stakeholders in those meetings and there is a chance for easy adoption of introduced technology and this leads to agricultural productivity increase. In this regards, farmers feel that their concerns are taken into consideration and the technology is addressing the real problem (Jiggins, 1989; Sperling and Ashby, 2000). In considering five different types of participation adapted by Sperling and Ashby (2000) from Robert Chambers we were interested to see if farmers have a final say in decision taken during these planning meetings. The results showed that farmers are considered to be a core category in decision making in only 13.5 % of the total cases. The local authorities remain the core category but a good number of farmers agreed on a participatory decision making. The figure 10 below gives more details.

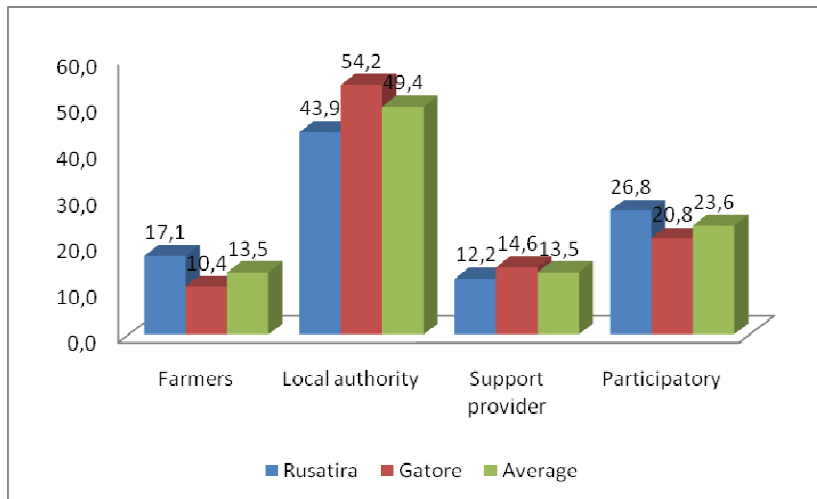


Figure 10: Who has a final say in agricultural planning meetings in Rusatira and Gatore sectors

Although agricultural planning meetings in the area covered by our study remained dominated by local authority in terms of decision making, they played a non-negligible role in encouraging farmers' participation. In fact, by comparing the proportions in the figure above with the results presented in table 12, we find that farmers benefited more from these meetings. The proportion of farmers who attributed all responsibility to local authority in terms of decision making about the agricultural activities to be carried out in the region reduced when a planning meeting is convened while the proportion of farmers as the core group in decision making raised from 0 % to 13.5 % as well as the proportion of those considering the

decision as a result of consultative and participative process among different stakeholders involved; this proportion increased also from 0 % to 23.6 %.

while conducting some interviews in Gatore sector, two contradictory but interesting statements on this issue were raised. On one hand a farmer told me: *“the voice was given to us and we are deciding on what to do and how to do it; the authorities just provide technical advice and material support because they have knowledge. The administration is decentralized and we are responsible for our development”*. On the other hand, a wife of my respondent pointed out during the interview: *“tell him the truth, what kind of decision do you take? You just execute what authorities have planned. I know that the authority is decentralized and we are efficiently represented at all levels so that our concerns are well dealt with but the role of farmers in decision making is still limited”*.

This last statement brings a new element of farmers’ representation in the current decentralized institutions. In fact, the decision is mostly dominated by the top down approach but all institution are decentralized and the decisions have many chances to translate the will of farmers if they are well represented.

Regarding the importance of these planning meetings in general, most farmers (88.1 %) found them important; for 9.5 % of the total respondents, planning meetings are less important while 2.4 % of the respondents found those meetings not important at all. In order to justify their position, farmers mentioned different reasons and the common reason for those who found the meetings important is “acquiring more skills and knowledge” with 39.2% followed by “learning how to increase agricultural production” with 32.4 % while the least common reasons include: planting on time, acquiring some inputs and get explanation on agricultural concerns with 1.4 % each of these three reasons. Those who found the meetings less important were mainly based on the fact that the meetings do not consider the farmers’ priorities (50 %) and they are dictated what to do without taking into account their long experience (37.5 %). This reason is also the one mentioned by two farmers who qualified these planning meetings as not important at all (Table 13).

**Table 13: Why agricultural planning meetings are important or not?**

Reasons	Important		Less important		Not important at all	
	Count	%	Count	%	Count	%
Acquiring improved agricultural practices	7	9.5	0	0	0	0
Acquiring more skills	29	39.2	0	0	0	0
Acquiring some inputs	1	1.4	0	0	0	0
Exchange of advices	7	9.5	0	0	0	0
Planting on time	1	1.4	0	0	0	0
Learning how to increase production	24	32.4	0	0	0	0
Sensitization and agricultural trainings	1	1.4	0	0	0	0
Getting explanations on farmers agricultural concerns	1	1.4	0	0	0	0
Dictating what to do and neglecting farmers’ experience	0	0	4	37.5	2	100
Farmers’ priorities are not considered	0	0	3	50	0	0
Missing	3	4.1	1	12.5	0	0
<b>Total</b>	<b>74</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>2</b>	<b>100</b>

In order to be more specific regarding the importance of the planning meetings, we asked farmers to list some important topics discussed during these meetings. In general, participants to those meetings decide on which crops to be grown, agricultural practices to be used, the time of planting, the sources of inputs and the agricultural development in general. The less discussed topics include: soil erosion control and sharing responsibility (table 14).

**Table 14: Main topics discussed during the agricultural planning meetings**

Main topics discussed	Rusatira sector		Gatore sector		Total	
	count	%	count	%	count	%
Agricultural practices to be used	26	66,67	25	52,08	51	58,62
Sources of inputs	2	5,13	14	29,17	16	18,39
Sharing responsibilities	1	2,56	3	6,25	4	4,60
Crops to be grown	20	51,28	40	83,33	60	68,97
Soil erosion control	4	10,26	4	8,33	8	9,20
Agricultural development in general	9	23,08	10	20,83	19	21,84
Time of planting	0	0,00	24	50,00	24	27,59
<b>Total*</b>	<b>39</b>	<b>100,00</b>	<b>48</b>	<b>100,00</b>	<b>87</b>	<b>100,00</b>

\*The total percentage is over 100% due to the effect of multiple responses (more responses are allowed).

By considering table 12 and table 13, the importance of agricultural planning meetings is obvious in terms of increasing farmers' knowledge as well as providing information on different opportunities available in the region. These meetings encourage also farmers' active participation.

The above section seemed to present contradictory data on farmers participation in decision making. On one hand, farmers said that they don't decide on agricultural activities to be implemented in their respective regions while on the other hand they show that they have voice in planning meetings and their opinions are given an importance. The explanation of this situation comes from crop regionalization program. According to this government program, studies were conducted to determine which crops can produce more in each region and through this study, priority crops were provided to each region. In this selection, farmers did not participate and do not have the right to change for the large exploitation but they can grow other crops in some fields that are near their homes. This can then explain why they said that they don't participate in the decision regarding agricultural activities to be implemented in the region. In addition, the above mentioned program gives five different crops in each region and farmers have the right to choose among the offered alternatives. In this case they enjoyed their participation in the process of planning and implementing agricultural activities in their regions with a limited list of alternatives.

We did not limit our analysis on the relationship between farmers and stakeholders, we also try to understand how different stakeholders interact with local authority. In fact, the latter is expected to coordinate all initiatives towards the general development of population under its authority and should play an intermediary role between farmers and those different stakeholders. In this regards, we asked our key informants how the partnership with local authority/stakeholders is and try to cross-check by asking farmers how stakeholders get to

them. Most farmers in Gatore sector (76.5 %) get agricultural support direct from stakeholders and these are not accompanied by officer in charge of agriculture at the sector level. This officer is less known in the region according to farmers. For instance, one farmer said: *“I only see officers in charge of agriculture and livestock from PAPSTA, I have never seen our sector agricultural officer and I do not even know his name”*. The situation in Rusatira sector is opposite, in fact, according to 71.1 % of the respondents from this sector, stakeholders pass through local authority to get to farmers (table 15).

**Table 15: Who is in charge of bringing support providers to farmers?**

	Support providers themselves		Local authority		Total	
	Count	%	Count	%	Count	%
Rusatira	11	28.9	27	71.1	38	52.7
Gatore	26	76.5	8	23.5	34	47.3
<b>Total</b>	<b>37</b>	<b>51.4</b>	<b>35</b>	<b>48.6</b>	<b>72</b>	<b>100</b>

According to sector agricultural officers in both sectors, the partnership with support providers is very strong and all activities carried out in the region are coordinated at sector level. However, when I asked these officers whether the support providers' activities are included in their imihigo, the response is “no”. To explain why, the agricultural officer in Rusatira sector said: *“by including their activities in our imihigo, we condemn ourselves to fulfil those activities whether they support or not. If they failed to accomplish those activities we bear the responsibility and we might be in trouble.”*

Even if many support providers' activities are controlled at the sector level, some activities might be out of control and some partnership agreements are signed between farmers and support provider without prior consultation of local authority. For instance, while we were conducting our interview with agricultural officer in Rusatira, a farmer came in and ask this officer to get a signature from the sector executive secretary on a contract between world Food Program (WFP) and the association to which this farmer belonged. According to this farmer, the contract was already under implementation and sector authorities were not aware.

#### **4.3.2.5 Planning and implementation gap**

The planning covers many topics and sharing responsibility is one of those topics as mentioned above. Some of the stakeholders meet efficiently their responsibilities while others do not and this creates sometimes a gap between the planning and the implementation. in case of imihigo, we asked farmers whether the implementation of activities included in imihigo are in accordance with the planning.

According to farmers interviews, 81 out of 95 respondents that is 75.26 % indicated the gap between planning and implementation and this proportion is 100 % in Gatore sector. The responsibility is shared among the stakeholders with the high proportion of responsibility attributed to local authority. According to 55.56 % of the respondents local authorities are mainly accused of delaying the provision of seeds and others agricultural services and the lack of monitoring and evaluation. With 33.33% of the total responsibility, farmers are mostly accused of resistance to change while the support providers, with 11.11% of responsibility, have their weaknesses in delaying the seeds and other services provision (Table 16).

Reacting to this gap one farmer in Rusatira said: *“There is a big difference between what was planned and what we implemented. Local authority and support providers show promise to support our activities but when it comes to implementation some of the promises are not*

*brought in, others are delayed or replaced.[ As an example she added] We have been told to uproot our banana plantations expecting to get the new and more productive banana varieties but later some of us got beans and others are still waiting. In such conditions how would you like the implementation to be in accordance with the planning”.*

In Gatore sector where all farmers interviewed recognize the gap between planning and implementation, the agricultural officer has another version. According to him, the gap is very small and it results mostly from some farmers who resist to change. He said: *“Due to PAPSTA intervention farmers get all necessary support to implement the planned activities and they are frequently assisted by both sector and PAPSTA technicians. However, there exist some recalcitrant farmers who do not want to change and we keep sensitizing them”.*

**Table 16: The reasons and responsibility for the gap between planning and implementation**

Responsible Reasons	Farmers		Local authority		Support providers		Total	
	Count	%	Count	%	Count	%	Count	%
Delay in service provision	0	0	20	47.6	3	33.3	23	29.5
Delay in seeds provision	0	0	5	11.9	4	44.5	9	11.5
Lack of monitoring and evaluation	0	0	13	30.9	1	11.1	14	18
Lack of required resources	2	7.4	2	4.8	0	0	4	5.1
Lack of trainings	0	0	1	2.4	0	0	1	1.3
Lots of activities	1	3.7	0	0	0	0	1	1.3
Resistance to change	24	88.9	1	2.4	1	11.1	26	33.3
<b>Total</b>	<b>27</b>	<b>34.6</b>	<b>42</b>	<b>53.9</b>	<b>9</b>	<b>11.5</b>	<b>78</b>	<b>100</b>

According to the above table, the main reasons are not related to the feasibility of the planned activities but rather they are unpredictable reasons. This fits with the statement of Majone and Wildavsky quoted by Rondinelli (1993: 17) when they said: *“The planning model recognizes that implementation may fail because the original plan was infeasible. But it does not recognize the important point that many – perhaps most – constraints remain hidden in the planning stage, and are only discovered in the implementation process”.*

### **4.3.3 Progress towards imihigo of 2009 and their achievements since the first implementation in 2006**

#### **4.3.3.1 Progress towards imihigo of 2009**

In terms of 2009 targets and the progress made so far, some farmers have largely achieved their targets since the survey was conducted after the targeted period; the survey results indicated a general proportion of 68.9 % in Rusatira and 64 % in Gatore. According to table 17 below, the use of improved seeds and improved agricultural practices have been the main targets for different farmers and most of them have achieved these targets. The kitchen garden and soil erosion control were also included in priorities of farmers in both sectors but the achievement is high in Rusatira for both targets while in Gatore all farmers remain in progress for erosion control and for the kitchen garden, most farmers (69.2 %) have at least one. Animal production targets like getting a cow, growing fodder for animals and

implementing the zero grazing practice are less considered as priorities by many farmers. Specifically the food security and agricultural production increase need special attention in the sectors covered by our study. In fact, the production increase ranks among the least priorities of farmers in Rusatira and none achieve this target while in Gatore sector, this target is among the farmers priorities and 38.5 % of the farmers who targeted it have achieved it. In the same line, food security was targeted by 5 farmers in Rusatira and only one farmer achieved it i.e. 20 % while in Gatore 9 farmers targeted food security and 3 (33.3%) achieved this target.

However, as indicated in the table 20 below, what farmers consider as targets are just large areas that need specific indicators and baseline data for comparison! So these data are just giving the trend of how farmers appreciate what they do in terms of progress!

**Table 17: The 2009 targets and the progress made so far**

Targets	Rusatira sector			Gatore sector		
	Achieved	In progress	No progress	Achieved	In progress	No progress
Food security	1	4	0	3	6	0
Savings	0	1	0	4	2	0
Erosion control	8	4	0	0	11	0
Kitchen garden	14	2	0	9	4	0
Improved seeds	11	6	0	25	2	0
Acquiring a cow	2	1	1	0	2	0
Improved agricultural practices	15	1	0	20	3	2
Fodder	0	0	1	1	0	0
Rain water harvesting	0	0	0	4	1	0
Zero grazing	0	0	0	2	0	0
Production increase	0	2	0	5	8	0
<b>Total*</b>	<b>51</b>	<b>21</b>	<b>2</b>	<b>73</b>	<b>39</b>	<b>2</b>
	<b>(68.9%)</b>	<b>(27.4%)</b>	<b>(2.7%)</b>	<b>(64%)</b>	<b>(34.2%)</b>	<b>(1.8%)</b>

\*The total counts is over 96 farmers sampled due to the effect of multiple responses.

The available literature on food security in Rwanda shows the same trend on district level even if the proportions remain very low in both Huye and Kirehe districts. According to a comprehensive food security and vulnerability analysis and nutrition survey conducted in Rwanda in 2009, Kirehe district has reduced the proportion of population living in food insecurity from 5 % in 2006 to 1.2 % in 2009. In Huye district this proportion decreased from 7.5 % to 3.3 % within the same period. Both districts are under the national average of 5 % but Kirehe has the lowest proportion compared to Huye (Vinck et al., 2009).

This study was carried out at the end of harvesting time and it was very hard to agree or disagree with this progress made so far. However, in Rusatira sector, the use of improved seeds and agricultural practices was observed in one exemplary site in Kiruhura cell. Bush beans planted on a recommended spacing were about to be harvested. Out of the site, the crop mixture was dominant which raises doubt on the relatively high rate of farmers who use both improved seeds and agricultural practices. In Gatore sector, the crop mixture was the most dominant except the rice cultivation that has its own recommendations that should be fulfilled strictly by rice growers.



### 4.3.3.2 Achievement since 2006

The main achievements since 2006 do not differ very much with the targets mentioned in the above table; the use of improved seeds and the use of improved agricultural practices are the main achievements mentioned by many farmers in the two sectors. The general proportions indicated 46.2 % for the use of improved seeds and 54.8 % for the use of improved agricultural practices. Like in the table 20, the achievements related to animal production are less mentioned by farmers; the zero grazing practice was mentioned by 4.3% while fodder for animals was ranked among the main achievements by 2.1% of the total farmers interviewed.

However, like the table on the progress made, the data on achievements gave also the trend on how farmers see the progress vis-a-vis Imihigo. The following figure gives more details.

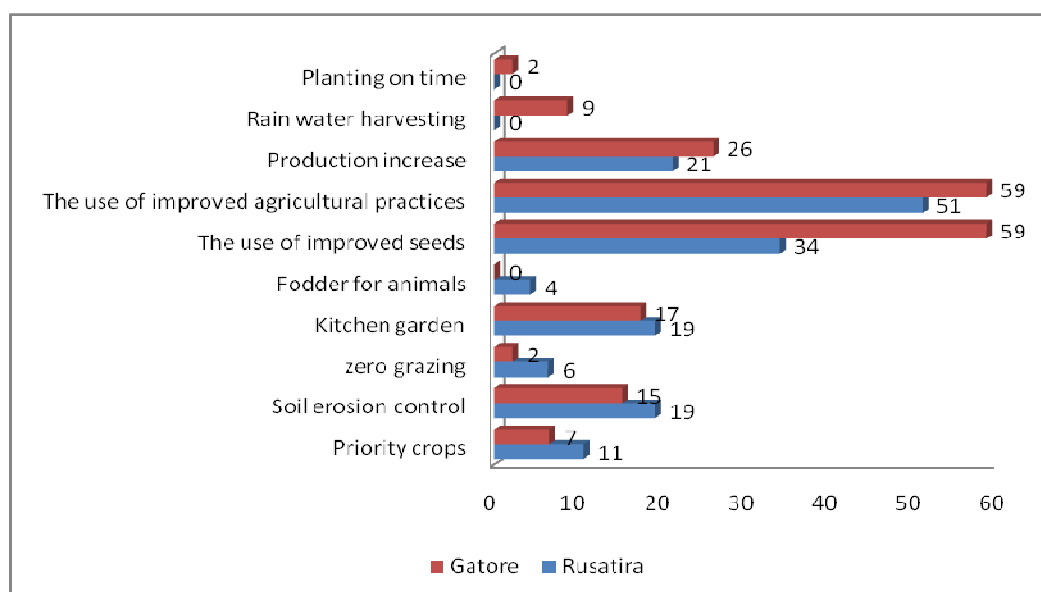


Figure 11: The main achievements since performance contract was launched

Results in the figure above showed important achievements in terms of agricultural development and food production; more than half of the farmers interviewed were using improved agricultural practices and the same proportion in Gatore sector are using improved seeds while the proportion in Rusatira is a bit low. For about a quarter of the total farmers, agricultural production has increased and soil erosion was controlled in about 17% of the cases. These two achievements have relatively low proportions but they are important achievements since the agricultural production decline has been the main challenge for agriculture in Rwanda for a number of decades as indicated in literature. In the same line, we showed how erosion was a serious threat to soil fertility in Rwanda where it carries about 1.4 million tons of fertile soil each year (MINAGRI, 2009). So, even if the proportion seems to be small, its contribution is high.

Most of the achievements listed above contribute to the agricultural productivity and agricultural development in general. In comparison with the situation before the implementation of Imihigo, it is clear that significant changes are observed and all these changes are attributed to Imihigo since other programs and initiatives are set up to facilitate the implementation of Imihigo

#### 4.4 RESOURCES REQUIRED, CHALLENGES FACED BY FARMERS IN THE IMPLEMENTATION OF IMIHIGO AND PROPOSED SOLUTIONS.

The identification of some reasons that justify why implementation of agricultural activities is not in accordance with their planning leads us to the questions of resources available and challenges faced by those who supposed to implement those activities. This section is mainly focused on the identification of resources required by farmers, challenges they are facing and what they think should be the appropriate solutions for better implementation of agricultural planned activities.

##### 4.4.1 Resources required and challenges

The questions on resources required to implement planned activities and the challenges faced by farmers should provide the same responses since the lack of a resource constitute a challenge. However, these two questions were asked intentionally to see the importance of each challenge since in Rwanda the common challenges mentioned by farmers are always the lack of financial support and poverty. Among the resources and knowledge required by farmers to implement activities as planned, the trainings comes first with 41.3 % of the total and it is followed by financial support and material support with respectively 24.5 % and 20%. When it comes to challenges, the lack of financial support comes first with 35.9 % and the lack of trainings comes second with 21.1 %.

Within the sectors surveyed, the agricultural training as a resource required to implement Imihigo was largely recognized in Gatore sector by 87.5 % (42 out of 48 sampled farmers) of the sampled farmers in the sector while in Rusatira the proportion was 48.9 % (22 out of 45 respondents) of the total respondents in the sector. Regarding financial support, the proportion is almost the same with trainings in Rusatira and it is far behind in Gatore.

**Table 18: Resources required by farmers to implement efficiently the performance contract.**

Resources/Knowledge	Rusatira		Gatore		Total	
	Count	%	Count	%	Count	%
Inorganic fertilizer	5	7.9	4	4.3	9	5.8
Agricultural trainings	22	34.9	42	45.7	64	41.3
Seeds	3	4.8	4	4.3	7	4.5
Financial support	21	33.3	17	18.5	38	24.5
Material support	10	15.9	21	22.8	31	20.0
Land	2	3.2	4	4.3	6	3.9
Total*	63	100.0	92	100.0	155	100.0

\*The total counts is over 96 farmers sampled due to the effect of multiple responses.

Concerning the challenges, the lack of agricultural trainings was ranked among the least important challenges in Rusatira sector while in Gatore it is very important. In fact, only seven farmers out of 48 respondents in Rusatira considered it as important i.e. 14.6 % and in Gatore the number was 26 farmers out of 44 respondents i.e. 59.1 %. Among the challenges, we observed the low score attributed to resistance to change while in table 16 above, this factor was ranked second reason to justify how the implementation was not in accordance with planning. This may probably be effect of fear that farmers have towards their authorities and avoid to blame them for the failure. In his article, Huggins (2009) gave a good number of cases where farmers are obliged to do what they have been dictated and fear sanctions. The

fear to blame authorities is obvious in a country like Rwanda where “*the imposition of fines, uprooting of crops, use of intimidation, and occasional physical violence may not seem like major issues*” (Huggins, 2009: 301). Apart from resistance to change, some other challenges like crop diseases were also less scored in terms of importance in limiting the implementation of planned activities (Table 19).

**Table 19: Challenges faced by farmers in the implementation of performance contract**

Challenges	Rusatira		Gatore		Total	
	Count	%	Count	%	Count	%
Resistance to change	1	1.4	2	2.4	3	1.9
Lack of improved seeds	4	5.6	9	10.7	13	8.3
Lack of trainings	7	9.7	26	30.9	33	21.2
Lack of financial support	27	37.5	29	34.5	56	35.9
Rain shortage	20	27.8	2	2.4	22	14.1
Land shortage	5	6.9	6	7.2	11	7.1
Crop diseases	2	2.8	3	3.6	5	3.2
Delay in seeds provision	6	8.3	7	8.3	13	8.3
<b>Total*</b>	<b>72</b>	<b>100.0</b>	<b>84</b>	<b>100.0</b>	<b>156</b>	<b>100.0</b>

\*The total counts is over 96 farmers sampled due to the effect of multiple responses.

#### 4.4.2 Solutions proposed by farmers

##### 4.4.2.1 Solutions proposed to identified challenges

From these different challenges, farmers have tried to list some possible solutions to overcome them; some may have direct effect on challenges while others may contribute efficiently but not directly. By drawing a parallel between the above challenges and solutions proposed by farmers we found on one hand, a direct link between challenges and solutions while on the other hand farmers proposed solutions without taking into account what they have mentioned as their main challenges. Concerning the first cases for instance, 20 farmers out 33 (i.e. 60.6 %) who mentioned the lack of agricultural trainings as the main challenge, proposed the increase of sensitization meetings, trainings on agricultural practices and the trainings on agricultural project elaboration as the alternatives solutions to this challenge. In the same line, out of 12 farmers considering delay in seeds provision as the main challenge, 9 (i.e. 75 %) proposed the availability of inputs on time as the effective solution. On the other side, we found farmers who mention solutions that has no direct effect on challenge. For instance, out of 15 farmers who indicated the rain shortage as the main challenge none thought on irrigation facilities but many of them thought on availability of inputs on time which may contribute to overcome the challenge but not directly. In addition, 11 farmers who considered the lack of financial support as the main challenge thought that the increase of sensitization meetings may do something and it is clear that there is no link between them. This explained the statement we made earlier when we said that the most common reasons mentioned by farmers for their failure in the implementation of planned activities include lack of financial support and poverty. Results presented in the table 20 below, considered the increasing of sensitization meetings, the lack of seeds and fertilizer credits facilities and the provision of financial support as the main solutions to different challenges with respectively 30, 29 and 23 farmers out of the total of 84 farmers who responded to these two questions.

These three main solutions may also respond to more challenges at the same time even if the way they can respond is not efficient in many cases as observed above. However, if the sensitization meetings cannot respond to financial problems and the lack of improved seeds efficiently, the credit facilities on seeds and fertilizer may respond to seeds problem, financial problem, trainings and land shortage problems.

**Table 20: Challenges faced by farmers and possible solutions proposed by them.**

<b>Solutions</b> <b>Challenges</b>	<b>Sensitization meetings</b>	<b>Seeds &amp; fertilizer credits</b>	<b>Trainings on agric. improved practices</b>	<b>Empowering one cow per family program</b>	<b>Financial support</b>	<b>Input on time</b>	<b>Trainings on project elaboration</b>	<b>Total</b>
Resistance to change	2	0	0	0	1	0	0	3
Improved seeds	2	2	0	0	0	2	2	8
Trainings	13	7	8	1	1	1	2	33
Financial support	11	17	5	2	11	1	3	50
Rain shortage	1	1	0	0	4	8	1	15
Land shortage	0	2	0	3	0	2	2	9
Crop diseases	1	0	0	0	0	0	1	2
Delay in seeds provision	0	0	0	0	2	9	1	12
<b>Total (responses)</b>	<b>30</b>	<b>29</b>	<b>13</b>	<b>6</b>	<b>19</b>	<b>23</b>	<b>12</b>	<b>132</b>

#### **4.4.2.2 General solutions for better implementation of performance contract**

After the identification of challenges that hinder the implementation of performance contract initiative and the proposed solutions to handle these challenges, farmers were invited to provide general recommendations that may improve the current status of the implementation of Imihigo. A list of seven recommendations were established by farmers in both sectors covered with some differences in the importance of those recommendations. While in Rusatira sector, the trend was to get more financial support and more consultations between farmers and local authorities with respectively 43.2 % and 25 % of the total respondents, Gatore farmers proposed more agricultural trainings and the help to get credits as the efficient solutions with respectively 68.8 % and 41.1 % of the total farmers responded.

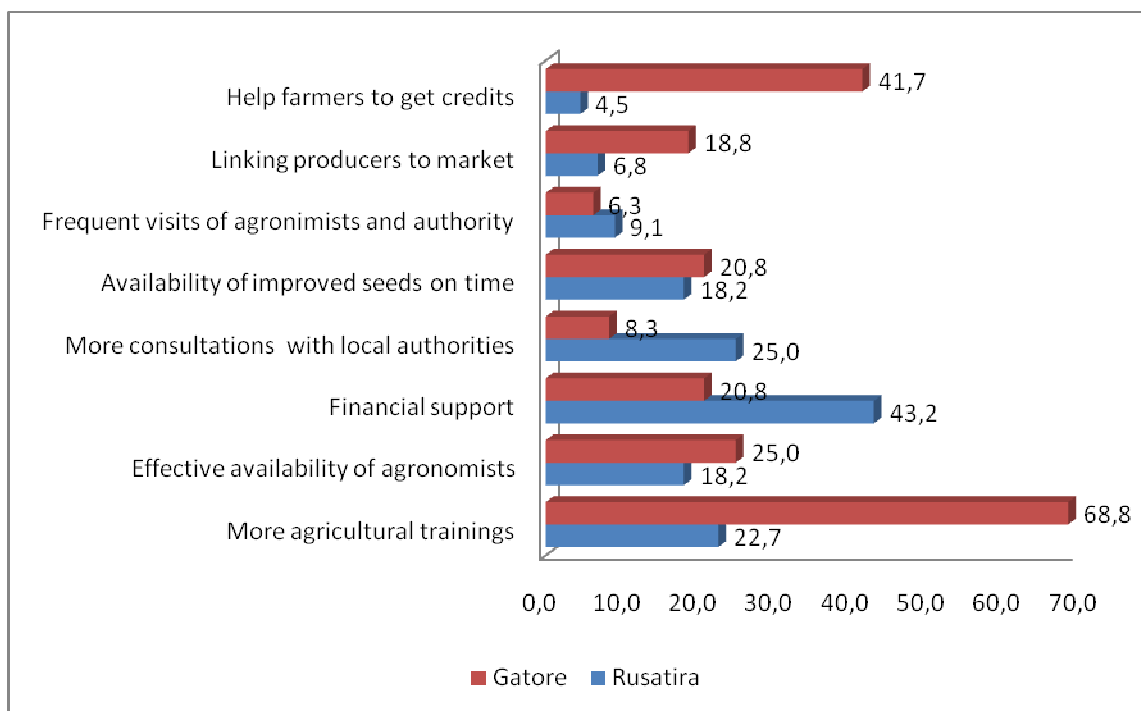


Figure 12: Recommendations for better results from Imihigo.

The recommendations, like the frequent visits of agronomists and authorities and/or the consultations between farmers and local authorities, are not highly scored in terms of importance. This may be the effect of visits that these officers usually paid to farmers in their homes as mentioned above. The proportion of farmers who recommended the promotion of market oriented agriculture remains also very low in Rusatira and low in Gatore as indicated by the figure above and this may indicate that more farmers are growing crops mainly for food. This is the reality for Rwanda even if some farmers are getting out of a subsistence agriculture for a more market oriented one (Vinck et al., 2009; MINAGRI, 2009).

## CHAPTER 5. GENERAL CONCLUSION AND RECOMMENDATIONS

### 5.1 CONCLUSION

The Imihigo initiative that captured our attention along this work is one of these government initiatives that are currently “transforming the rural areas”. We noticed a good number of achievements since it was initiated but some obstacles that may jeopardize the sustainability of those great achievements have been identified. Then, there is a need to address these constraints efficiently and in a more coherent and coordinated manner with a view to longer-term and sustainable development.

At the end of this study, we can point out how different findings describe Imihigo and then try to provide responses to our research questions.

#### 5.1.1 Ways of seeing Imihigo.

In the analysis of Imihigo and their role in transforming agriculture in Rwanda, we come across findings that see Imihigo and their role in transforming agriculture from three different perspectives:

- Imihigo as neutral and endogenous factor: this perspective presents Imihigo as an initiative that use a bottom up approach to transform agriculture and socio economic conditions in general. It is mostly described in government documents that place the farmer at the center of the whole process of the agricultural transformation. However, the survey findings indicated that only a small and negligible proportion of interviewed farmers support the ideas behind such perspective. For instance, the number of farmers who prepare their Imihigo independently is approaching zero and their responses may be interpreted differently.
- Imihigo as an exogenous factor: in this perspective Imihigo are seen as an imposed and top down initiative. This critical view of the initiative is supported by some evidences like the low and ambiguous knowledge showed by interviewed farmers in defining Imihigo.
- Imihigo as a combination of both endogenous and exogenous factors: this perspective is built on the following assumption: *“the government provides guidelines and different people design and implement their Imihigo in accordance with the national priorities”*.

The survey findings are mainly supporting the last two perspectives with the third as the dominant perspective. Then, this summary of findings (both desk and field study) is articulated on these two perspectives.

##### 5.1.1.1 Imihigo as an imposed and exogenous initiative.

In general, peoples who support this position argue that Imihigo are prepared by government and farmers are only the implementors, a pure top down approach where farmers have no voice in the process. They are dictated what to do and those who do not implement the will of government will be severely punished. Some authors have reported examples in different parts of the country.

The current study contains some findings that can be explained from this perspective; these include:

- ✓ The low level of knowledge observed among many interviewed farmers regarding the definition of Imihigo and how they work;
- ✓ The dominant role of local authorities in decision making about the crops to be grown in each region and how they will be grown;
- ✓ The elaboration of Imihigo at the household level done by the government;
- ✓ The supply driven model used in providing support to farmers;

By considering these findings, Imihigo would be a pure exogenous and top down initiative as some authors tended to prove. The agricultural production increase observed in recent years may then be a results of imposed changes or a result of other factors than Imihigo. However, the analysis of each case weakens the position; the initiative is an evolving process and the government started by proposing a long list of targets and the farmers have to choose among those different alternatives. In addition, the preparation of Imihigo is based on farmers needs and as expressed by some farmers, their priorities are taken into consideration in the process of preparing Imihigo. In this regards, the preparation of Imihigo by the government cannot be seen as a pure dictation of what to do since farmers still have room for exercising their choice. Even if, the decision on crops to be grown in the region seems to be an imposition, it remains beneficial. The decision comes from experts who know better the region and its suitable crops than farmers and they offer some alternatives. Farmers have to choose among five priority crops in each region and the imposition is only observed in exemplary sites where farmers have to grow one common crop.

These are some explanations to show that the interpretation of some findings may be different according to different points of analysis. In addition, several findings in this study present Imihigo as an initiative that stimulates farmers participation in the whole process and the role of government is to provide guiding principles. The following section details this way of seeing Imihigo.

#### ***5.1.1.2 Imihigo as an initiative benefiting from both endogenous and exogenous factors***

This position seems to combine some inputs from both top down and bottom up approach. In fact, the guiding principles are imposed by the government but farmers still have a wide range of alternatives to make their choice. To some extent, farmers' rights are limited but not removed at all. The survey findings that described better this position include:

- ✓ To some extent the preparation of Imihigo at household level, although done by government, took into consideration farmers priorities;
- ✓ The preparation of Imihigo at different other levels is almost following the bottom up approach but they should be developed around four main government pillars (Governance, justice, economy and social affaires);
- ✓ The rate and the frequence of interaction between farmers and stakeholders involved in agriculture have increased;
- ✓ In some cases, farmers intervene in decision making even if these cases remain very limited;

- ✓ Most of the time, planning meetings are organized and farmers are invited to take an important part;
- ✓ The farmers' views and opinions are considered and are qualified as important by many farmers;
- ✓ To some extent farmers have a final say in those planning meetings but the high proportion is attributed to local authority.
- ✓ The direct contact between farmers and support providers was observed by many farmers in Rusatira;
- ✓ The weakness of local authority is reported by farmers;

The above findings showed that Imihigo are not neutral and totally owned by farmers because the government is always there to guide and facilitate. However, Imihigo initiative is described as an evolving process and in this process the government is disengaging from the key role. These findings also challenge the position that considers the initiative as an imposed and exogenous. They show that farmers exercise their rights even though limitations are imposed.

To conclude on these ways of seeing Imihigo, we find necessary to reflect on the reasons why in some areas farmers are imposed the crops to grow and in others they have the right to choose. Then, from the observations and interviews, two explanations may be provided: on one hand the imposition is related to specific sites like the exemplary sites while on the other hand it may be linked to some actors' interests.

The exemplary sites are the models for agricultural productivity increase and they are supposed to serve as a success example for scaling up the new agricultural technologies. In this regards all necessary investments should be directed towards such sites and all measures should be applied to avoid failure. The authorities and experts know that the failure in these sites will lead to the failure of the agricultural technologies developed and farmers may also loose hope in expert knowledge.

All necessary inputs came usually from support providers and farmers have to follow the recommendations provided by experts. However, the choice of the crops to grow in such sites and other sites like the marshlands where farmers have limited control may be motivated by some stakeholders or investors interests. For instance, the increase of area under cassava in some exemplary sites in Rusatira is probably motivated by the cassava processing unit installed in Rusatira.

## **5.1.2 Research questions**

### ***5.1.2.1 Partnership: a key factor for successful implementation of Imihigo***

The partnership of different and many stakeholders in transforming agriculture in Rwanda is one of the central principle that guide the implementation of imihigo. The available literature present Imihigo as an initiatives that bring in more stakeholders and build strong relations among them. However, the regions surveyed do not respond to this principle effeciently in terms of number of stakeholders involved. In fact, in the two cells of Rusatira, ISAR seems to be the main support provider while in those of Gatore, PAPSTA provides most of the required support through different NGOs, government institutions and farmers' organizations.



The principle is known and local authorities in those regions are trying to get more stakeholders.

Once the stakeholders are identified and their activities mapped, the central concern was on how the stakeholders relationship and their activities stimulate/motivate farmers and lead them to the transformation of their agriculture. The farmers' participation was labeled as the cornerstone for adopting different agricultural technologies, the essential way to increase agricultural productivity and then transform agriculture. The survey findings indicated a permanent and frequent link between farmers and stakeholders through mainly farmers' home visits and meetings with stakeholders. These meetings are either sensitization meetings held at least once a month or planning meetings held seasonally. During the planning meetings, different stakeholders decide on their interventions and take their responsibilities in the line with the agricultural transformation. These meetings seem to be an important step to better implementation of targeted activities and to facilitate the monitoring and evaluation process. The importance of those planning meetings, as highlighted in the field data, rely most on active participation of different stakeholders.

Farmers appreciate these meetings not only because their opinions and views are considered and accorded some importance but also they learned how to increase agricultural production and acquired more skills in this sector. The main topics discussed in those meetings include the crops to be grown, how they will be grown and when the planting will be done. The source of inputs is also one of the topics discussed and during these meetings, participants share responsibilities.

From the Imihigo spirit, each stakeholder has to comply with the promises since these are included in his/her Imihigo and he/she has to achieve the targeted activities. If the improved seeds, agricultural inputs and technical assistance are provided on time, the agricultural productivity will be increased obviously and this is an essential step for transforming agriculture. However, one case of non compliance was identified in Rusatira sector where the local authorities failed to fulfill its responsibility but ISAR intervene and farmers were not affected. Some cases of delay in service provision were also mentioned and this usually impact on agricultural productivity.

In addition, interviews with sector agronomist showed a weak relationship among different support providers. In fact, apart from some meetings, usually convened by a given support provider and where local authorities are invited to facilitate, there is no formal platform where different stakeholders meet at the sector level. Some interventions are planned by different stakeholders and when it comes to implementation, the local authorities are informed and invited to take part in the planned activities.

Apart from some cases of delay and non compliance in service provision, Imihigo initiative has built strong ties between farmers and stakeholders where farmers were given importance and voice. They are generally visited and invited for agricultural planning meetings where their participation is encouraged. This importance and voice stimulate farmers to own planned activities towards agricultural transformation. Then, in reference to the first and second research questions, these findings showed that, in the line with Imihigo, the way identified stakeholders are working favor the increase of agricultural productivity and agricultural transformation in general.

### **5.1.2.2 Challenges and proposed solutions**

The agricultural trainings were mentioned by farmers as the main resource required to implement efficiently Imihigo especially in Gatore sector; the financial and material supports came far behind as the second and third resources required. The lack of the two first resources required were also mentioned as the main challenges faced by farmers with an inverse order. The lack of financial support comes first while the lack of trainings came far behind as the second challenge. In Rusatira sector, the lack of financial support was the essential problem while in Gatore sector both problems seem to have the same importance. On these main challenges, the increase of sensitization meetings and more training on improved agricultural practices were proposed as solutions on the lack of trainings while the fertilizer and seed credits, providing financial support in terms of cash and the training of projects elaboration were the solutions proposed by farmers.

In general, the suggested solutions proposed by Gatore farmers are the increase of more agricultural trainings followed by the need to help farmers in getting credits and the effective availability of agricultural officers. In Rusatira sector, the need to support farmers financially comes first and it is followed by the need to have more consultations with local authorities and the increase of agricultural trainings.

## **5.2 RECOMMENDATIONS, LIMITATIONS AND FURTHER RESEARCH**

The above summary of the main findings showed that Imihigo have many potentials to transform agriculture in Rwanda. However, some gaps that need immediate actions by different stakeholders in order to sustain the important results achieved since Imihigo initiative was introduced, are also identified.

In addition, this study did not cover all aspects of Imihigo due to some limitations and the broad areas of activities. Then, further research should be welcomed to complement with this one.

### **5.2.1 Recommendations**

In general, the decentralized political system that is characterizing the current political system in Rwanda gives more power and autonomy to decentralized units. The local authorities at district or sector levels are held responsible for the success or failure of their unit in terms of development in general and agricultural development in particular. These authorities at sector level have done a lot to develop the agricultural sector but more need to be done in terms of coordination of scattered efforts and involvement of more farmers in the whole process. For this end we recommend the following:

1. The sensitization campaign vis-a-vis Imihigo should be empowered. Farmers should be provided with necessary information regarding Imihigo, how they work, their importance and their role in the whole process.
2. Necessary inputs should be available on time and the local authority should play a key role. Providing information on the source of input is necessary but not sufficient, the easy access to these inputs backed by Imihigo spirit contribute highly to their adoption and agricultural transformation in general.

### 5.2.2 Limitations and further research

Although the concept of performance contract referred to “Imihigo”, exist for a long time, its application in different domain remain new in Rwanda and few has been done on this practice. For this we faced a lack of scientific publications on the subject and for many farmers the practice need to be explained in depth.

The financial and amaterial means we had to conduct this survey and the short time allocated to the study did not allow us to stay much time with farmers in order to get insights of what is going on.

In spite of the above limitations, collected data showed an increased rate of agricultural technology adoption which is one of the main steps towards agricultural transformation. However, this process to be effective need to be looked at from different angles like marketing, processing, etc. The future research should focuss on these different angles.

This study showed a trend where most supports, especially the improved seeds, are supply driven rather than demand driven. In this case, future studies should focus on how the approach should be inverse and these include a comparative study on the profitability of different and available agricultural technologies.

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## **ANNEXES**

### ***ANNEX 1: RESEARCH QUESTIONNAIRE***

**THE ROLE OF PERFORMANCE CONTRACT IN THE TRANSFORMATION OF AGRICULTURE IN RWANDA**

**General information**

Date \_\_\_\_\_

**1. Respondent's identification**

- a) Respondent's name \_\_\_\_\_ b) Sex \_\_\_\_\_ c) Age \_\_\_\_\_  
 d) Marital status \_\_\_\_\_ e) Education (highest level) \_\_\_\_\_ f) Family size \_\_\_\_\_

**2. Respondent location**

- a) District \_\_\_\_\_ b) Sector \_\_\_\_\_ c) Cell \_\_\_\_\_

**3. Land holdings status**

1. Who owns the land that you cultivate? Husband\_\_ Wife\_\_ Both\_\_ Others (specify) \_\_  
 2. How land is acquired? Inherited\_\_ Purchased\_\_ Renting\_\_ Other (specify) \_\_\_\_\_  
 3. How big is your land (in ha)? \_\_\_\_\_

**Section 1: Agriculture transformation and performance contract policy:  
Definition and identification of stakeholders involved**

**1. Definition**

1. Do you observe some changes in the agriculture production in this area? Yes\_\_\_ No\_\_\_
2. If yes, tick some of these changes:
- |   |  |
|---|--|
| a. The use of improved agricultural practices | f. Production increase                               |
| b. The use of improved seeds                  | g. The rate of inorganic fertilizer use is increased |
| c. Priority crops                             | h. Soil erosion is controlled                        |
| d. Monoculture                                | i. Planting on time                                  |
| e. More agricultural skills are acquired.     | j. Other (specify) _____                             |
3. What do you think is/are responsible for these changes:
- |                           |                                |
|---------------------------|--------------------------------|
| a. Local authorities      | e. Local agricultural officers |
| b. Support providers      | f. Farmers' associations       |
| c. Government initiatives | g. Other (specify) _____       |
| d. Farmers                |                                |
4. Do you think some government initiatives played a big role? Yes\_\_\_\_\_ No\_\_\_\_\_
5. If yes, choose among the following the two main initiatives that brought changes in agriculture in this area?
- |                         |                            |
|-------------------------|----------------------------|
| a. Land consolidation   | e. One cow per poor family |
| b. Exemplary site       | f. Kitchen garden          |
| c. Performance contract | g. Cooperative promotion   |
| d. Priority crops       | h. Other (specify) _____   |
6. Have you heard about performance contract initiative? Yes\_\_\_\_\_ No\_\_\_\_\_
7. What does Performance contract initiative mean in relation to agriculture? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
8. How does it work? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. Stakeholders involved in decision making**

1. Who decide on agricultural activities to be implemented in this area?
- |                      |                          |
|----------------------|--------------------------|
| a. Local authorities | d. Farmers themselves    |
| b. ISAR              | e. Other (specify) _____ |
| c. Sector agronomist |                          |
2. Who decide on the crops to be grown in your field?
- |               |                    |
|---------------|--------------------|
| a. Land owner | b. Local authority |
|---------------|--------------------|

- c. Sector agronomist  
 d. ISAR  
 e. Other (specify)\_\_\_\_\_

### 3. Other stakeholders

1. Do you receive any support for your agricultural activities? Yes \_\_\_ No \_\_\_
2. If yes, complete the following table:

No	Support received	Provider	Is the support demand driven?

## **Section 2: Performance contract policy in agriculture transformation: Analysis of relations among stakeholders involved in decision making and implementation.**

### 1. Contacts and frequencies

1. Do you usually have individual contacts with agricultural officers and/or local authorities? Yes \_\_\_ No \_\_\_
2. If yes, by which means? Telephone \_\_\_\_\_ Home visits \_\_\_\_\_ Office visits \_\_\_\_\_
3. What is the frequency? At least once a month \_\_\_\_\_ At least once a season \_\_\_ At least once year \_\_\_\_\_ Never \_\_\_\_\_
4. Do you personally contact your agricultural support providers? Yes \_\_\_ No \_\_\_
5. If yes, by which means? Telephone \_\_\_\_\_ Office visits \_\_\_\_\_
6. If no, who brought them? They took initiative themselves \_\_\_\_\_ They were brought by local authority? \_\_\_\_\_ Other option (Specify) \_\_\_\_\_

### 2. Planning and implementation

1. Do you usually have agricultural planning meetings? Yes \_\_\_ No \_\_\_
2. If yes, indicate the frequency? At least once a season \_\_\_ At least once a year \_\_\_\_\_
3. Who invites the participants? Sector agronomist \_\_\_\_\_ Support provide \_\_\_\_\_ Local authority \_\_\_\_\_ Other (specify) \_\_\_\_\_
4. Indicate the main categories of participants in those meetings? Agricultural producers \_\_\_\_\_ Local authority \_\_\_\_\_ Agricultural officers \_\_\_\_\_ Support provider \_\_\_\_\_ Other (specify) \_\_\_\_\_
5. What are the main topics discussed?
  - a. Agricultural practices to be used
  - b. Sources of inputs
  - c. Sharing responsibilities
  - d. Crops to be grown
  - e. Soil erosion control
  - f. Agricultural development in general
  - g. Other (specify) \_\_\_\_\_
6. How important are the farmers' views and opinions in those meetings? Very important \_\_\_\_\_ Important \_\_\_\_\_ Less important \_\_\_\_\_ Not important at all \_\_\_\_\_
7. What do you think is the core category of participants in those meetings in terms of decision making? Farmers \_\_\_\_\_ Local authority \_\_\_\_\_ Support provider \_\_\_\_\_ Agricultural officers \_\_\_\_\_ Participatory decision making \_\_\_\_\_ Other (specify) \_\_\_\_\_
8. How do you appreciate the importance of those planning meetings in terms of agricultural development in this area? Very important \_\_\_\_\_ Important \_\_\_\_\_ Less important \_\_\_\_\_ Not important at all \_\_\_\_\_
9. Provide the reasons for your appreciations \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
10. What were your main targets in agricultural production last year and how far are you achieving them?

No	Activity targeted	Progress made


11. Are the activities in the table above involved in the performance contract you signed (If you signed one) Yes\_\_\_\_ No\_\_\_\_ No contact signed\_\_\_\_
12. Who usually established the performance contract you signed? Household head\_\_\_\_ Local authority\_\_\_\_
13. Does he/she consult you before the contract establishment? Yes\_\_\_\_ No\_\_\_\_
14. Do you think your priorities are taken into consideration in this contract? Yes\_\_\_\_ No\_\_\_\_
15. Are you aware of the performance contract signed by the agriculture officer in the sector and your role in the achievement of this contract? Yes\_\_\_\_ No\_\_\_\_
16. If yes, does this contract reflect the priorities in the area? Yes\_\_\_\_ No\_\_\_\_
17. Is the implementation in accordance with the planning? Yes\_\_\_\_ No\_\_\_\_
18. If no, which category of stakeholders usually failed to fulfill its duty? Agricultural producers\_\_\_\_ Local authority\_\_\_\_ support provider\_\_\_\_
19. Provide the tentative explanation? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
20. Who is in charge of monitoring and evaluation of the planned activities? Household head\_\_\_\_ Agricultural officer \_\_\_\_ Local authority\_\_\_\_
21. What did you achieve in terms of agricultural transformation since the performance contract policy was implemented in Rwanda?
  - a. Priority crops
  - b. Soil erosion control
  - c. Zero grazing
  - d. Kitchen garden
  - e. Growing animal fodder
  - f. The use of improved seeds
  - g. The use of improved agricultural practices
  - h. Production increase
  - i. Rain water harvesting
  - j. Planting on time
  - k. Other (specify)\_\_\_\_\_

**Section 3: Performance contract policy in agriculture transformation:  
Resources and challenges**

1. What do you think are the main resources to implement the planned activities?
  - a. Inorganic fertilizer
  - b. Trainings
  - c. Improved seeds
  - d. Financial support
  - e. Material support (agricultural tools)
  - f. Land
2. Do you think all producers have required knowledge and skills to implement those activities? Yes\_\_\_\_ No\_\_\_\_
3. If no, what should be done? \_\_\_\_\_  
\_\_\_\_\_
4. What should be your role in this process? \_\_\_\_\_  
\_\_\_\_\_
5. What are the main problems do you face in implementing the planned activities?
  - a. Resistance to change
  - b. Lack of improved seeds
  - c. Lack of trainings
  - d. Lack of financial support to pay agricultural workers
  - e. Rain shortage
  - f. Land shortage
  - g. Crops and animal diseases
  - h. Delay in seed provision
  - i. Other (specify)\_\_\_\_\_
6. What do you suggest as affordable solutions?
  - a. Increase the sensitization meetings
  - b. Seeds and fertilizer credits

- c. Trainings on improved agricultural practices
  - d. Empowering “one cow per poor family initiative” in order to get more manure
  - e. Financial support
  - f. Availability of inputs on time
  - g. Trainings on project elaboration
7. What do you recommend for improvement of the performance contract policy in order to benefit the population in general and agricultural producers in particular?
- a. More agricultural trainings
  - b. Effective availability of agricultural officers
  - c. Financial support
  - d. More concertations between farmers and local authorities
  - e. Availability of improved seeds on time
  - f. Frequent visits of agricultural officers and local authorities
  - g. Linking producers to market
  - h. Help farmers to get credits

**Thanks**

### ***ANNEX 2: CHECK LIST FOR KEY INFORMANT INTERVIEWS***

1. Agricultural overview in the region covered by intervention
  - Priority crops,
  - Production and yield,
  - Area covered,
  - Input availability,
  - Soil erosion
  - Livestock situation
2. The relationship with
  - a) Farmers:
    - Interaction and collaboration,
    - Support provided and the way of providing it,
    - Farmers' Imihigo: Contribution and farmers role
    - Planning meeting and decision making.
  - b) Local authorities/support providers:
    - Interaction and collaboration,
    - Imihigo: preparation and implementation
    - Planning meeting and decision making
    - The role of farmers
3. Imihigo at both their level and farmers' level
  - Achievements since Imihigo were implemented
  - Opportunities offered by Imihigo
  - Constraints faced during the implementation