Executive summary

Oxford Policy Management has been commissioned by the Ministry of Agriculture and Animal Resources and the UK Department for International Development Rwanda to develop an effective Rural and Agricultural Financial Services Strategy aimed at improving access to and use of financial services in rural areas in Rwanda. This report presents the key elements of the proposed strategy, based on the work carried out since March 2011. The present strategy is designed to fit as much as possible with the existing policies and strategies of a variety of Rwandan government departments and agencies involved in agricultural and rural development.

The strategy is a reflection of the important changes that are taking place in the agricultural sector in Rwanda. Chapter 1 positions this strategy in the broader context of those changes and describes the new opportunities that have been created in the agricultural and rural sector in Rwanda in recent years. This is followed by a summary of the key challenges faced by the sector, with particular focus on the challenges relating to financial services. Next, we describe the key bottlenecks in the financial sector that cause these problems. The chapter concludes with a description of the relationship between challenges and bottlenecks. Chapter 2 presents the strategy options for dealing with the bottlenecks identified in the study, an implementation framework to implement the proposed strategy options, proposals for developing an implementation action plan and a proposed timeline for implementation.

This report focuses heavily on recommendations for action, in accordance with the requirement for such an approach stressed by key stakeholders during the field visit. Diagnosis and analysis are provided to the extent that they are needed to support the recommendations, but they are whenever possible set out in annexes rather than in the main report.

Opportunities

The Government of Rwanda is implementing a set of reforms to enable Rwanda to evolve from subsistence agriculture and food insecurity towards market-oriented agriculture. Efforts are concentrated on a few selected priority staple foods and horticultural commodities. The Crop Intensification Programme was developed on the basis of these priorities. The government has developed a large number of initiatives to support the programme for the development of the various links of the value chain for the priority commodities. These include the Project to Support the Strategic Plan for the Transformation of Agriculture, the Land Husbandry Water Management and Hillside Irrigation Project, the Rural Sector Support Project, the Kirehe Community-based Watershed Management Project and the Post-harvest Handling, Storage and Marketing Strategy. The key initiative for the dairy industry is the Dairy Cattle Development Support Project.

The first and most important fruit of these initiatives is a remarkable increase in cultivated areas and crop yields and therefore in overall agricultural output. This success, virtually unprecedented in Africa, is the first step towards further improvements along the value chain to ensure that the increases in production are sustainable and that challenges relating to marketing, processing and post-harvest handling are met.

Challenges

The financing of agricultural value chains is the key challenge for rural and agricultural finance in Rwanda, particularly in relation to staple crops. While there are some issues relating to the major export crops – coffee, tea and horticultural products – these issues for the most part non-financial. The more severe challenges in the financing of staple crops are exacerbated by other financial and non-financial issues, such as the inadequacies of the value chain infrastructure and asymmetries of information between actors. Such issues need to be tackled alongside the purely financial issues.
The existence of relatively weak linkages between actors along the value chains represents another major challenge to the development of value chain finance. This is an important issue because value chain finance is not simply a matter of pumping money into the value chain; the cornerstone of good value chain finance is trust between actors, built on good flows of information and communications.

A shortage of agricultural finance at the post-harvest stage is the other major challenge faced by the agricultural system in Rwanda. There is a belief among many stakeholders in Rwanda that the lack of agricultural finance is particularly serious for inputs at the primary production level. The detailed analysis of value chains and financial sector demand and supply set out in this report, however, suggest that finance is not currently a binding constraint preventing the success of primary production. Finance is a much more important constraint at the post-harvest stage at the present time.

Bottlenecks

The main bottlenecks to the provision of financial services are identified as follows:

- **Value chain financing bottlenecks:**
  - Insufficient trust among the actors across the value chain
  - Poor incentive structure for large off-takers for contract farming etc.
  - No warehouse receipt regulations
- **Agricultural finance bottlenecks:**
  - Lack of products to serve rural smallholders
  - Insufficient skills for risk assessment and management in the sector
  - Inadequate rural banking infrastructure (branches)
- **Bottlenecks with sector-wide impacts:**
  - Low-value, bulky commodities are difficult to finance
  - Inadequate market information mechanisms for responding to demand-side signals
  - The need for a transitional model to increase private sector involvement
  - Immature market for equity and debt instruments

Bottlenecks do not operate in an isolated way; it is more accurate to talk in terms of clusters of bottlenecks negatively reinforcing each other. For that reason, any intervention to improve financing mechanisms for agriculture needs to take account of the links between bottlenecks. The proposed strategy has been specifically designed to deal with the bottlenecks in a systematic rather than isolated way, in an attempt to maximise the potential synergies across the whole agricultural value chain.

Main strategic options proposed

The proposed strategy options are grouped in Section 2.1 under the five key components of the strategy, in order of priority:

1. **Linkage banking and other product innovations**

There is considerable scope in Rwanda for policies and strategies to make much greater use of informal providers of financial services. The existence of a well-established tradition of informal village savings and loan groups, such as tontines and Ikiminas, in most areas of the country creates the conditions to develop efficient links between these informal providers and larger and more formal financial institutions, like commercial banks or microfinance institutions. Such linkages offer mutually beneficial solutions for both formal and less formal financial institutions, as well as for non-financial actors. In particular, they allow institutions to overcome either geographical
limitations in their branch networks or asymmetries of information with poor clients in rural areas, or both, to serve clients that would otherwise have been impossible for the institutions to reach cost-effectively. The role of the government and the National Bank of Rwanda in this area is mainly as a promoter and facilitator, encouraging banks and microfinance institutions to form linkages, and ensuring a sympathetic regulatory environment. The strategy will also need to include the exploration of innovative products and services that have the potential to increase access to finance in the rural areas, including asset financing (through leasing and matched savings), factoring, microinsurance and business development services linked to financial services.

2. **Collateral management and warehouse receipts**

The cornerstone of the proposed strategy is the development of a collateral management and warehouse receipt system of international standard. This will require: (a) the creation of the necessary legal and regulatory framework; (b) a warehouse receipt regulatory body; (c) the development of specific value chain financing mechanisms; and (d) the development and implementation of a capacity-building programme to create the necessary institutional capacity and skills.

3. **Dealing with the information gaps**

A whole range of information gaps and asymmetries of different kinds have been identified. The strategy will need to pursue a range of options to mitigate these bottlenecks, of which the key ones are: (i) the lack of specific financial information about agricultural finance supply and demand; and (ii) asymmetry of information between value chain actors. Solutions proposed include the development of the credit information bureau to cover rural smallholders and an extended commodity information exchange systems.

4. **Remote access banking**

The increasing use of mobile phones throughout Rwanda opens the opportunity for mobile money transfer and other forms of m-banking. These technologies have advantages in themselves in opening up access to financial services in the rural areas, exploiting techniques that are also an essential component in linkage banking and in many other product innovations. This will obviously improve rural access to financial services, but m-banking is a sector-wide issue that goes well beyond the requirements of rural and agricultural finance. The National Bank of Rwanda will clearly need to ensure an appropriate regulatory environment for m-banking, though this has implications well outside the remit of this strategy.

5. **Longer term finance**

The value chain analysis reveals a need for medium to long term financing instruments, particularly to finance post-harvest handling and processing. Leasing would be an appropriate mechanism to meet the requirement for medium term financing, for which a regulatory and institutional infrastructure to expand leasing in Rwanda will be needed. The same applies to the main sources of long term financing, including capital markets and PPPs.

**Implementation framework and developing an actions**

An implementation framework for the strategy is proposed in Section 2.2 and summarised in the timeline below.
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### Developing an implementation action plan

It is proposed that the current sub-committee that was established by the Agricultural Sector Working Group to oversee the development of the Rural and Agricultural Financial Services Strategy should be tasked with the development of the action plan, or that a new sub-committee be formed for this purpose. The sub-committee would be supported by an advisory group of specialists who are working in projects in related areas.

The sub-committee will coordinate the research, consultations and planning to be undertaken within the five key components of the strategy during the second half of 2011, so that the implementation action plan can be agreed and launched in the first half of 2012. It is recommended
that for the research and planning stage in the second half of 2011, a technical team of the sub-committee should be established for each of the five key components, each convened by one of the institutions on the sub-committee.
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# Abbreviations

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<td>AICC/CICA</td>
<td>Agriculture Information and Communication Centre</td>
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<td>AFR</td>
<td>Access to Finance Rwanda</td>
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<td>AGF</td>
<td>Agriculture Guarantee Facility</td>
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<td>BNR</td>
<td>National Bank of Rwanda</td>
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<td>BDS</td>
<td>Business Development Services</td>
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<td>BPR</td>
<td>Banque Populaire du Rwanda</td>
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<td>BRD</td>
<td>Banque Rwandaise de Development</td>
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<td>CIP</td>
<td>Crop Intensification Programme</td>
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<td>DFID</td>
<td>Department for International Development</td>
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<td>EDPRS</td>
<td>Economic Development Poverty Reduction Strategy</td>
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<td>FSDP</td>
<td>Financial Sector Development Plan</td>
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<td>GoR</td>
<td>Government of Rwanda</td>
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<td>ICT</td>
<td>Information and communications technology</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>IFC</td>
<td>International Finance Corporation</td>
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<td>KWAMP</td>
<td>Kirehe Community-based Watershed Management Project</td>
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<td>LWH</td>
<td>Land Husbandry Water Management and Hillside Irrigation</td>
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<td>MCC</td>
<td>Milk collection centre</td>
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<td>MINAGRI</td>
<td>Ministry of Agriculture and Animal Resources</td>
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<td>MINECOFIN</td>
<td>Ministry of Finance and Economic Planning</td>
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<td>NISR</td>
<td>National Institute of Statistics Rwanda</td>
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<td>NMPIS</td>
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<td>PADEBL</td>
<td>Dairy Cattle Development Support Project</td>
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<td>PHHSMS</td>
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<td>PASS</td>
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<td>PAPSTa</td>
<td>Project to Support the Strategic Plan for the Transformation of Agriculture</td>
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<td>Strategic Plan for the Transformation of Agriculture, Phase I</td>
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<td>RAFSS</td>
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<td>RIF</td>
<td>Rural Investment Facility</td>
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<td>Rwanda Stock Exchange</td>
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RSSP  Rural Sector Support Project
SACCO  Savings and Credit Cooperative
SONARWA  Société Nouvelle d’Assurances du Rwanda
SORAS  Société Rwandaise d’Assurances
WFP  World Food Programme
Introduction

Oxford Policy Management (OPM) has been contracted by the Ministry of Agriculture and Animal Resources (MINAGRI) and the UK Department for International Development (DFID) to design a Rural and Agricultural Finance Strategy (RAFSS) aimed at improving access to and use of financial services in rural areas in Rwanda. The Terms of Reference for the assignment are set out in Annex A. It should be noted that, although the Terms of Reference call for the identification of options for the development of Savings and Credit Cooperatives (SACCOs), this element of the work was removed from the RAFSS project during the tender period because a separate Savings and Credit Cooperative (SACCO) sustainability study is being undertaken under the auspices of Access to Finance Rwanda (AFR). There is an important link in value chain finance between producer cooperatives and SACCOs. This report therefore makes reference to the role of SACCOs in rural and agricultural finance as appropriate, but does not propose a specific strategy for SACCOs.

The assignment began on 3 March 2011 with a review of relevant literature and data sources, on the basis of which an Inception Report was submitted on 24 March. During the field visit between 24 March and 6 April, a detailed assessment was made of the market for rural and agricultural financial services in Rwanda, while the preliminary findings summarised in the Inception Report were also refined through consultation with stakeholders. The mission reported to the project sub-committee on 5 April, receiving useful feedback and suggestions.

One of the points stressed by key stakeholders was the need for the strategy to be heavily focused on recommendations for action. In the words of one senior official, ‘We do not want to have to plough through 43 pages of diagnosis and analysis before getting to solutions. We want you to help us to identify the key bottlenecks in rural and agricultural finance and to identify the options for dealing with those bottlenecks.’ The detailed analytical and diagnostic material on which this report is based is therefore set out in annexes, not in the main report. It is, however, necessary for some of the analysis to be summarised in the main report in order to explain the identification of key challenges, bottlenecks and options.

The report is therefore organised to move from opportunities to challenges to bottlenecks to proposed solutions in as concise a manner as possible:

- The report begins with a summary of the opportunities created by the agricultural and rural sector in Rwanda in the recent years;
- This is followed by a summary of the key challenges faced by the sector, with particular focus on the challenges relating to financial services;
- The key bottlenecks in the financial sector that cause these problems are then identified (as are some of the key bottlenecks that are exogenous to the financial sector);
- The strategy options for dealing with these bottlenecks are then presented; and
- An implementation framework for the proposed strategy is suggested, including a five-year timeline for implementation.
1 The rural and agricultural sector in Rwanda – opportunities, challenges and bottlenecks

1.1 Opportunities offered by agricultural developments

1.1.1 Recent agricultural strategies and their outcomes

Rwanda was traditionally self-sufficient in food, but from the 1980s to the turn of the century agricultural performance declined as a result of demographic pressure, scarcity and overuse of land, combined with destructive traditional agricultural practices.\(^1\)

Holdings are now very small: more than 60% of farm households cultivate less than 0.7ha of land, around half of farm households cultivate less than half a hectare, and more than a quarter cultivate less than 0.2ha. That size of landholding is strongly related to standard of living: the poorest generally own the least land, especially as most land is highly degraded, and only 23% of cultivated land is more or less free from the risk of erosion and subsequent degradation (PSTA II, 2009). During the last decade, the Government of Rwanda (GoR) has invested significant resources in soil erosion protection and has reached its 2010 target of bringing 80% of the land under some form of soil erosion protection (Agriculture Sector Performance Report, 2010).

Sorghum, bananas, beans, sweet potatoes and cassava have traditionally been the main food crops: most households produce them for their own subsistence, rarely producing a surplus for marketing.

The GoR is implementing a set of reforms to enable Rwanda to evolve from subsistence agriculture and food insecurity towards market-oriented agriculture. Efforts are concentrated on a few selected priority staple foods and horticulture crops to be grown in the different agro-ecological zones where they are best adapted in terms of performance. The basic criteria adopted for the selection of these priority crops ensures they are intended to:

- Play an important role in the national economy;
- Have comparative advantage in the context of national, regional and international markets;
- Be assured of appropriate transport, storage, conservation and processing facilities;
- Exhibit appropriate nutritional potential; and
- Have high yield and processing potential.

The priority staple crops and horticultural commodities (beans, Irish potatoes, rice, maize, wheat, cassava, fruits and vegetables) benefit from public support services along the entire value chain (production, post-harvest handling and storage, processing, and trading), according to strategic priorities defined in the Strategic Plan for the Transformation of Agriculture (PSTA I and PSTA II) and in the Integrated Development Programme. The Crop Intensification Programme (CIP) was developed on the basis of these priorities.

The GoR has developed a large number of initiatives to support the CIP for the development of the various links of the value chain for the priority commodities. These include the Project to Support the Strategic Plan for the Transformation of Agriculture (PAPSTA), the Land Husbandry Water Management and Hillside Irrigation Project (LWH), the Rural Sector Support Project (RSSP), the Kirehe Community-based Watershed Management Project (KWAMP) and the Post-

\(^1\) In this report, unless a specific distinction is required, the terms ‘agriculture’ and ‘agricultural’ should be taken to include livestock and horticultural activities.
harvest Handling, Storage and Marketing Strategy (PHHMS). The main initiative to support the dairy industry is the Dairy Cattle Development Support Project (PADEBL).

As a key component of these initiatives, agricultural inputs (quality seed, fertilisers and pesticides) have been subsidised for some years, and decentralised outreach and extension services have been supported in the framework of the CIP.

These initiatives are aligned to the Economic Development Poverty Reduction Strategy (EDPRS), the agricultural goals and expected achievements of which are:

- Availability of and improved access to inputs;
- Soil conservation and water management (including irrigation);
- Increased access to livestock and improved breeds of small and large livestock; and
- Extension services and research for development.

As a result of these initiatives, Rwanda has seen a remarkable increase in recent years in cultivated areas and crop yields and therefore in overall agricultural output, as illustrated in Table 1.1 and Figure 1.1 below.

### Table 1.1 Crop production trends for selected crops, 2000–2010

<table>
<thead>
<tr>
<th>Crop/Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize (’00 MT)</td>
<td>6,200</td>
<td>8,150</td>
<td>9,100</td>
<td>8,000</td>
<td>8,800</td>
<td>9,800</td>
<td>9,600</td>
<td>10,200</td>
<td>16,700</td>
<td>28,500</td>
<td>43,300</td>
</tr>
<tr>
<td>Wheat (MT)</td>
<td>7,000</td>
<td>7,500</td>
<td>7,700</td>
<td>15,500</td>
<td>17,000</td>
<td>22,000</td>
<td>19,000</td>
<td>24,538</td>
<td>68,000</td>
<td>72,000</td>
<td>77,000</td>
</tr>
<tr>
<td>Irish potato (’00 MT)</td>
<td>9,570</td>
<td>99,505</td>
<td>10,390</td>
<td>10,635</td>
<td>10,730</td>
<td>13,140</td>
<td>12,760</td>
<td>9,671</td>
<td>11,620</td>
<td>12,880</td>
<td>17,900</td>
</tr>
<tr>
<td>Beans (’0 MT)</td>
<td>21,500</td>
<td>27,350</td>
<td>24,700</td>
<td>23,150</td>
<td>19,900</td>
<td>19,900</td>
<td>29,600</td>
<td>33,147</td>
<td>30,800</td>
<td>32,700</td>
<td>32,700</td>
</tr>
<tr>
<td>Cassava (’00 MT)</td>
<td>8,200</td>
<td>7,500</td>
<td>10,300</td>
<td>10,600</td>
<td>9,100</td>
<td>7,800</td>
<td>7,700</td>
<td>7,800</td>
<td>16,800</td>
<td>20,100</td>
<td>23,800</td>
</tr>
</tbody>
</table>

Source: NISR, 2010

### Figure 1.1 Crop production trends for selected crops, 2000–2010

Source: same as Table 1.1.
The rise in yields in particular has been exceptional, as illustrated in Figure 1.2, which shows absolute numbers at (a) and percentage increases at (b):

**Figure 1.2 Yields in selected crops, 2000–2010**

(a) Kilograms per hectare

![Graph showing yields in selected crops, 2000–2010](image)

(b) Percentage increases in yield

![Graph showing percentage increases in yield, 2000–2010](image)

Source: Agriculture Sector Performance Report, 2011

This success, virtually unprecedented in Africa, is the first step towards further improvements along the value chain to ensure that the increases in production are sustainable and that challenges relating to marketing, processing and post-harvest handling are met in order to complete Rwanda’s transition from subsistence agriculture and food insecurity to a secure, market-oriented agricultural and rural sector. Before moving on to a discussion of these challenges in the next section, we consider briefly the nature of the value chains and their financing requirements.
1.1.2 The context: Dimensions of agricultural finance

To set the context for the analysis on which the proposed strategy is based, we summarise here the three key dimensions in agricultural finance: the stages in the value chain, the types of agricultural financing and the range of maturities involved in the rural and agricultural sector.

Stages in the value chain

The analysis is undertaken within a framework of a generic agricultural value chain, shown in Figure 1.3, splitting it into three dimensions: (i) primary production; (ii) marketing and trade, and (iii) post-harvest handling and agro-processing.

Figure 1.3 A generic value chain

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# Box 1.1 The gender dimension in agricultural finance

From an agricultural perspective, it is important to recognize that heavy burdens continue to be placed on women, who are responsible for the majority of food crop production. Furthermore, certain activities, such as manuring and managing livestock, are also mainly done by women.

In 2005/2006 it was estimated that one-fourth of households in Rwanda were female-headed, of which 21% were headed by widows. Studies indicate that women in the age group of 15-60 years spend one third of their time in agriculture, while men of the same age group spend only 19% of their time in agriculture (MINAGRI, 2009). Programmes aimed at facilitating household management, such as wells located near homes and more efficient cooking stoves, have proved to be very successful, leading to higher income levels for the entire household.

Rwandan public policies recognize the problem of gender inequality. For example, the EDPRS is emphatic on the issue of gender equality especially in the social and education sectors. Vision 2020 also assigns a high priority to achieving gender equality, placing it as the first crosscutting issue and gender has been integrated as a crosscutting issue in the PSTA.

The PSTA specifies actions to be undertaken in this context, such as recruiting more female extension agents, taking gender preferences and requirements into account in agricultural research programmes and including women representatives in water user associations. Other measures include promoting and protecting gender-friendly crops and livestock including interventions such as a programme for the control of banana wilt disease, development of mushroom cultivation for rural women and increased emphasis on poultry and small ruminants in integrated development projects.

From a gender perspective, it is also important to explore how employment for women can be generated through production, particularly in the processing, packaging, and marketing areas. Post-harvest strategies need to place special emphasis on women’s access to training and employment. From an access to financial services perspective, it is important to shed light on issues like inequitable women’s access and rights to land.

The Rural and Financial Services Strategy has been designed with these considerations in mind, and it is focused on food crops and on dairy, sub-sectors that are particularly important for women.
Types of agricultural financing

Each value chain, or node within a chain, may require one or more financing mechanisms. It is useful to make a clear distinction between three types of mechanism: (i) a chain liquidity mechanism, (ii) a conventional agricultural finance product; and (iii) an arrangement for value chain finance, as described in Box 1.1. The value chain and its nodes will be financed by one or a combination of these three mechanisms.

Box 1.2 Types of financing mechanism for agriculture

**Chain liquidity.** This involves financial transactions between chain actors. An example is where a buyer or trader issues a short-term loan to a producer and is repaid when the latter sells the produce to the former. This type of finance improves the efficiency of a value chain. It is low-cost finance, often having no direct interest charges to the producer. It also entails relatively low levels of risks because of the almost perfect information existing between the lender and the borrower. However, this mechanism relies heavily on trust; it handles only small sizes of loans and critics argue that it creates dependency and may get farmers into a trap: a vicious cycle of indebtedness.

**Agricultural Finance.** The most common financial service, provided by financial institutions, including banks, microfinance institutions (MFIs) and SACCOS. Examples include a loan issued by a bank to a trader for buying a crop, or a loan to a farmer for buying inputs. This mechanism suffers from all the well known problems of small-scale rural finance – asymmetry of information, a requirement for collateral, etc.

**Value Chain Finance.** These are financial services established and anchored on the cooperation between agents along value chains and between them and a financial institution. For example, a loan might be given to a trader who banks with a financial institution in an area for the purpose of paying farmers for their produce. This is then sanctioned against crop sales to a processor, preferably one who also banks with the same financial institution. On delivering the crop to the processor, the latter pays the trader through the bank, which automatically deducts what is due for the loan repayment. It is not a solution for the many other technical, governance and managerial capacity issues along value chains, but it works well if augmented with a diverse range of capacity-building initiatives.

The rule of thumb to distinguish between these types of financing mechanism is where the funds came from: if the funds come from within the value chain, then it is chain liquidity; if the funds come from outside the value chain, then it is agricultural finance. If the funds flow from both inside and outside the value chain, then we are talking about value chain finance.

Maturity profile

In planning a strategy for rural and agricultural finance, it is important to take account of the wide range of maturities involved in the rural and agricultural sector, as depicted in Figure 1.4. The types of agricultural services described above relate mainly to the short term finance required to finance the value chain itself, but the efficient operation of the value chain requires capital investment in equipment, storage, milling machines and other medium term infrastructure, as well as long term finance for major infrastructure work such as irrigation and marshland development.
1.2 Challenges in financing mechanisms for agriculture

1.2.1 Introduction

The remarkable increase in production in Rwanda in the last few years has created many new opportunities for the agricultural sector, but this success has also created new challenges. It has brought into the spotlight issues related to other elements in the value chain downstream from primary production, such as marketing, post-harvest handling and processing. There are weaknesses in these areas and in their financing that will need to be tackled in order to reap the full benefits of the increase in production. How these challenges are met will be an important determinant of the ability of Rwandan agriculture to successfully transform into a secure, market-oriented sector. This, in turn, is essential to the transformation of Rwanda into a middle-income economy in line with Vision 2020.

The financing of agricultural value chains is the key challenge for rural and agricultural finance in Rwanda, particularly in relation to staple crops. While there are some issues relating to major export crops – coffee, tea and horticultural products – these issues are for the most part non-financial. For example, in the case of tea production, smallholders usually lack the knowledge of how to pick and store the leaves properly, and how best to treat the bushes and the land. Scale-related problems are also an important non-financial barrier limiting the capacity of smallholders to make their tea and coffee plantations more profitable. The key financing issues, therefore, relate mainly to staple crops.²

Of the three types of finance defined in Section 1.1.2 above, it is inadequate and insufficient value chain finance that is currently one of the major obstacles faced by the Rwandan agriculture sector, as the analysis in Annex C shows. Other financial and non-financial issues, like the absence of warehouse infrastructure or mistrust and asymmetries of information between chain actors, exacerbate this problem and need to be tackled alongside the purely financial issues.

² This is explained in more detailed in Annex C, which analyses issues relating to the financing of the value chains for six key staple crops and for dairy products.
This challenge is described in the next subsection; the problem of agricultural finance is then described; Section 1.2.4 deals with non-agricultural financial services in rural areas; and the section concludes with a brief summary of the non-financial challenges than need to be taken into account in the RAFSS.

1.2.2 Key challenge: Value chain finance

Value chain financing generically refers to those financial services established and anchored on the cooperation between agents along value chains, typically between the seller, the buyer and the financial institution, as described in Section 1.1.2. (The seller can be a producer but also a trader, a wholesaler or a retailer.) This creates a triangle of cooperation, through which products, funding and information flow. An example of how such triangles of cooperation work is a loan given to a trader who banks with a financial institution for the purpose of paying farmers for their produce. This is then sanctioned against crop sales to a processor, preferably one who also banks with the same financial institution. On delivering the crop to the processor, the processor pays the trader through the bank, which automatically deducts what is due for the interest and charges on the loan.

The analysis of the value chains for the key staple crops in Annex C reveals that there is a severe shortage of value chain financing in Rwanda. This is particularly significant at the marketing and trading stage of the value chain, as well as at the post-harvest handling and agro-processing level. In the case of maize, for example, the lack of value chain financing – associated with the absence of an efficient warehouse receipt system – is a critical obstacle hindering the establishment of a price for Rwandan maize that is more competitive with the price of maize from Uganda and Tanzania. In the case of Irish potatoes, the lack of value chain financing at the processing level is a key constraint to adding value to potato crops. Another striking example is cassava, which has an ample range of possible uses once dried and processed, including ethanol, livestock feed, confectionery, monosodium glutamate, sweeteners, and pharmacy products. None of these products is being produced, partly because of the lack of financing mechanisms for post-harvest handling and processing. The analysis of the wheat, beans, rice and dairy value chains in Annex C reveals similar problems at the marketing/trade and the post-harvest/processing levels.

Inadequate value chain infrastructure and equipment is a major factor preventing the development of efficient value chain finance for staple crops. In the case of wheat, most cooperatives lack drying and storage facilities, as well as threshing and winnowing machinery. As a result, threshing and winnowing is done mostly manually, which increases the content of impurities and reduces the quality of crops. Obsolete shelling techniques are used for beans, which result in serious losses; the lack of adequate facilities also contributes to the propagation of weevil infestation. Likewise, in the case of rice, the lack of adequate drying and storage facilities at the field level results in important losses in the quality and quantity of paddy rice. The absence of modern mills not only results in poor quality finished products but also increases the losses during milling. A particularly stark example is that of the Irish potato – a very significant part of the production has been lost because of the lack of storage facilities, particularly for seed potatoes. This has also negatively affected the availability of clean planting material, which in turn affects crop yields.

The existence of weak linkages between actors along the value chain represents another major challenge to the development of value chain finance. Value chain finance is not simply a matter of pumping money into the value chain. On the contrary, the cornerstone of good value chain finance is trust between actors built on good flows of information and communications. This is particularly evident in the case of the rice value chain: despite the presence of some good actors with a high level of organisation (mainly cooperatives), their relationships with other actors are not good enough to improve value chain finance. Examples of how to improve trust within the value chain are provided in Annex C. The analysis draws on international examples such as Peru, a particularly relevant example, where an NGO has played a successful intermediary role in the Irish potato value chain (Box C1 in Annex C). Several of the strategic options included in Annex C...
propose using existing actors as facilitators to improve the level of trust within the value chain (as in the case, for example, of the wheat value chain).

**These factors impact mainly at the post-harvest stage. There is evidence of that finance in support of primary production is less than adequate, but this does not appear to be a binding constraint, except in the case of dairy production.** Primary production needs both medium term finance (for land preparation, equipment etc.) and short term finance for inputs (seeds, fertilisers etc.). As indicated in Annex C, there is a shortage of financial services in the dairy sub-sector for both types of finance, whereas in the other staple crops, the evidence both within the industry and in terms of the level of production indicates that there are fewer problems about input finance. There does appear to be considerable unmet demand for medium term finance, as indicated by the demand for Rural Investment Fund facilities for staple crops (section G.2.6 in Annex G), but once again the remarkable production figures appear to indicate that this is not currently a binding constraint. This finding is supported by the findings of a recent evaluation of the CIP – see Box 1.2 below.

In order to overcome the inadequacy of finance for staple crop and dairy value chains, it is essential to take a **systemic approach** to the development of those value chains, where the different elements, constraints, bottlenecks and challenges along the chain are considered. Important efforts have been made in the past to improve financing for the agricultural value chain, and these have been relatively successful in relation to export crops. The difficulty in achieving a similar success with staple crops arises from the dysfunctions in the value chains themselves, as discussed above and in Annex C, which need to be addressed in a systemic manner. Such an approach is proposed in the strategy options outlined in this report.

### 1.2.3 Lack of agricultural finance at post-harvest stage

The most important challenge for **agricultural finance** appears to be at the post-harvest stage rather than the primary production stage. This conclusion goes against the conventional wisdom among many stakeholders in Rwanda. All stakeholders agree that the banks and MFIs are not lending enough to farmers and that this is a major problem. Only 4.1% of domestic credit to the economy went to agriculture, animal husbandry and fisheries in 2002-06 (or 1.5% of the total domestic credit if we exclude funding provided by the Rwandan Development Bank (BRD)).³ The detailed analysis of the data for value chains and for financial sector demand and supply, however, (summarised in annexes C and G respectively) indicate that lack of agricultural finance does not affect the primary production level as negatively as is often suggested. The unprecedented increase in primary production in recent last years is a good indicator that funding for primary production is not a binding constraint.⁴ The analysis carried out in Annex G seems to suggest that the level of monetisation in rural areas is not as low as some recent studies appear to indicate, including the 2010 Supply Side Study of the Inclusiveness of Rwanda’s Financial Sector. Farmers are devoting a significant proportion of their expenditure to agricultural inputs, doing so in cash. This is evidently sufficient for primary production, given recent trends, but the lack of access to agricultural credit does appear to be having a negative impact on post-harvest handling, marketing and processing, which tend to require more medium term as well as short term finance. The importance of post-harvest handling, storage and marketing is of course well recognised in the government’s PHHSMS.


⁴ The CIP and the subsidisation of inputs is of course an important contributor to this success, and new financing will need to be found in due course as the subsidies are withdrawn. But the urgent need is to take a systemic approach to value chains to assure financing for post-harvest storage, handling and marketing. If that is applied successfully, then the same approach will support the financing of primary production as subsidies are withdrawn, though the withdrawal will itself be challenging, as recognised by the GoR (see part (c) of Section 1.3.2 below).
So, the analysis of the value chains suggest that lack of agricultural finance has its most negative effect at the post-harvest stage. For example, the high transport and storage costs in the case of Irish potatoes, particularly seed potatoes, make it more difficult for farmers to store their products and transport them expeditiously, which in turn increases the risk of perishability of the product. In the case of cassava, lack of agricultural finance is a major factor hampering the marketing of products, as cassava rapidly deteriorates once harvested if it is not processed. As rice harvesting is very labour-intensive and hired labour is expensive in Rwanda, lack of agricultural finance has an important impact on farmers’ capacity to afford harvesting and transportation costs. As mentioned above, this conclusion is supported by the IFDC evaluation of the CIP (Box 1.2).

Agricultural finance alone, however, will not remove all the obstacles and barriers at the marketing and post-harvest stages. As Figure 1.4 above illustrates, challenges at the marketing and trade level as well as at the post-harvest handling and agro-processing level demand medium- and long term financial interventions. This means that the short term funding provided by banks and MFIs will never be totally effective unless they come together with interventions with a longer time horizon.

Box 1.3 The CIP and post-harvest handling

The evaluation of the CIP by IFDC under the CATALYST Project (IFDC, 2010) identified many successes in relation to primary production – as well as challenges and lessons to be learnt. In relation to post harvest handling and marketing, however, the findings were much less positive:

‘Due to insufficient resources, the post-harvest and marketing activities were not implemented as expected. In consolidated land use areas, many producers faced marketing and storage problem. Post-harvest activities and development of markets remain the primary CIP challenges. ....’

‘Insufficient storage facilities, coupled with the lack of appropriate equipment such as drying tables, pallets, humidity meters, as well as outdated hulling and milling machines are among the causes of the high post-harvest losses encountered in Rwanda. These losses can be as much as 30 percent of the maize, beans and rice harvested, 20.4 per cent of the wheat harvested and 12.5 percent of the Irish potatoes harvested.

‘Post-harvest handling problems (both technological and physical) have a negative impact on the marketing channels of the agricultural products. Effective marketing of agricultural products depends on the quality of the post-harvesting systems. ....’

‘Despite the existence of [public warehouse] facilities, there is a need to build improved storage facilities and farm level to enable farmers to meet their own food reserve needs and to cope with the price volatility in CIP cropping areas. Attempts to address this problem have been tried in some areas nut need to be improved.’

1.2.4 Access to financial services in rural areas

The financial challenges facing the rural population go beyond those of purely agricultural finance. It is now well established that poor people need a range of financial services. In addition to the need for agricultural finance, poor people need a range of financial services to cover a wide variety of needs, as summarised in Box 1.3:
It is evident from the analysis in Annex G that Rwanda’s financial sector does not currently meet the demands posed by the country’s rural economy. The provision of financial services to people in Rwanda, whether urban or rural, represents a major challenge, with only 14% of adults using banking services and a further 7% using other banking services. Transforming the traditional smallholder agriculture and professionalising (or modernising) the smallholder farmers, as articulated by the PSTA, will require significant developments in the financial sector. Significant developments will also be required to enable poor people in rural areas to access the saving, transaction and other financial services that they need.

1.2.5 Non-financial challenges: infrastructure etc.

The RAFSS will clearly need to take account of challenges that are exogenous to the financial sector but that have an impact on the rural economy in general and the agricultural sector in particular. Specific issues in relation to such exogenous challenges are raised in the context of the value chains analysed in Annex C, including:

- Poor road and power infrastructure;
- High transportation costs, particularly for bulky products like Irish potatoes;
- Insufficient supply of clean water (e.g. for cassava processing); and
- The need for the expansion of erosion control and irrigation programmes.

These factors cannot be addressed by the strategy, except insofar as long term finance will be required to address them. Such finance will need to be planned in the context of the specific sectoral strategies for roads, transportation, erosion control, etc.

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Box 1.4 Financial services for the poor

A crucial problem for poor people is that their income is not only low, but also irregular and unreliable. ... Poor people need to be able to manage this low, irregular and unreliable income to ensure regular cash flow and to accumulate sufficient amounts to cover lump sum payments. Lump sums are needed for: lifecycle events such as school expenses, marriages and funerals; economic opportunities e.g., buying inputs for businesses; and emergencies like illness or sudden unemployment. For poor people, money management is an absolutely central part of daily life, perhaps more than for any other economic group.

‘Poor people, like most people, need a range of appropriate and affordable financial services to address a range of financial needs, such as safe accessible savings, microcredit, payments and transfer services (both domestic and international) and insurance.

‘In the absence of formal and semi-formal financial services (and typically in addition to them too ), poor people use informal services. Although informal services are more accessible, in many cases they are also less reliable, less secure, and/or more expensive than semi-formal and formal services.


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5 The RAFSS is predicated on the strategy for transforming smallholder agriculture articulated in the PSTA. There have recently been challenges to the current focus on smallholder agriculture in Africa (by Collier and Dercon (2009), for example – the debate is summarised in Wiggins, 2009), but the debate is still open and the RAFSS is based on current policies.
1.3 Financial services bottlenecks

Bottlenecks preventing the development of financing mechanisms for agriculture result from the interaction of many different factors. This is why attributing a causal relationship between specific challenges and specific bottlenecks may result in a dangerous over-simplification of the complex origins of the barriers and obstacles to the development of value chain finance. This is the reason why the bottlenecks in this section are separated from the challenges in the previous section and not presented together.

On the basis of the literature review and fieldwork, 10 key bottlenecks in agricultural finance are identified. Their characteristics are described below, but to begin with Figure 1.5 shows the relation between challenges and bottlenecks across the different dimensions of the agricultural value chain. As mentioned before, bottlenecks do not operate in an isolated way; it is more accurate to talk in terms of clusters of bottlenecks negatively reinforcing each other. For that reason, any intervention to improve financing mechanisms for agriculture needs to take account of the links between bottlenecks. The proposed strategy has been specifically designed to deal with the bottlenecks in a systematic rather than isolated way, in an attempt to maximise the potential synergies across the whole agricultural value chain.

Figure 1.5 Relation between challenges and bottlenecks

How bottleneck clusters operate became evident during the analysis of the selected value chains. Thus, for example, in the wheat value chain, lack of communication between producers, traders and financial institutions not only contributes to increased mistrust, but also reduces the chances of finding solutions to the transport and storage problems that cause most of losses in this sub-sector. In the case of Irish potatoes, there have been very few initiatives to explore processing solutions to add value to potato crops. The reason for this is not a single bottleneck, but because a combination of lack of collateral management infrastructure, insufficient trust between actors, and inadequate processing facilities makes it very difficult to develop the value chain.
In other words, the interaction between bottlenecks creates vicious circles. The only way to deactivate them is by promoting systemic change.

The bottlenecks are described here under three categories, as illustrated in Figure 1:5 – those that contribute to the challenges in (a) value chain financing, (b) agricultural financing and (c) the sector as a whole.

(a) **Value chain financing bottlenecks**

- **Insufficient trust among the actors across the value chain**
  Trust is the central element in any given value chain finance. The analysis of selected value chains reveals that there is an important lack of communication between actors, which means a key building block to developing relationships based on trust is missing. Information is not flowing fluently within the sector. In many cases, competition seems to replace collaboration and cooperation as the leading force behind the relationships along the value chain. In Chapter 2, the facilitating role that some organisations like CARITAS may play in building bridges among players in some specific value chains is explained.

- **Poor incentive structure for large off-takers for contract farming etc.**
  Considering the low-value crops cultivated in Rwanda, financing small farmers is feasible only through a supply-chain approach. These smallholders need to be financed indirectly via contract farming with better-rated off-takers (or processors). Under such schemes, the farmer commits to supply 100% of a particular crop to the off-taker, and the off-taker commits to buy 100% of the farmer’s product. Therefore, the repayment risk to the individual farmers is converted into performance risk to both the farmer and the off-taker. Ideally, other actors such as cooperatives of producers could play a facilitating role by being the counterpart of the off-taker and the borrower of the loan. A cross-liability system whereby the members guarantee one another’s loans could provide extra comfort to financial institutions (banks or MFIs) that could potentially get involved in the chain. The analysis of the selected value chains shows that this system, which is critical to improving off-takers’ incentives, is barely used in Rwanda.

- **No warehouse receipt regulations**
  As explained in annexes C and D, a collateral management and warehouse receipt (WHR) system is essential for the consolidation the marketing and post-harvest levels within the agricultural value chain. At this stage, there is no regulatory framework governing the activities of warehouses in the country – existing warehouses are operating in a kind of legal limbo. This situation, which increases legal insecurity, clearly acts as a disincentive for investment in new warehouse and storage facilities. Also, the lack of collateral management regulation reduces the credibility of the system, which in turn undermines the trust of participants, including farmers associations, traders and financial institutions.\(^6\)

(b) **Agricultural finance bottlenecks**

- **Lack of products to serve rural smallholders**
  The literature review and fieldwork suggests that products designed by banks and MFIs are not suitable to accommodate the constraints within which most farmers operate in rural areas. Thus, products marketed as savings products (‘term deposits’ or ‘savings accounts’) tend to require minimum balances and do not pay interest until a sizeable balance is reached, a limit which appears to be out of reach for poorer clients.

  In terms of loan products, the trend in both banks and MFIs appears to be towards individual lending. The implication is that providers have concluded that the benefit of the group guarantee is insufficient compensation for the extra administrative cost of dealing with a group,\(^6\)

\(^6\) The CEO of one bank interviewed during the field work said that if an adequate regulatory framework were in place for warehouse receipts and collateral management, then his bank would not only get involved in value chain financing, but would also consider financing the actual building of warehouses.
especially in the set-up phase. Poorer clients therefore have no choice but to use more informal financial services, such as tontines and ikiminas. The availability of specialised loan products for agriculture, housing and SME finance is limited to formal businesses and is subject to the availability of collateral. Banks are in any case reluctant to lend to smallholder agriculture and livestock. Leasing provides an alternative to conventional financing but is a very underdeveloped market in Rwanda.

Rwanda is a market where conventional banks remain niche players for the middle- and high-income and salaried sectors of the community, large exporters and formal small and medium enterprises. Only one bank, the Banque Populaire du Rwanda (BPR) is currently developing a strategy to design more suitable products for agriculture finance.

- **Insufficient skills for risk assessment and management in the sector**

  The Census of Existing Skills in the Financial Sector of Rwanda carried out by OPM in 2010 highlights the important skills deficit in the sector. This is particularly relevant in areas associated with loan appraisals, risk management and evaluations, where deficiencies in analysis and discretionary judgement have constrained good lending and slowed down the introduction of new or more sophisticated products. There is an observed weakness in Rwanda in applying understanding and knowledge not merely in terms of general market awareness and strategic business focus, but in more technical areas such as product pricing, and in the assessment and modelling of risk.

  Partly as a result of this problem, the asset quality in Rwandan banks and MFIs has been very poor, with the non-performing loan (NPL) ratio reaching over 50% by 2003. The NPL ratio has been considerably reduced since then, but still remained above 12% in 2010 (NBR, 2009 and IMF, 2011). This has created some resistance among banks to explore new niches in the agriculture and SME sectors, which are perceived as high risk. As an example, banks typically require 130%-200% of high-quality collateral for SME loans, something the SME sector cannot provide. This bottleneck chiefly affects agricultural finance, but also has an impact on other elements in the sector.

- **Inadequate rural banking infrastructure (branches)**

  Physical access to banking branches in Rwanda is concentrated mainly in urban areas, despite the efforts of some banks, especially BPR, to expand their services to rural areas. Mobile branches and limited service branches are being developed by banks and MFIs alike, but to a limited extent. They are still as expensive to run as a full branch as they involve buildings, vehicles, staff and information systems that are integrated with the centre. MFIs in Rwanda have 224 outlets (when windows or guichets are included, the MFI sector has 391 points of sale), but they also remain confined mainly to urban and peri-urban areas due to the high cost and low return of rural outreach.

(c) **Bottlenecks with sector-wide impacts**

- **Low-value, bulky commodities are difficult to finance**

  Low-value, low-yield crops are typical in Rwanda, where the transition from subsistence agriculture and food insecurity to a secure, market-oriented agricultural and rural sector has...
only recently begun. As a result, the few existing financial agriculture products are mainly used to finance export crops, such as tea or coffee. Despite the support provided by the GoR to farmers so that they can increase productivity and yields, the bulky nature of most low-value crops makes it necessary that the crop is planted as close to the end market as possible in order to be easier to finance. This is another almost impossible task, which is not made any easier by poor road infrastructure and high transportation costs, mentioned as challenges in Section 1.2.5 above. Finally, with more than 60% of farm households in Rwanda cultivating less than 0.7ha of land, around half of the farm households cultivating less than half a hectare, and more than a quarter cultivating less than a 0.2ha, economies of scale with low-value crops are difficult to achieve, unlike high-value products such as horticulture and spices, where economies of scale are readily attainable while maintaining small-size farm units.

• **Inadequate market information mechanisms for responding to demand-side signals**

More and better agricultural information has become available in Rwanda in recent years, a good example being the inauguration of the Agriculture Information and Communication Centre (AICC/CICA) in 2010, which is aimed at facilitating access to accurate information on farming and product marketing among other accrued services. Despite this improvement, banks are not yet using market information mechanisms to get a grasp of the demands of the agricultural sector. Therefore, this bottleneck is closely linked to the first one – a lack of products to serve rural smallholders. The value chain analysis in Annex C also clearly shows the information asymmetries between value chain actors, which increase risk and therefore have a negative impact on the availability and price of financial services. Finally, these problems also exacerbate the problem of lack of trust.

• **The need for a transitional model to increase private-sector involvement**

As described in Chapter 1, the heavy involvement of the public sector at primary production level, mainly through subsidising agricultural inputs, has contributed significantly to increased primary production. The GoR recognise, however, that this model is not sustainable in the long term, and are developing an action plan for phasing out fertiliser subsidies. In that context, a strategy aimed at replacing the publicly funded element of the inputs by financing led by private financial actors will need to be promoted.

At the core of this strategy, there needs to be a set of alliances or cooperation between public and private agents. Public agents will no longer play the role of funding providers but they will need to act as facilitators, creating bridges between producers’ organisations and financial institutions. In addition, the public sector can help to widen access to technology and to link farmers to markets. As lack of skills is still an important barrier constraining the development of producers’ organisations, public actors can also play a role providing training and business development services (BDS) to strengthen the effective demand for agricultural finance. Special emphasis should be placed on improving marketing skills among farmers, so that marketing can be effectively integrated within business plans. This is a major constraint in the agricultural sector in Rwanda: while successful efforts have made to improve farmers’ productive capacity, relatively few resources been devoted to help them to sell their products better. Thus, evidence from other countries indicates that, by improving the ability of farmers and agribusinesses to develop credible business plans and to manage their debt and cash flows, BDS can significantly increase the accessibility of credit to recipients.

This kind of cooperation could improve the elaboration of business plans by producers, which was generally mentioned by financial institutions during the field work as one of the major weaknesses in those attempting to access formal finance. In addition, it would also contribute to create greater levels of trust between players.

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9 In the Strategic Issues Paper for June 2011 to July 2012, MINAGRI (2011b) refers to the subsidisation of fertiliser costs for smallholder producers and concludes that the system has been very successful, but that the Ministry should develop an action plan for phasing out fertiliser subsidies. For the full text on this point, see Box G.1 in Annex G.
• Immature market for equity and debt instruments
  The Rwanda Stock Exchange (RSE) started its operations in only January 2011. Although the RSE operates in close association with the Nairobi Stock Exchange, the Dar-es-Salaam Stock Exchange and the Uganda Securities Exchange in Uganda, the level of operations in Rwanda is still very small: as of February 2011, the RSE trades only three listed local and East African companies: Bralirwa, a brewing company; the Kenya Commercial Bank Group; and Nation Media Group, a publishing and broadcasting company.

The maturity profile of the rural and agricultural sector in Rwanda in Figure 1.4 indicates how some critical interventions require long term financing mechanisms. The RSE’s main function is to allow issuers of securities to raise money from investors that could eventually be used for funding agriculture expansion and new ventures. With the RSE still in its infancy, long term funding will need to be provided exclusively by the GoR or donors.

1.4 Government initiatives for agricultural finance

The GoR will inevitably be a central stakeholder in any strategy for the development of rural and agricultural finance in Rwanda. Before moving on to the proposed strategy to deal with these challenges and bottlenecks, therefore, it will be useful to summarise the role, and potential role, of the GoR on the basis of the analysis in this chapter and in the annexes. The position might be summarised as follows:

• Government initiatives have clearly succeeded in some crucial areas:
  - The agricultural elements of EDPRS are on track
  - The production statistics for both export and staple crops are testimony to the success of GoR programmes (such as PSTA, IDP, LWH etc.)
  - The financial sector programmes have clearly made a significant contribution (such as the financial elements of CIP, Agricultural Guarantee Facility (AGF), Rural Investment Facility (RIF) etc.)

• In order to understand why rural and agricultural finance still faces challenges and bottlenecks, it is necessary to distinguish between two elements – inputs for primary production and post-harvest handling, storage and marketing;

• In primary production, the position might be better described as an opportunity rather than a problem:
  - Primary production is thriving now, mainly due to subsidies, which filled a financial services vacuum in relation to inputs
  - There is some unsatisfied demand for investment finance for primary production (for investments such as machinery, agricultural buildings, purchase and improvement of land etc.), but this has not been a binding constraint, as evidenced by the dramatic increases in yields and production in recent years
  - The problem appears even less serious for input finance at the primary level, except, perhaps in dairy production, where it may be a binding constraint
  - As subsidies are withdrawn, however, financial services will be needed to replace the publicly funded elements of inputs represented by subsidies as well as to meet the unsatisfied demand for investment finance.
  - This is mainly, however, an issue of timing: how to ensure that this time the vacuum will be filled by the private sector as subsidies are withdrawn

10 In the MINAGRI Implementation Report on EDPRS for the period July 2010 to March 2011 for the Joint Sector Review, all six indicators for ‘increased agricultural productivity and environmental management’ were rated as Green, meaning ‘The policy action has been completed or is on track to be completed by the end of the financial year (i.e. by June 2011).’
- Solving the post-harvest problem is the key to solving this conundrum, because it will bring financial institutions into a sound commercial relationship with the agricultural sector, and also reduce the risks in lending to producers by creating a more stable market for their outputs.

- The key issues lie in the **post-harvest** area:
  - The great majority of the challenges and bottlenecks, as described above, lie in post-harvest handling and storage
  - There are also issues with marketing and trading
  - Issues with financing the value chains are inextricable from issues relating to the infrastructure and operations of the value chains
  - These challenges need to be tackled in a systemic manner
  - The problems with infrastructure etc. are being handled through PHHSMS and PHHS
  - The related financing issues need to be dealt with alongside these, taking a systemic approach.

- In other words, it is not possible to develop effective value chain finance without achieving efficient value chains and it is not possible to achieve efficient value chains without developing effective value chain finance.

The strategy proposed in Chapter 2 is designed to take a systematic approach to rural and agricultural finance on this basis.
2 The Rural and Agricultural Financial Services Strategy

This chapter sets out the options for the RAFSS that emerge from the analysis in Chapter 1 and in the annexes. To avoid repetition and keep the strategy tight and focused, the evidence, arguments and data adduced elsewhere in the report are not reproduced in this chapter. Only the final conclusions are set out, with the references to the background arguments elsewhere in the report as required. The key options for the strategy are set out in Section 2.1, an implementation framework showing key timelines and dependencies is proposed in Section 2.2, proposals for developing an implementation master plan are made in section 2.3 and the proposed timeline is summarised in a Gantt chart in Section 2.4.

2.1 Strategy options

The proposed strategy options are grouped here under the five key components of the strategy, in order of priority:

1. Linkage banking and other product innovations
2. Collateral management and warehouse receipts
3. Dealing with the information gaps
4. Remote access banking
5. Longer term financing

2.1.1 Linkage banking and other product innovations

- As indicated in Annex G, there is considerable scope in Rwanda for policies and strategies to make much greater use of informal providers of financial services. The existence of a well-established tradition of informal village savings and loan groups, such as *tontines* and *ikiminas*, creates the conditions to develop efficient links between these informal providers and larger and more formal financial institutions, like commercial banks or MFIs. Such linkages offer mutually beneficial solutions for both formal and less formal financial institutions, as well as for non-financial actors. In particular, they allow institutions to overcome either geographical limitations in their branch networks or asymmetries of information with poor clients in rural areas, or both, to serve clients that would otherwise have been impossible for the institutions to reach cost-effectively. The role of the GoR and the National Bank of Rwanda (BNR) in this area is mainly as a promoter and facilitator, encouraging banks and MFIs to form linkages, and ensuring a sympathetic regulatory environment. A selection of successful cases of linkages between financial institutions (both formal and informal) as well as between financial institutions and non-financial institutions from around the world is provided in Section F.1 of Annex F, along with the lessons particularly applicable to Rwanda. (Linkages between commercial banks and SACCOs require a specific institutional framework, but that falls within the remit of the separate SACCOs sustainability project and is not therefore dealt with in this report, except where it relates to the role of SACCOs linked to producer cooperatives in value chain finance.)

- The other option for linkage banking is the development of linkages within specific value chains. Specific options proposed in Annex C are:
  - The development of an input finance and marketing finance project in the *Irish potato* sub-sector, based on intensified collaboration with NGOs already working in the sub-sector, as well as with publicly funded potato projects, mainly the Rwanda Cooperative Association and CIP (Section C.3.6 of Annex C) (Zimmerman and Banerjee, 2009)
  - In the case of *wheat*, the GoR, principally MINIAGRI, working through a facilitator to develop linkages between the farmer organisations, processors and their key suppliers (wholesalers in the value chain) and financial institutions to roll out both production and trade finance, the facilitator being an NGO such as CARITAS (Section C.4.6 of Annex C)
In the case of rice, in addition to the warehouse receipt option above, there is an option for the financing (a) of inputs and (b) of trade in the value through guaranteed production loans, paddy commercialisation loans to crop-buying cooperatives, a voucher system that speeds farmer payments and lease finance for transport. This system has been piloted in the Mukungili area (see Section C.5.6 of Annex C).

- The strategy will also need to include the exploration of innovative products and services that have the potential to increase access to finance in the rural areas. Some of the most promising areas are indicated in the examples cited in section F.2 of Annex F: asset financing (through leasing and matched savings), factoring, microinsurance and business development services linked to financial services. Although this type of innovation is usually initiated by a financial institution or an NGO, Governments can play an important role in encouraging and facilitating innovation. Possible areas for innovation will need to be discussed between Government, AFR, service providers, NGOs, off-takers, farmer organizations and other stakeholders.

### 2.1.2 Collateral management and warehouse receipts

An important element the proposed strategy is the development of a collateral management and WHR system of international standard. There are basic principles upon which such as system needs to be built, and these are proposed in Annex D. The specific characteristics of the system will, however, be somewhat different for each value chain, depending on seasonality, market structure, geographic distribution channels, etc. Specific proposals for each of the relevant value chains are made in Annex C.

- At the regulatory level, this will require:
  - The creation of the necessary legal and regulatory framework. It is likely that this new legislation will be needed in the form of a Warehouse Receipt Act, a Warehouse Receipt Regulations Act, and regulation under the Acts.
  - A WHR regulatory body may need to be established under the legislation, possibly in the form of an Agency, or as a part of an existing regulator.
  - The first stage in this process will be consultation within the GoR and between the GoR and NBR to establish what legal forms will be required for the legislation and the establishment of the regulator.
  - The experience of the recent development of inventory finance provides valuable experience upon which this framework can be developed.

- In parallel with the regulatory development, work will need to begin on the development of the specific value chain financing mechanisms. This will involve both institutional development and capacity building for possible options including:
  - The creation of a fund for the development of the maize value chain to finance capacity building, institutional development and the improvement of communications between producers and buyers, and possibly to provide direct support to selected financial institutions (as proposed in Section C.1.6 of Annex C);
  - The establishment of a support fund to enable the development of a rice warehouse receipt system, mainly focused on capacity building but also providing direct support to selected financial institutions (as proposed in Section C.5.6 of Annex C);
  - In due course, there may be scope for developing a warehouse receipt system and collateral management for the beans sub-sector, once more information is available (as indicated in Section C.2.6 of Annex C).

- To support the rolling out of the system, a capacity-building programme will need to be developed and implemented in order to create the necessary institutional capacity and skills. This could possibly be achieved through one of the existing post-harvest handling and storage programmes. Specific recommendations on how this might be done are made in Section D.4 of Annex D.
Finally, a somewhat different approach is required for the dairy industry, as indicated in section C.7.5 of Annex C, where it is suggested that PADEBL could facilitate a value chain finance arrangement to enable dairy farmers to access required inputs, increase production and supply milk conveniently to milk collection centres. To achieve this, PADEBL could facilitate the development of a dairy improvement contractual inputs and services credit scheme by bringing together financial institutions, animal feed and chemical suppliers and the artificial insemination service providers.

2.1.3 Dealing with the information gaps

A whole range of information gaps and asymmetries of different kinds have been identified through this report. The RAFSS will need to pursue a range of options to mitigate these bottlenecks, of which the key ones are set out here:

- The first and most obvious information gap relates to agricultural finance itself. The FinScope and Supply Side surveys provide some useful information about financial services in rural areas, but they do not cover agricultural finance in any depth or detail. There is therefore a lack of information, particularly specific financial information, about agricultural finance supply and demand. An important option to mitigate this bottleneck would be to undertake an agricultural finance survey, perhaps using the Agricultural Finance Markets Scoping (AGFiMS) diagnostic being developed in Tanzania by the Financial Sector Deepening Trust in cooperation with the Gatsby Charitable Foundation and the Rockefeller Foundation (information on AGFiMS is provided in Section C.7 of Annex C).

- A specific information gap was identified in relation to the beans value chain, about which there is a serious paucity of information. Further investigation and analysis of the beans value chain will be necessary to identify the right mechanism to support the establishment of processing (drying) for beans and post-harvest storage (Section C.2.6 of Annex C).

- The other type of information gap is the asymmetry of information between value chain actors. The development of a facilitator with the support of the GoR, as proposed in Section 2.1.2 above, would help to mitigate this bottleneck, as would the introduction of a facilitator in the cassava value chain (Section C.6.5 of Annex C).

- Efforts are already being made to tackle the problem of inadequate market information through the AICC/CICA and through e-Soko, an agricultural market price information system being developed through a collaboration between MINAGRI and the RDB e-Rwanda project. It would be useful if these initiatives could be expanded into a fully fledged commodity information exchange, along the lines of the exchange currently operating in Kenya described in Section C.7 of Annex C.

- Lack of information about creditors would obviously be mitigated through the development of the credit information bureau to cover rural smallholders – it would be useful to plan for this, though it is unlikely to be feasible until the newly established credit information bureau is more developed in its coverage of traditional commercial borrowers.

- Insufficient information currently exists to enable a well priced agricultural insurance system to be established, but the development of a weather index and crop insurance is already established as an important priority for MINAGRI and its development partners. It is encouraging that insurance companies are beginning to move into the sector: for example, in May 2011 it was announced that the Société Nouvelle d’Assurances du Rwanda (SONARWA) has launched a livestock insurance scheme in the Nyagatare district. Better information will reduce the risks, and therefore the premiums, on all types of microinsurance.

2.1.4 Remote access banking

- The increasing use of mobile phones throughout Rwanda opens the opportunity for mobile money transfer and other forms of m-banking. These technologies have advantages in themselves in opening up access to financial services in rural areas, and they are also an essential component in linkage banking and in other product innovations, as described in Annex F. This will obviously improve rural access to financial services, but m-banking is a sector-wide issue that goes well beyond the requirements of rural and agricultural finance. The BNR will clearly need to ensure an appropriate regulatory environment for m-banking, but this is outside the remit of the RAFSS: it is understood that work has already begun in this area, with the support of the AFR programme.

2.1.5 Longer term financing

- The value chain analysis reveals a need for medium to long term financing instruments, to finance post-harvest handling and processing – a need that is particularly acute for cassava and for seed potatoes. As mentioned above, leasing would be an appropriate mechanism to meet this requirement. It would therefore be a strategic option for MINAGRI to encourage other players in the financial sector to accelerate the development of a regulatory and institutional infrastructure to expand leasing in Rwanda, which would of course have benefits well beyond the rural and agricultural sector.
- The same applies to the other main sources of long term financing, capital markets and PPPs. While it is appropriate for the RAFSS to take account of the role of such institutions in long term financing of agriculture, it would not be appropriate for those involved in the sector to take the lead in developing them. The best option is to ensure that the needs of the rural and agricultural sector are taken into account as the main players develop strategies for the development of capital markets and PPPs.

2.2 Implementation framework

In this section, the strategy options are set within an implementation framework intended to bring out what needs to be done, by whom and when. These timescales are summarised in the Gantt chart in Figure 2.1 below.

A. Planning the implementation of the strategy

A.1 Once the main thrust and the key components of the RAFSS have been agreed, it will be necessary to plan the implementation of the strategy, by allocating specific responsibilities to the relevant stakeholders and seeking the commitment of the necessary resources, including institutional and human resources, technical assistance and funding (2011-12). This process is set out in more detail in Section 2.3 below.

A.2 The strategy will probably need to be reviewed in 2014, and adjusted in the light of events.

1. Linkage banking

1,1 The promotion of linkage banking needs to begin with the development of pilot projects involving different financial actors. International experience (see Section F.1 of Annex F) indicates the importance of those initial pilots in order to create bonds of trust between potential partners. These pilots also have a ‘test and learn’ function as they show what can and cannot be done, and even more importantly, what existing regulations allow and do not allow. The facilitating, even match-making, role played by the GoR, the BNR and AFR at this stage is critical (2011-2012).

1,2 The GoR and BNR will need to consult financial institutions, NGOs and other potential stakeholders who might be involved in the pilots to ensure that the chosen structure(s) can be introduced in an orderly and safe manner (2011-2012)
Following that consultation, a plan for the development of linkage banking can be finalized. It is likely to include the following elements, in which GoR, AFR, development partners and agricultural and financial sector stakeholders will cooperate, as determined by the consultation:

1.3 If necessary, regulations may need to be modified, or new ones passed (2012).
1.4 The development of an input finance and marketing finance project in the Irish potato sub-sector (2011-2012), the piloting of the project (2012) and its implementation (2013-2020)
1.5 The design (2011-2012) and implementation (2012-2013) of a wheat production and trade finance facility, and its roll out throughout the country (2014-2020)
1.6 A feasibility study (2011-2012) on the extension of the Mukunguili rice input and trade financing facility and, if feasible, the planning (2012) and implementation of its roll out throughout the country (2013-2020)
1.7 Planning (2011-2012), piloting (2013) and rolling out (2013-2020) a PAEDBL value chain scheme to enable dairy farmers to access required inputs, increase production and supply milk conveniently to MCCs
1.8 GOR, BNR and AFR will discuss other possible product and service innovations with financial institutions and other relevant stakeholders on other possible innovations – such as in asset finance, factoring, microinsurance and BDS (2011-2012)
1.9 These innovations will then be developed and piloted (2012-13)
1.10 and rolled out (2013-2020)
1.11 It is important that communications remain open between all stakeholders to ensure that there are continued consultations between the Government, development partners, the supply side and the demand side on rural and agricultural finance innovations (2012-2020)

2. Collateral management and warehouse receipts
2.1 The development of a WHR system needs to begin with consultations by GoR with the banks, MFIs, farmers organisations and cooperatives (including SACCOs), traders and warehouse managers to confirm the areas and crops where WHR financing is going to be feasible and the likely structures of the systems proposed in this report, and to make appropriate adjustments to the proposed WHR system in response to the feedback (2011)
2.2 In parallel with this, consultations within the GoR and between the GoR and BNR need to be undertaken to establish what legal forms will be required for the legislation and the establishment of the regulator 12 (2011)
2.3 This will inform the creation of by GoR the legal and regulatory framework (2011-2012)
2.4 The regulatory body will be established (2012-2013)
2.5 Meanwhile, specific value chain mechanisms will be developed, including the creation of a fund for the maize value chain, in the context of the PHSS; and the establishment of a support fund for the rice WHR system (2011-12)
2.6 These mechanisms will be piloted and rolled out (2012-2020)
2.7 The capacity-building programme for collateral management and WHRs will need to be planned (2011), introduced (2012-2013) and implemented (2013-2020)

3. Dealing with information gaps
3.1 MINAGRI, MINECOFIN, BNR and AFR to plan and implement an agricultural finance survey (2012-2013)
3.2 Investigation of the beans value chain by MINAGRI (2012)

12 It is suggested that the regulator initially be in the form of a department within an existing body such as the BNR or MINAGRI; it might then evolve, over time, a separate entity.
3.3 A feasibility study on introducing a facilitator into the cassava value chain (2012) and if feasible, its introduction (2012-2013) and operation (2013-2020)

3.4 A feasibility study on expanding the agricultural market price information system (2011) and if feasible, its introduction (2012-2013) and operation (2013-2020)

3.5 Planning (2013) and implementing (2014-15) the extension of the credit information bureau to smallholder farmers and other rural clients.

3.6 Further development (2012-14) and rollout (2013-2020) of weather insurance

4. Remote access banking

4.1 MINAGRI to liaise with BNR to ensure that the regulatory environment for mobile money transfer and m-banking meets the needs of the rural and agricultural sectors (2011-2015)

4.2 The GoR and donors to consider and provide support for m-banking initiatives that would be particularly beneficial for rural areas (2011-2020)

5. Longer term financing

5.1 GoR and financial institutions to promote the development of leasing for the rural and agricultural sector, using as a reference the work carried out by the International Finance Corporation (IFC) in this area. Resolve any outstanding accounting, legal or tax issues to ensure these do not throw up barriers to successful development of this tool which is particularly important for small-scale agricultural financing.13 (2011-2020)

5.2 Ensure that the sector’s needs are taken into account in the planning and implementation of capital markets (2011-2020)

5.3 Take a similar approach to the development of the PPP system (2012-2020).

Figure 2.1 Gantt chart for the Implementation Framework

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<th>STRATEGY OPTIONS</th>
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<td>H2</td>
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<tr>
<td>A. Planning implementation of the strategy</td>
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<td>A.1 Planning and launch</td>
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<td>A.2 Review</td>
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<td>1. Linkage banking and other innovations</td>
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<tr>
<td>1.1 Development and implementation of pilots</td>
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<td>1.2 Consultation on structures</td>
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<td>1.3 Regulatory changes (if required)</td>
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<td>1.4 Irish potato financing project</td>
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<td>1.5 Wheat financing project</td>
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13 As demonstrated by to IFC experience, leasing is particularly relevant in the least favoured countries, including conflict-affected markets, which usually have weak business environments and in which small entrepreneurs do not have a significant asset base and credit history. An enabling legal, regulatory, tax and accounting framework is paramount to the development and growth of leasing. From IFC’s experience, the countries that were able to pass effective leasing legislation saw significant growth in domestic and/or foreign lease investment and hence increased financing of local companies, including SMEs. In terms of the type of actors involved in leasing, although historically stand-alone leasing companies, as non-bank financial institutions, have been instrumental in the promotion of SME access to finance in emerging markets, banks have proven to be generally stronger sponsors with more capacity to develop operational synergies (local currency funds, distribution through branch network, cross-product pricing flexibility, and leverage on lessees). (IFC, 2009b)
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<td>1.6 Rice financing facility</td>
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<td>1.7 Dairy financing facility</td>
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<td>1.8 Consultation on other innovations</td>
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<td>1.9 Development and implementation of pilots</td>
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<td>1.10 Rollout of new products</td>
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<td>1.11 Continued consultation on innovations</td>
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<td><strong>2. Collateral management and warehouse receipts</strong></td>
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<td>2.1 Consultation on feasibility of WHR financing</td>
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<td>2.2 Consultation on legal forms and regulator</td>
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<td>2.3 Creation of legal/regulatory framework</td>
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<td>2.7 Capacity-building programme</td>
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<td><strong>3. Dealing with the information gaps</strong></td>
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<td>3.3 Facilitator for cassava value chain</td>
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<td>3.4 Expansion of price information system</td>
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<td>3.6 Development of weather insurance</td>
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<td><strong>4. Remote access banking</strong></td>
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<td>4.1 Review m-banking regulatory environment</td>
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<td>5.1 Development of rural/agricultural leasing</td>
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<td>5.3 PPP system development</td>
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2.3 Developing an implementation action plan

As emphasised in Section 1.3, it is important to deal with the challenges and bottlenecks in rural and agricultural finance in a systematic manner. The elements of the implementation framework outlined above therefore need to be developed in tandem and drawn together into a coherent implementation action plan. The action plan, like the strategy itself, needs to be a living document, adjusted periodically in the light of experience and further research in each area of activity.

It is proposed the current sub-committee that was established by the Agricultural Sector Working Group (ASWG) to oversee the development of the RAFSS should be tasked with the development of the action plan, or that a new sub-committee be formed. The sub-committee would be chaired by MINAGRI and would include (a) relevant GoR institutions including the Ministry of Finance and Economic Planning (MINECOFIN) and BNR; (b) AMIR, representing MFIs/SACCOs, (c) a representative of the commercial banks, (d) a representative of NGOs, (e) AFR and (f) a donor representative from the ASWG. The secretariat, and, effectively, the implementation arm of the sub-committee will be provided by MINAGRI, but officials from MINECOFIN and BNR will also be involved in specific activities related to the spheres of competence of the Ministry and the Bank. The sub-committee will be supported by an advisory group of specialists who are working in projects in related areas, such as PHHS, LWH, PADEBL, RIF, AGF etc.; in NGOs such as Aquadev, CARE CARITAS, Terrafina etc.; and in relevant research institutes.

The sub-committee will coordinate the research, consultations and planning to be undertaken within the five key components of the strategy during the second half of 2011, so that the implementation action plan can be agreed and launched in the first half of 2012.

It is recommended that for the research and planning stage in the second half of 2011, a technical team of the sub-committee should be established for each of the five key components, each convened by one of the institutions on the sub-committee. The technical teams will be the main channel through which the inputs of the advisory group are fed into the action plan. The technical teams would be:

- **Technical team 1: Linkage banking and other product innovations** – convened by BNR, to undertake consultation with financial institutions, NGOs and other stakeholders on the design of linkage banking pilot projects, the most promising to be included in the action plan, and on the development of other innovations in products and services.
- **Technical team 2: Collateral management and warehouse receipts** – convened by MINAGRI, to consult those involved in specific value chains on the design of systems for their value chains and the possible facilitating role of the GoR; as well as to draft a plan for the development of the necessary legal and regulatory framework.
- **Technical team 3: Dealing with information gaps** – convened by AFR, to consult stakeholders about the priorities for the various information initiatives described in Section 2.2 above, in order to confirm or modify the proposed approach and timing for inclusion in the action plan
- **Technical team 4: Remote access banking** – convened by BNR, to ensure that the action plan is integrated within the wider development of remote access banking; and
- **Technical team 5: Longer term financing** – convened by BNR, to ensure that the medium and long term needs of the rural and agricultural sectors are taken into account in planning the development of leasing, capital markets etc., incorporating the results of this work in the action plan.

This proposed organisation is depicted in Figure 2.1
Figure 2.2  Proposed organisation for developing the action plan

It is to be hoped that these technical teams could be formed quickly and produce their draft inputs to the action plan by the end of 2011, so that the planning document can be completed in the first quarter of 2012 and launched in the second quarter. Some of the activities under the plan, such as pilot projects, will not of course need to await the completion of the planning document, but can be initiated during the consultation period.
References


FINSCOPE (2008) FINSCOPE Rwanda 2008 Data Book


IFAD (2011) ‘Project for rural income through exports (PRICE)’, January 2011


MINAGRI (2010a) ‘Agriculture Sector Performance Report’

MINAGRI (2009) Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II (PSTA II), February 2009


OPM (2009), Evaluation of Danish Support for Financial Services in Tanzania’, Ministry of Foreign Affairs of Denmark, April 2009

OPM (2010) ‘Census on existing skills in the financial sector in Rwanda’, July 2010


Royal Tropical Institute (Netherlands) and International Institute of Rural Reconstruction (2010) ‘Value Chain Finance: Beyond microfinance for rural entrepreneurs’,


Annex A  Terms of reference

Contract Title: Rural and Agricultural Finance Strategy Development
Period: February – April 2011

OBJECTIVE:

1. To develop an effective strategy to increase access to financial services in rural areas. The aim of the consultancy is threefold: (i) to assess the current state of financial services in the rural areas in Rwanda; (ii) develop an effective and coherent strategy to enhance provision of financial services across all parts of the country and (iii) make relevant recommendations as to an action plan for its implementation.

2. The strategy should take into account the requirements of not only individuals, but also micro and small, medium-sized enterprises (MSMEs) operating in rural areas. Financial services should include savings, credit, insurance and money transfer.

3. It should provide an overarching strategic framework for the policy, regulation and interventions by Government and other development partners which will create an enabling environment for the finance industry to expand their outreach to farmers and other investors in the agriculture sector.

4. Given their importance as financial institutions in rural areas, the strategy should include SACCOs and the Umurenge SACCOs. This should identify options for SACCO development and make recommendations relating to key areas such as creating economies of scale, establishing more professional standards in governance and operations, capacity building and, if necessary, providing an appropriate legal and regulatory framework.

RECIPIENT:

5. The Ministry of Agriculture and Animal Resources (MINAGRI) chairs the Agricultural Sector Working Group (ASWG) which will establish an ad hoc sub-committee to oversee the development of an agricultural and rural financial services strategy. Ministry of Economic Planning and Finance (MINECOFIN) and Banque Nationale du Rwanda (BNR, the central bank) will each appoint one or more members to this committee. The Financial Sector Development Secretariat within MINECOFIN, which has a coordinating role of activities in the financial sector, will retain strategic oversight of the strategy.

SCOPE OF WORK:

6. The Service Provider (SP) should seek to identify gaps in the enabling environment, adverse demand-side factors, supply-side constraints and financial infrastructure, as well as making recommendations for how these gaps should be closed.

7. When assessing gaps and other weaknesses, the SP should consider what is likely to work most effectively in the Rwandan environment. In part, this assessment should also draw on best practices in other countries with similar conditions and problems to those facing Rwanda.

OUTPUTS:

14 This does not imply drafting specific amendments to the current laws and regulations.

15 Including financial products and services yet to be applied and tailored to rural markets, and levels of financial literacy and understanding of the role of credit, savings, insurance and money transfer in developing rural economies.

16 Not least the lack of well-trained and competent staff, as well as weak risk management, in SACCOs and other MFI's.
8. In undertaking this assignment, the SP will deliver an Agricultural and Rural Financial Services Strategy (including an executive summary) addressing the issues outlined below. The SP will produce but not be limited to the following outputs:

   a. An inception report
   b. An assessment of the market for agriculture and rural financial services, which builds on existing supply and demand studies
   c. A draft final report that includes:
      o A diagnosis and situational analysis of the current rural financial system (section 9.a)
      o Strategic options for developing rural financial services identified and mapped out (as set out in section 9.b)
      o A sub-strategy for SACCO development
      o Recommendations for improvement in the areas of policy, legal, regulatory and supervisory functions related to rural micro-finance.
      o Recommendations and priorities for implementing the preferred strategic options.
      o Action plan for implementation of the recommendations over the next three to five years. Where possible, the recommended public interventions should be costed to facilitate the budgeting process of key public institutions that should be engaged in their implementation.
   d. Workshop for stakeholders (the SP should include the costs of running the stakeholders workshop in the proposal)
   e. Revised draft final report for submission to the ASWG sub-committee
   f. Final report that incorporates comments from the ASWG sub-committee and other stakeholders.

9. The scope of work is likely to comprise at least three key elements:

   a. **Information gathering and diagnosis of the current environment for rural finance.**
      Two questions that should be answered are: (i) how appropriate (or otherwise) is the current environment for fostering a sustainable rural financial system; and (ii) what needs to change to ensure such a system can take root to meet the current and likely requirements from individuals and businesses? These questions will then inform the second phase of the work. This will involve:
      - reviewing existing documentation on the supply and demand for rural financial services; reviewing the current policy, legal and regulatory environment;
      - assessing information flows, available skills among policy makers, regulators, financiers, as well as financial and business education of farmers and those working in non-farm businesses, coordination along value chains, market infrastructure and support services;
      - reviewing the current institutional arrangements, coordination, information flows and relationship among key players in the agricultural and rural sectors;
      - identifying other countries with comparable environments and issues to those in Rwanda where, in their opinion, rural financial services have been successfully developed.
   
   b. **Identifying and Mapping Strategic Options** for addressing the issues identified with a particular focus on:
      - Institutional arrangements for delivering effective and appropriately priced financial services to rural areas with a focus on the poor, options for financing value chains,
innovative links and trade-offs (e.g. between banks and both semi-formal and informal financial services providers) to enhance depth and outreach of financial services in rural areas. SP should also consider the role and importance\textsuperscript{17} of informal financial institutions in delivering financial services, especially to rural areas.

- The types of products and services expected to attract widespread demand in rural areas. These should cover all potential segments of demand from the micro to large scale; although emphasis is likely to be needed on the smaller end of the spectrum. The SP should identify the type and terms of what are seen as the most promising financial products to meet expected demand.
- Developments in financial infrastructure that could enhance access and deepen financial services, including the application of mobile phone, electronic point of sale (POS) and other technology relevant to rural areas in Rwanda.
- Changes in the enabling environment required to meet the identified demands for rural financial services and help overcome current weaknesses in their supply.
- The SP should ensure that the options identified in this phase are tailored to meet the requirements of different parts of the country where different market and environmental conditions may prevail.

c. **Priorities, recommendations and implementation plan**: The basis for setting priorities will be agreed between the SP and the ASWG sub-committee beforehand.

- The SP will draw up an action plan for implementing the main elements of the strategy, together with a schedule showing proposed times, critical dates and links between main tasks and costs. All work of the SP shall be reviewed and discussed with the ASWG sub-committee. However, for practical purposes the ASWG sub-committee will appoint four representatives to deal with the SP on a day-to-day basis.

**METHODOLOGY**

10. The SP’s methodology will include by not be limited to:

a. A review of the current policy, legal and regulatory framework with regard to agricultural finance, including a review of the elements of the PSTA II that address the same area.

b. An assessment of the market for agriculture and rural financial services, which builds on existing supply and demand studies, should be discussed and, where feasible, validated with private sector representatives. This is to be submitted within 25 working days from the beginning of the assignment.

c. The SP will review the critical infrastructural requirements, both physical and financial, for development of rural financial markets, identify gaps and recommend how these might be filled. Physical infrastructure and communications to rural areas will include power supplies, roads (taking into account problems with seasonal access) and telecommunications. Opportunities for new technology to improve access and increase the security of cash transfers should be highlighted.

11. In terms of the actual approach the SP is free to select the approach it considers will work best in developing rural micro-finance strategic options in Rwanda. However, the SP will be required to include the following:

\textsuperscript{17} Importance relative to formal and semi-formal financial institutions
a. At the end of a 2 week inception phase, produce an inception report. This should set out the methodology to be used to meet the requirements in the ToRs. The inception report should also include a detailed proposed work programme for the rest of the study, any changes recommended from that in the original proposal and agreement on the source documents that the ASWG sub-committee and other stakeholders where relevant will provide to the SP.

b. Work closely with ASWG sub-committee as the principle counterpart on this study. The sub-committee will be the main body coordinating stakeholder input.

c. In any event, the SP should hold discussions with a wide range of stakeholders, not least in rural areas during the fieldwork component. Discussions should cover representatives of both public and private sectors, including those working in agriculture and non-farm rural economies as needed.

d. Towards the end of the study, the SP will present a draft final report at a stakeholders’ workshop. This will include representatives from the ASWG, its sub-committee and other public and private sector stakeholders.

e. Based on feedback from that workshop the SP will revise the draft report before submitting it to the ASWG sub-committee for final review and comment. This will then be fed into a final report to be submitted by the SP.

REPORTING and DFID Co-ordination:

12. The SP will report to the ASWG sub-committee on Financial Services. For contract purposes, the DFID Programme Officer will be Cyriaque Harelimana. Lindsay Wallace, DFID senior economist and lead adviser for the programme, will provide technical advice.

TIMING:

13. The SP will be expected to complete their assignment within 3 months from a start of February 2011.

<table>
<thead>
<tr>
<th></th>
<th>Submission of the Inception Report and Market Assessment</th>
<th>3 weeks after commencement date</th>
<th>24 March</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Submission of the draft final report to the ASWG sub-committee</td>
<td>6 weeks after commencement date</td>
<td>15 April</td>
</tr>
<tr>
<td>3.</td>
<td>Present the draft final report at a stakeholders’ workshop</td>
<td>9 weeks after commencement date</td>
<td>w/b 2 May</td>
</tr>
<tr>
<td>4.</td>
<td>Submission of Draft Final Report to the ASWG sub-committee</td>
<td>10 weeks after commencement date</td>
<td>13 May</td>
</tr>
<tr>
<td>5.</td>
<td>Final Report</td>
<td>12 weeks after commencement date</td>
<td>27 May</td>
</tr>
</tbody>
</table>

This assignment will take a total 54 person/man days. At least 25 of these days need to be spent in country – spread over a maximum of two visits.

BACKGROUND:

14. The need for a strategy focused on rural financial services has been keenly felt for some time in Rwanda. Over 80% of the population aged 16 and above live in rural areas. Results

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18 The term “rural area” is defined here as those Enumerator Areas considered as such by the National Institute of Statistics Rwanda in its master sample frame based on population density.
from the 2008 FinScope survey of demand for financial services and barriers to access illustrate the disadvantages faced by rural people when compared to their urban counterparts.

15. A well-founded agricultural and rural financial service strategy will support the Government of Rwanda (GoR) in its efforts to promote greater financial outreach into rural areas, as well as promoting deeper financial services accessible to agricultural and rural customers and, in particular, to the poor who live there. Developing such a strategy needs two key ingredients: (a) strategic options and recommendations, which are the principle outputs of this study and these in turn should be a suitable platform for (b) the GoR to develop a policy that enables more and better tailored financial services to be accessible to agriculture and rural areas, together with a better tailored legal and regulatory framework if recommended.

16. In addition to this enabling environment, the GoR should be able to use the strategy to identify infrastructure and other constraints to developing broader and deeper rural financial services and, where appropriate, options for overcoming such barriers. The strategy should also support private sector initiatives by identifying opportunities for investment and funding in microfinance providers (MFPs), not least in the form of financial links between mainstream commercial banks and such MFPs (including MFIs and Savings and Credit Cooperatives – SACCOS).

17. The Financial Sector Assessment Programme for Rwanda conducted in 2005 identified a number of key weaknesses. As a key measure in response to this, the GoR launched the Financial Sector Development Program (FSDP) in 2006. The FSDP was also designed to be in line with the Government’s Vision 2020. The FSDP’s vision is to “develop a stable and sound financial sector that is sufficiently deep and broad, capable of efficiently mobilising and allocating resources to address the development needs of the economy and reduce poverty.” The GoR recognises the importance of the financial sector and has made the FSDP one of the key platforms in the growth component of its Economic Development and Poverty Reduction Strategy (EDPRS) 2008-12.

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19 A financial services strategy will not, of course, be able to address options for dealing with physical infrastructure and related constraints.
### Annex B  People interviewed in the course of the fieldwork

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aguga Acon, Judith</td>
<td>CARE International, SAFI Programme Manager</td>
</tr>
<tr>
<td>Anand, Sanjeev</td>
<td>BCR, Managing Director</td>
</tr>
<tr>
<td>Drevon, Martin</td>
<td>IFDC, PReFER, Chief of Party</td>
</tr>
<tr>
<td>Frantz, Brian</td>
<td>USAID, General Development Officer</td>
</tr>
<tr>
<td>Fye, Lucy Mamganga Mariam</td>
<td>World Bank, Senior Private Sector Development Specialist</td>
</tr>
<tr>
<td>Gatsinzi, Justine</td>
<td>Vision 2020 Umurenge Programme, Coordinator</td>
</tr>
<tr>
<td>Habimana, Jose</td>
<td>BPR, Deputy CEO</td>
</tr>
<tr>
<td>Habyarimana, Gilbert</td>
<td>Rwanda Cooperatives Agency, Deputy Director</td>
</tr>
<tr>
<td>Hanif, Charity</td>
<td>Agribusiness and International Development Consultant</td>
</tr>
<tr>
<td>Harelimana, Cyriaque</td>
<td>DFID Rwanda, Programme Coordinator, Economic Growth</td>
</tr>
<tr>
<td>Hoffait, Francois</td>
<td>Aquadev, National Coordinator</td>
</tr>
<tr>
<td>Kagabo, Pierre Canisius</td>
<td>BNR, Deputy Director, Bank Supervision Department</td>
</tr>
<tr>
<td>Kalibata, Agnes</td>
<td>MINAGRI, Minister</td>
</tr>
<tr>
<td>Kanimbam Françoise</td>
<td>BNR, Governor</td>
</tr>
<tr>
<td>Karusisi, Diane</td>
<td>NISR, Acting Director</td>
</tr>
<tr>
<td>Kantegwa, Angelique</td>
<td>BNR, Director, Banking Supervision Department</td>
</tr>
<tr>
<td>Kayisanabo, Fina</td>
<td>USAID, Agribusiness Specialist</td>
</tr>
<tr>
<td>Klassen, Herman</td>
<td>BPR, Chief Executive Officer</td>
</tr>
<tr>
<td>Musana, Serge</td>
<td>Institute of Policy Analysis and Research, Research Fellow</td>
</tr>
<tr>
<td>Mutoro, Antonia</td>
<td>Institute of Policy Analysis and Research, Executive Director</td>
</tr>
<tr>
<td>Nkulanga, Robert</td>
<td>CIDA, Rural Development Specialist</td>
</tr>
<tr>
<td>Nsengiyumva, Francois</td>
<td>MINAGRI, Chairman, Post-harvest Handling and Storage Task Force</td>
</tr>
<tr>
<td>Nsengiyumva, Francois</td>
<td>MINAGRI, Chairman, Post-harvest Handling and Storage Task Force</td>
</tr>
<tr>
<td>Nyirasangwa, Violet</td>
<td>MINAGRI, Programme II Manager</td>
</tr>
<tr>
<td>Robinson, Ian</td>
<td>AFR Rwanda, Technical Director</td>
</tr>
<tr>
<td>Rurangwa, Raphael</td>
<td>MINAGRI, Director General</td>
</tr>
<tr>
<td>Ruzibuka, John Bosco</td>
<td>Post-harvest Handling and Storage Project</td>
</tr>
<tr>
<td>Rwema, Peter</td>
<td>AMIR, Research Development and Financial Intermediation Programmes Manager</td>
</tr>
<tr>
<td>Rwirahira, John</td>
<td>Institute of Policy Analysis and Research, Research Fellow</td>
</tr>
<tr>
<td>Sayinzoga, Kampeta</td>
<td>MINECOFIN, Permanent Secretary</td>
</tr>
<tr>
<td>Smith, Bruce</td>
<td>IFDC, CATALYST, Deputy Chief of Party &amp; Market Development Specialist</td>
</tr>
<tr>
<td>Sussock, Alastair</td>
<td>MINAGRI, Economist</td>
</tr>
<tr>
<td>Turahirwa, Ephrain</td>
<td>BNR, Vice-Governor</td>
</tr>
<tr>
<td>Uwimbabazi, Patricia</td>
<td>AMIR</td>
</tr>
<tr>
<td>Van Apeldoorn, Paul</td>
<td>BPR, Chief Commercial Officer</td>
</tr>
<tr>
<td>Van Eck, Rien</td>
<td>BPR, Deputy Chief Network Officer</td>
</tr>
<tr>
<td>Visser, Miranda</td>
<td>Rabobank, Project Manager</td>
</tr>
<tr>
<td>Wallace, Lindsay</td>
<td>DFID Rwanda/Burundi, Team Leader, Economic Growth</td>
</tr>
<tr>
<td>West, Martin</td>
<td>Rwanda Post-harvest Handling and Storage Project, Chief of Party</td>
</tr>
<tr>
<td>Wolfe, Bill</td>
<td>Rwanda Post-harvest Handling and Storage Project</td>
</tr>
</tbody>
</table>
Annex C  Value chain analysis

Introduction

While there are some financing issues relating to major export crops – coffee, tea and horticultural products – these issues are well understood and appear to be being handled with some success. The key financing issues relate to staple crops. This is illustrated by the use of the AGF as shown in Table C.1. The key export crops account for 78% of the facility. Banks reported during the field visit that they simply do not get the same kind of demand for guaranteed finance for staple crops: these are part of the ‘Other’ sectors that use only 11% of the AGF. The key reasons for the distinction relate to the nature of the value chains for the staple crops, which are analysed in this annex. The resultant impact in terms of demand for and supply of financial services in the rural areas are summarised in Annex G (including the implications of an analysis of the use of the Rural Investment Fund, in section G.2.6).

This annex also includes analysis of the dairy value chain, because – in part as a result of the Dairy Cattle Development Support Project (PADEBL) – an increasing number of households (including poorer households) are becoming engaged in the dairy industry in one form or another.

Table C.1  Use of AGF – as at January 2010

<table>
<thead>
<tr>
<th>Sector</th>
<th>Amount in RWF</th>
<th>In %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>3,771,057,720</td>
<td>47%</td>
</tr>
<tr>
<td>Tea</td>
<td>1,323,316,034</td>
<td>16%</td>
</tr>
<tr>
<td>Horticulture</td>
<td>1,187,257,016</td>
<td>15%</td>
</tr>
<tr>
<td>Cattle breeding</td>
<td>699,742,660</td>
<td>9%</td>
</tr>
<tr>
<td>Macadamia</td>
<td>61,572,615</td>
<td>1%</td>
</tr>
<tr>
<td>Fertilisers</td>
<td>166,660,000</td>
<td>2%</td>
</tr>
<tr>
<td>Others</td>
<td>877,551,490</td>
<td>11%</td>
</tr>
<tr>
<td>Total</td>
<td>8,087,157,535</td>
<td>100%</td>
</tr>
</tbody>
</table>


In order to develop a strategy for agricultural finance, it is essential to understand the characteristics of the value chains for the main staple crops and how those value chains are financed. A systematic review was conducted of the value chains for the key staple crops in Rwanda, the results of which are set out below.

20 The AGF has been developed to increase the participation of commercial banks in financing the activities of Rwandan agricultural sub-sectors. It has been created to reduce the banks’ exposure to risk in agricultural loans and overcome the insufficient guarantees for entrepreneurs wishing to launch viable projects with the potential to generate growth in the agricultural sector. AGF can cover up to 30% of short-term loans and as much as 50% of long-term loans (Rural Investment Facility 2, MINAGRI).

21 As explained in Chapter 1, the main problem with smallholders producing tea and coffee is the lack of knowledge and the inability to overcome scale-related problems. In Rwanda, most small-scale tea farmers claim that the prices for green leaf do not cover the cost of production. Prices for smallholder tea tend to be lower than prices for plantation tea because of the generally lower quality. The small size of plots (the average holding is around 0.5 hectares) is not only insufficient to be economically viable, but it makes it almost impossible to introduce reforms to increase know-how and quality in production for smallholders. In some cases, the inability to use their land as collateral also becomes a major constraint preventing access to sources of funding. Last but not least, there are important barriers to the purchase by some companies of further land for tea production – even in cases where the land is lying fallow or is owned by absentee landlords from Kigali.
Building on the dimensions of the value chain described in Section 1.1.2 of the main report, the analysis is set out for each of six value chains:

C.1 Maize  
C.2 Beans  
C.3 Irish potatoes  
C.4 Wheat  
C.5 Rice  
C.6 Cassava

In each case, the analysis covers:

- **Key characteristics** of the value chain, including an analysis of strengths, weaknesses, opportunities and threats (SWOT analysis) – based on USAID (2010);
- **Challenges** – the main problems facing the value chain, particularly in relation to financial services;
- **Bottlenecks** – shortcomings in the financial sector that produce those challenges; and
- **Strategic options** for dealing with those bottlenecks, proposed by the project team.

This annex concludes with a note on examples from other countries in the region of attempts to mitigate the informational bottlenecks in the value chains.
C.1 Maize value chain

C.1.1 Maize 2010 estimated statistics

Area: 184,657 ha
Production: 432,404 MT
No. of farmers: 300,000
Farmers GM/ha: RWF 94,000
Maize informal trade: Exports: RWF 494.3 million
Imports: RWF 124.8 million
Maize flour informal trade: Exports: RWF 494.5 million
Imports: RWF 1.35 million

C.1.2 Maize value chain
## C.1.3 Maize value chain – SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Maize is a <strong>CIP-targeted commodity</strong>.</td>
<td>• Inadequate and insufficient drying and storing facilities – losses in value and quantity.</td>
</tr>
<tr>
<td>• Demand in Rwanda far exceeds supply.</td>
<td>• Price of Rwandan maize not competitive with that from Uganda and Tanzania.</td>
</tr>
<tr>
<td>• GoR assistance (Rwanda Agriculture Development Authority provision of subsidised inputs) strong, resulting in high yields at present – see Section C.1.4.</td>
<td>• Production and drying at high-altitude locations hindered by: (1) extremely long period between sowing and harvest (6–8 months); and (2) difficulty of drying down to required moisture level under cool temperatures and high relative humidity.</td>
</tr>
<tr>
<td>• Strong maize organisations exist in parts of Rwanda (e.g. NYAMIG, BAIR and Centre IWACU-assisted cooperatives, Kirehe World Food Programme (WFP) P4P cooperatives).</td>
<td>• Good market for fresh maize makes it difficult to convince farmers to wait for harvest of dry product, especially in high-altitude areas because of above problem.</td>
</tr>
<tr>
<td></td>
<td>• Drought in eastern Rwanda can seriously reduce production, with resulting impacts on buyers, processors and farmers.</td>
</tr>
<tr>
<td></td>
<td>• Poor road infrastructure reduces price received by producer because transport costs are high.</td>
</tr>
</tbody>
</table>

### OPPORTUNITIES

- WFP P4P potential collaborative activity with COMPETE and PHHS for construction of maize post-harvest infrastructure in Kirehe, training in harvest and post-harvest handling and linkages with buyers.
- NYAMIG linkage with and use of Ryabega drying and storage facilities (if ownership issue resolved) – significant trade opportunity with Uganda as well as WFP P4P.
- Akanyaru cooperatives.
- MINAGRI’s plan to re-establish strategic grain storage facilities.

### THREATS

- Lower-priced maize available from neighbouring countries.
- Lack of trust between producer organisations and buyers.
- Farmers in high-altitude zones discouraged by long period from sowing to harvest.
- Drought (especially in east) and flooding (in swamplands needing further improvement).
- Increased production enhances likelihood of pest and disease outbreaks which could seriously reduce yields/supplies.
- Slowness of GoR to respond to requests for assistance/intervention (e.g. failure of Nyagatare District to submit proposals from NYAMIG and other organisations to RSSP, Ryabega facility completion delayed yet farmers counting on its use for Season 2010A harvest).

C.1.4 Maize sub-sector development trend

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated Area (ha)</td>
<td>89,453</td>
<td>109,400</td>
<td>184,657</td>
</tr>
<tr>
<td>Yield (Kgs/ha)</td>
<td>650</td>
<td>850</td>
<td>2,500</td>
</tr>
<tr>
<td>Prod. Season 1</td>
<td>52,260</td>
<td>72,642</td>
<td>318,772</td>
</tr>
<tr>
<td>Prod. Season 2</td>
<td>10,242</td>
<td>24,608</td>
<td>113,632</td>
</tr>
<tr>
<td>Total Output MT</td>
<td>62,502</td>
<td>97,250</td>
<td>432,404</td>
</tr>
</tbody>
</table>

Source: Agriculture Sector Performance Report, 2010

C.1.5 Challenges and bottlenecks from a financial perspective

Challenges

- Insufficient agricultural value chain financing (post-harvest and marketing – short, medium and long term).
- Relatively unstructured value chain (an issue exogenous to the financial sector as such, but impacts on bottlenecks below).

Bottlenecks

- Lack of an efficient WHR system that may act as a catalytic element for other segments of the value chain. This is linked to the lack of a regulatory framework for collateral management.
- Insufficient and inadequate flows of information as well as high level of mistrust across the value chain.

C.1.6 Strategic options proposed

Option 1 @ Primary production stage

Capacity building of cooperatives and development of an input supply between marketing cooperatives and farmers. Such capacity building and the development of input finance could be anchored to the post-harvest programme for staples, which currently has a finance component although it is currently limited to undertaking further studies and analyses regarding finance constraints. In addition to its impact on the value chain itself, this would also help to tackle the bottleneck of information asymmetries and lack of trust.

Option 2 @ Post-harvest handling and marketing stages

Grain marketing is one area that will benefit most from developing a funding mechanism that will facilitate storage, tap into benefits offered by price changes and collateralising produce in storage. Proposals on the development of a collateral management and WHR system are set out in Annex D. Once again, a capacity-building component will benefit the value chain itself, improve the effectiveness of the WHR system and help to reduce asymmetries of information and mistrust.

It is therefore proposed that a fund be created, managed perhaps within the framework of the Post-Harvest Strategy Implementation Secretariat, for funding the development of collateral management and a WHR system. The fund will aim to:

- Increase the yield and improve the post-harvest handling and marketing of maize in order to improve the capacity of Rwandan maize to compete with that of Uganda and Tanzania;
- Fund capacity building for farmer organisations (producer cooperatives and villages) on storage, and possibly to fund investments in warehouses;
• Support and capitalise farmer organisations to start and input delivery services;
• Improve information and communication between producers and buyers; and
• Provide direct support to selected financial institutions (banks, MFIs etc.) to engage in agricultural input finance, linking it with the WHR system, farmer organisations and farmers. Potential financial institutions, in view of current activities and plans, include the BPR and BRD, other stakeholders such as USAID-PHI and the other projects currently engaged in post-harvest initiatives.

Crucial for both options 1 and 2 above is the establishment of the facilitation unit within the post-harvest projects.
C.2 Beans value chain

C.2.1 Beans 2010 estimated statistics

- Total production: 327,000 MT
- Area: 319,252 ha
- Average plot size: 0.7 ha
- No. of farmers: 456,000
- Zones grown:
  i. All zones grow beans
  ii. Eastern zone produces mostly for the market

C.2.2 Beans value chain

![Beans value chain diagram]

- BEANS PRODUCERS
  Farmers

- TRADERS
  Farmers, Cooperatives, Individuals

- WHOLESALERS
  4 Big buyers

- PROCESSORS
  1 Packer

- DOMESTIC MARKET

- Retailers

- Consumers

- Imports to Rwanda 6,000 MT

- Export Market 10,000 MT
## C.2.3 Beans value chain – SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Cultivated by a large majority of Rwandan farmers, who have a long tradition of and strong expertise in bean cultivation.</td>
<td>• No organisation of bean producers into cooperatives/associations.</td>
</tr>
<tr>
<td>• Large per capita bean consumption in Rwanda: 20.47 kg/person/year.</td>
<td>• Little/no input or extension support from the GoR.</td>
</tr>
<tr>
<td>• Excellent rotation crop for other staples: same cooperatives producing maize and potatoes also produce beans.</td>
<td>• No organisation of seed production and distribution.</td>
</tr>
<tr>
<td>• There are four major assemblers and wholesalers operating within the formal sector, linking with a single processor. Both input supply and marketing call for innovative financial products.</td>
<td>• No formal marketing except for WFP P4P initiative.</td>
</tr>
<tr>
<td>• There are four major assemblers and wholesalers operating within the formal sector, linking with a single processor. Both input supply and marketing call for innovative financial products.</td>
<td>• No improved post-harvest techniques or infrastructure – current shelling techniques lead to losses.</td>
</tr>
<tr>
<td>• There are four major assemblers and wholesalers operating within the formal sector, linking with a single processor. Both input supply and marketing call for innovative financial products.</td>
<td>• High losses in storage can occur due to weevil infestation if not protected.</td>
</tr>
<tr>
<td>• There are four major assemblers and wholesalers operating within the formal sector, linking with a single processor. Both input supply and marketing call for innovative financial products.</td>
<td>• Not included in PSTA II, indicating its low-priority ranking within the Ministry of Agriculture – not a CIP-targeted commodity.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• In demand by large-scale buyers such as WFP P4P, UNICEF, Murenzi Supply.</td>
<td>• Replacement by soybean if large soybean-processing factory established in Kayonza.</td>
</tr>
<tr>
<td>• Important source of protein and micronutrients, especially for rural population – nutritional importance recognised by the GoR.</td>
<td>• Pests and disease outbreaks if single-variety and monocropping production encouraged.</td>
</tr>
<tr>
<td>• HarvestPlus programme to promote iron-rich beans, including adding a price premium with ‘branding’.</td>
<td>•</td>
</tr>
<tr>
<td>• Possibility of improving market value by grading and selling as a single variety.</td>
<td>•</td>
</tr>
<tr>
<td>A number of research institutions and programmes are targeting the crop – ISAR, RIU, CIAT, HarvestPlus – and developing new varieties.</td>
<td>•</td>
</tr>
</tbody>
</table>

C.2.4 Beans sub-sector development trend

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated Area (ha)</td>
<td>332,905</td>
<td>322,019</td>
<td>319,252</td>
</tr>
<tr>
<td>Yield (Kgs/ha)</td>
<td>650</td>
<td>600</td>
<td>1,000</td>
</tr>
<tr>
<td>Prod. Season 1 MT</td>
<td>128,013</td>
<td>139,210</td>
<td>189,038</td>
</tr>
<tr>
<td>Prod. Season 2 MT</td>
<td>87,334</td>
<td>60,438</td>
<td>138,458</td>
</tr>
<tr>
<td>Total output MT</td>
<td>215,347</td>
<td>199,648</td>
<td>327,496</td>
</tr>
</tbody>
</table>

Source: Agriculture Sector Performance Report, 2010

C.2.5 Challenges and bottlenecks from a financial perspective

Challenges

- Inefficient and insufficient value chain finance – lack of trade finance is particularly relevant (short term, marketing stage).
- Insufficient processing capacity (medium to long term, post-harvest handling stage).

Bottlenecks

- Post-harvest losses are reported to be high. There is only one processor (i.e. bean packer) in the country. The sub-sector is weak in terms of its ability to dry beans and there is insufficient storage infrastructure.
- Insufficient information about the sub-sector.
- Beans are a sub-sector very adversely affected by exogenous factors, including poor infrastructure (especially rural and regional road networks) and lack of commodity information exchange services.

C.2.6 Strategic option proposed

The entry point to enhance both input delivery and post-harvest handling is through the three major assemblers cum wholesalers of beans: ENAS, MURENZI, and COCCPAR. In this case, considering the paucity of information available to date, further investigation and analysis of the beans value chain will be necessary to identify the right mechanism to support the establishment of processing (drying) of beans and post-harvest storage.

Trade finance is an area that can support the development of regional trade in beans. However, this also needs further research to understand the operations of existing traders and the effective demand for financial products.

The WHR system and collateral management could be useful for the bean sub-sector, as for other sub-sectors, as outlined in Annex D.
C.3 Irish potato value chain

C.3.1 Irish potato 2010 estimated statistics

Area: 151,000 ha  
Total production: 1.79 million MT  
Average plot size: 0.7 ha  
No. of farmers: 215,000  
Zones grown: Highlands, North and West

C.3.2 Irish potato value chain

SUPPLIERS  
Inputs Suppliers: Fertilizer & Seed

IRISH POTATO PRODUCERS  
Farmers Cooperatives

TRADERS  
Cooperative Unions

DOMESTIC MARKET

Imports

Retailers

Consumers

TRADERS  
Farmers Cooperatives Individuals

EXPORTS MARKET  
- Uganda  
- Tanzania  
- Burundi
### C.3.3 Irish potato value chain – SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The Irish potato is a CIP-targeted commodity.</td>
<td>• Existing production, harvest and post-harvest handling practices result in high post-harvest losses.</td>
</tr>
<tr>
<td>• Large production volumes of Irish potatoes.</td>
<td>• Potato bulkiness and perishability is high relative to grains and legumes, adding to greater transport and storage costs.</td>
</tr>
<tr>
<td>• Favourable climate, soils and long tradition of cultivation give Rwanda a competitive advantage in trade of this crop.</td>
<td>• Need for two week in-field suberisation period after vine cutting, plus high value, renders crop susceptible to theft.</td>
</tr>
<tr>
<td>• Potato production cooperatives are strong, well organised and well supported.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significant reduction in post-harvest losses could be achieved through provision and adoption of improved production, harvest and post-harvest handling techniques.</td>
<td>• Disease pressure is increasing due to failure to respect an adequate rotation period (one crop every two years) and failure to follow other good integrated pest management practices.</td>
</tr>
<tr>
<td>• Improvement of existing post-harvest storage facilities as well as establishment of new, improved ones could reduce post-harvest losses.</td>
<td>• SOPYRWA (pyrethrum processing) factory in Ruhengeri could resume operations on a large scale and reduce Irish potato production in northern Rwanda by offering greater profits for pyrethrum production.</td>
</tr>
<tr>
<td>• Improved marketing infrastructure (e.g. Kigali Fresh Produce Market) could reduce post-harvest losses at market level.</td>
<td></td>
</tr>
<tr>
<td>• Value addition through washing and selling tubers in improved packaging to high-end markets such as supermarkets and hotels.</td>
<td></td>
</tr>
<tr>
<td>• Demand for potato-based processed products has risen in Rwanda between 10% and 17% in recent years. The profitability of chip processing in Rwanda is US$ 126 per 100 kg chips, much higher than in the surrounding countries (in Tanzania US $11 per 100 kg chips), which shows the high level of unmet demand in Rwanda.²²</td>
<td></td>
</tr>
</tbody>
</table>


---

²² FAO (2010). ‘Strengthening potato value chains: Technical and policy options for developing countries’. 
C.3.4 Irish potato sub-sector development trend

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated area (ha)</td>
<td>108,563</td>
<td>135,622</td>
<td>150,778</td>
</tr>
<tr>
<td>Yield (Kgs/ha)</td>
<td>8,800</td>
<td>9,617</td>
<td>10,047</td>
</tr>
<tr>
<td>Prod. Season 1</td>
<td>469,365</td>
<td>750,256</td>
<td>1,029,887</td>
</tr>
<tr>
<td>Prod. Season 2</td>
<td>487,833</td>
<td>563,795</td>
<td>759,517</td>
</tr>
<tr>
<td>Total output MT</td>
<td>957,198</td>
<td>1,314,051</td>
<td>1,789,404</td>
</tr>
</tbody>
</table>

Source: Agriculture Sector Performance Report, 2010

C.3.5 Challenges and bottlenecks from a financial perspective

Challenges

- Insufficient agricultural value chain financing, particularly processing finance.
- No value added to potato crops.

Bottlenecks

- Lack of post-harvest storage, trade and processing infrastructure. This creates, among other negative effects, a lack of clean planting material, which in turn affects crop yields.
- Weak linkages across the whole value chain.

C.3.6 Strategic option proposed

The strategy proposed is to intensify collaboration with NGOs already working in the Irish potato sector, as well as with publicly funded potato projects, principally those the Rwanda Cooperative Association and CIP. The final goal is to strengthen the existing linkages across the value chain. This will not only allow the development of formal seed systems, but also contribute to improving market information and transparency.

It is therefore proposed that a project should be developed to deal with the bottlenecks and challenges in the Irish potato value chain. The project would support improvements in financing for potato inputs and marketing, mainly through technical assistance and capacity building. The result should be a value chain (Figure C.3 below) where there are stronger links between different actors. This model has already been successfully tested in countries like Peru, where NGOs have played a successful intermediary role in the Irish potato value chain (see Box C.1).

Figure C.1 Model for Irish potato value chain finance
Box C.1  Potatoes in the Chillón River Valley, Peru

Snacks America Latina Perú SRL, part of the PepsiCo multinational, supplies 85% of the Peruvian market for crisps. By 2001 they needed to diversify their sources of potatoes to the coastal lowlands, to bridge the seasonal gap in their traditional sources high in the Andes.

They did not have the capacity to train and organise farmers to grow the crop. Snacks were willing to pay extra for a reliable supply, and to agree on prices beforehand. But it would be too cumbersome to sign contracts with lots of individual farmers. The answer was to team up with Fodiva, an NGO that promotes the development of small-scale farmers. Fovida agreed to help develop production of potatoes in the coastal lowlands to help fill the seasonal gap, working with farmers in the valley of the Chillón River, near Lima. The NGO helped the farmers organise into a producers’ group, called the Asociación de Productores de la Zona Media del Río Chillón (Producers’ Association of the Middle Chillón River). This organization has 34 members, each with between 2 and 13 ha of land, or an average of 5 ha.

At first Snacks did not want to sign an agreement directly with the Asociación: it would be too difficult for the firm to manage such an arrangement with an unproven group of suppliers. It preferred to sign a contract with Fodiva instead, making the NGO responsible for supplying the potatoes to the Snacks factory. This contract specified quantities, prices, delivery times, and so on. Fodiva also was obliged to provide post-harvest services such as selection, loading and transport of the potatoes, and handle all the documentation. It also had to ensure that the farmers did not sell the potatoes to other buyers. If the quality was below specification, the company would not accept delivery. This contract gave Fodiva a lot of responsibility and a lot of risk: it became a major actor in the value chain.

Credit for the potato farmers was provided by Credivida, a separate Fodiva credit programme that had hitherto worked mainly in urban areas, but which agreed to tailor-make a financial product to suit the needs of the potato growers. It was willing to do this because in Snacks, the farmers had a firm buyer with a guaranteed price, and because Fodiva managed the chain, provided technical support to the farmers and handled all the payments.

The structure of the arrangement evolved in three stages.

- Fodiva, had been providing its services free to the Asociación, funded by Novib, a Dutch donor agency, but after the Novid project ended in 2004 the Asociación paid a service fee that covered most of Fodiva’s cost (the rest being paid by the NGO out of other funds).
- Secondly, in 2008 Snacks agreed to include the Asociación as a formal partner in the agreement. Instead of a supply contract between Fodiva and Snacks, there was now a tripartite contract between the company, the NGO and the farmers’ group. In the new agreement, Fodiva stopped being a direct actor in the chain. The farmers took over full responsibility for producing and delivering the potatoes to Snacks in accord with the quality standards as agreed upon. Fodiva was now responsible only for providing technical and business support to the farmers, in return for its service fee.
- Finally, in 2009 the agreement with the buyer was revised again: the Asociación contracted directly with Snacks, without Fodiva being involved. The tripartite arrangement has been replaced by a bilateral contract between the farmers and Snacks. The farmers may choose to contract separately with Fodiva to supply technical and business support services (they have to pay the full cost of these). Or they are free to make arrangements with other service providers if they wish. This means that Fodiva has moved from being a major chain supporter with triangular relationships with Snacks and Credivida, to a mere supplier to the chain.

Now, from December and April each year, 85% of each farmer’s land is planted with potatoes for Snacks. During the rest of the year the farmers continue to grow vegetables such as tomatoes, lettuce and carrots, as they had been doing before.

Source: Royal Tropical Institute and IIRR (2010), which contains a detailed account of this case and many other interesting examples of innovative value chain finance.
C.4 Wheat value chain

C.4.1 Wheat 2010 estimated statistics

Total production: 77,000 MT
Area: 49,360 ha
Average plot size: 0.7 ha
No. of farmers: 70,000
Zones grown: Highlands, North and West

C.4.2 Wheat value chain
C.4.3 Wheat value chain – SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wheat is a CIP-targeted commodity.</td>
<td></td>
</tr>
<tr>
<td>• Demand in Rwanda far exceeds supply.</td>
<td></td>
</tr>
<tr>
<td>• Some cooperatives are well organised and have storage facilities.</td>
<td></td>
</tr>
<tr>
<td>• Milling facilities exist in country.</td>
<td></td>
</tr>
<tr>
<td>• Very low volumes of Rwandan wheat production.</td>
<td></td>
</tr>
<tr>
<td>• Inability to dry down to required moisture level (14%) in most production locations; machine-dried wheat considered to be of lower quality by millers.</td>
<td></td>
</tr>
<tr>
<td>• Quality further compromised by high content of impurities incurred during threshing, winnowing and drying.</td>
<td></td>
</tr>
<tr>
<td>• Price offered by two of the major millers lower than what is paid on the market.</td>
<td></td>
</tr>
<tr>
<td>• Most cooperatives lack adequate drying and storage facilities.</td>
<td></td>
</tr>
<tr>
<td>• Threshing and winnowing mostly manual.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Training of wheat producers in integrated pest management of wheat rust could reduce losses.</td>
<td></td>
</tr>
<tr>
<td>• Appropriate technology in terms of threshers and winnowers could improve quality.</td>
<td></td>
</tr>
<tr>
<td>• Other uses of wheat, such as porridge, could be promoted to mitigate problem of high moisture level rendering Rwandan wheat unsuitable for flour.</td>
<td></td>
</tr>
<tr>
<td>• Imported wheat of better quality and available in quantities required by flour mills.</td>
<td></td>
</tr>
<tr>
<td>• Poor relationships between producers and millers discourage wheat production.</td>
<td></td>
</tr>
<tr>
<td>• Strong assistance to cooperatives provided by ACDI/VOCA has ended – production likely to suffer as a result of drop in technical and financial assistance for cooperatives.</td>
<td></td>
</tr>
</tbody>
</table>


C.4.4 Wheat sub-sector development trend

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated area (ha)</td>
<td>9,743</td>
<td>24,157</td>
<td>49,386</td>
</tr>
<tr>
<td>Yield (Kgs/ha)</td>
<td>600</td>
<td>900</td>
<td>1,500</td>
</tr>
<tr>
<td>Prod. Season 1</td>
<td>2,725</td>
<td>24,608</td>
<td>32,068</td>
</tr>
<tr>
<td>Prod. Season 2</td>
<td>3,711</td>
<td>13,212</td>
<td>45,125</td>
</tr>
<tr>
<td><strong>Total output MT</strong></td>
<td><strong>6,436</strong></td>
<td><strong>37,820</strong></td>
<td><strong>77,193</strong></td>
</tr>
</tbody>
</table>

Source: Agriculture Sector Performance Report, 2010

C.4.5 Challenges and bottlenecks from a financial perspective

Challenges

• Weak value chain finance, particularly at primary production level (short term) and also in trade finance (short term).
Bottlenecks

- Lack of a mechanism to utilise the institutional framework for wheat value chain finance. This is critical as trust is key in wheat value chain finance. Trust is related to the duration of relationships and the degree of openness with which the chain partners exchange information. As mentioned in the SWOT, poor relationships between producers and millers discourage wheat production. The specifically financial issue is that lack of trust increases risk and therefore impacts adversely on the availability and cost of financial services.

C.4.6 Strategic option proposed

The option proposed is that the GOR, principally MINIAGRI, works through a facilitator to develop linkages between the farmers’ organisations, the processors and their key suppliers (wholesalers in the value chain) and financial institutions to roll out both production and trade finance. The role of the facilitator is to help to build the required trust and to fill the void left by the end of ACDI/VOCA assistance. A very suitable candidate for this facilitator role would be an NGO – for example, CARITAS, which is already involved as a facilitator in the wheat value chain.23 (See Figure C.2 below.)

Figure C.2 The role of CARITAS as facilitator

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23 For example, in September 2010 CARITAS stepped in after the collapse of the Minoterie de Nyungwe processing factory in Nyamagabe District to support the KOAGIMITA cooperative (with financial support from the Irish NGO Trocaire), including assistance in building storage facilities. CARITAS are replicating their experience with KOAGIMITA in other parts of the country, in cooperation with a wheat project supported by WFP in partnership with CARITAS, World Vision and FAO (USAID, 2010 and New Times, 29 September 2010 and 17 June 2011).
C.5 Rice value chain

C.5.1 Rice 2010 estimated statistics

<table>
<thead>
<tr>
<th>Area</th>
<th>12,976 ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total production</td>
<td>67,300 MT</td>
</tr>
<tr>
<td>No. of farmers</td>
<td>62,000</td>
</tr>
<tr>
<td>Zones grown</td>
<td>Central Southern and South-Western areas</td>
</tr>
</tbody>
</table>

C.5.2 Rice value chain

```
SUPPLIERS
Inputs Suppliers: fertilizers, seeds and pesticide (antifungal)

RICE PRODUCERS
Farmers Cooperatives

TRADERS
- Assemblers

VALUE ADDING
Processors Dehusking

DOMESTIC MARKET

Imports to Rwanda

Retailers

Consumers
```
### C.5.3 Rice value chain – SWOT analysis

#### STRENGTHS
- Rice is a [CIP-targeted commodity](#).
- Abundant rice production.
- Potential for high-quality finished product.
- Strong, well organised rice unions and cooperatives.
- At least one good working relationship between union of rice producers and millers (UCORIBU and ICM – Gikonko Rice).
- Linkages between rice cooperatives and microfinance institutions enable producers to store rice after harvest until prices are high.

#### WEAKNESSES
- Lack of adequate drying and storage facilities at the field level, resulting in losses in quality and quantity of paddy rice.
- High labour requirements for harvest and post-harvest handling and hired labour very expensive.
- Long distances between production and milling sites, leading to high transport costs, reducing price paid to producers.
- Old mills which result in poor quality finished product, inadequate capacity to process paddy in timely manner and possibly losses during milling.
- Lack of trust between producers and millers in some instances (e.g. Bugarama rice producers and ICM, Rwamagana rice producers and ICM).

#### OPPORTUNITIES
- Installation of new rice milling facilities to increase quality of finished product, as well as offer producers a choice (for example, increased competition for paddy, higher price paid to producer) – in planning stages in Nyagatare, beginning implementation in Bugarama.
- Increasing post-harvest infrastructure at field level such as simple drying and storage facilities could reduce losses in quantity as well as quality.
- Cooperatives well organised, geographically clustered in same area and can be easily reached for technical assistance. Examples include training in improved harvest/post-harvest handling, training in business skills.
- Rabobank/Banque Populaire’s interest in providing financial and capacity-building assistance to rice cooperatives supplying to ICM/Ginkonko Rice mill.
- Symbiotic relationship between rice cooperatives and MFI could be replicated across more sites in Rwanda.
- Development and use of threshing and winnowing equipment to reduce quantitative as well as qualitative losses.

#### THREATS
- Lack of improvements to marshlands results in inadequate water for production at times and flooding at others – GoR slow to respond to requests for assistance.
- Less expensive imports from Asian countries could resume on large scale, implying need to make Rwandan rice more competitive.
- Failure to resolve disputes between rice producers and millers could result in breakdown of rice value chain.
- Risk of cross-border export of paddy for processing into and re-importation of white rice if milling capacity not increased.

C.5.4 Rice sub-sector development trend

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated area (ha)</td>
<td>4,266</td>
<td>13,922</td>
<td>12,976</td>
</tr>
<tr>
<td>Yield (Kgs/ha)</td>
<td>2,730</td>
<td>4,311</td>
<td>5,187</td>
</tr>
<tr>
<td>Total output MT</td>
<td>11,700</td>
<td>60,500</td>
<td>67,300</td>
</tr>
</tbody>
</table>

Source: Agriculture Sector Performance Report, 2010

C.5.5 Challenges and bottlenecks from a financial perspective

Challenges

- Inefficient and insufficient value chain finance, particularly for fertiliser and seeds (primary production, short term) and processing (post-harvest handling, short to medium term).

Bottlenecks

- Unstructured value chain, which results in insufficient and inadequate flows of information as well as a high level of mistrust across the value chain. This in turn has a negative impact on the availability and cost of financial services.
- Lack of effective mechanism for commercial distribution of fertiliser and seed.

C.5.6 Strategic option proposed

The first strategic option is to build upon the marshlands reclamation and development projects to include inputs and trade finance components in the value chain. It is understood that both products have been piloted and proven in the Mukunguli area, 75 km south of Kigali, a marshland area developed by the Chinese. The experience and lessons learnt by COPRORIZ working together with SNV and CAF–Isonga (an MFI), ensuring business and finance links between producers, crop traders and wholesalers, millers and retailers, could be expanded and replicated. The project experimented on production loans (guaranteed by CAF and collateralised by farmer supplies to COPRORIZ), paddy commercialisation loans to crop-buying cooperatives, a voucher system that sped up farmer payment and lease finance for transport.

The second option relates to rice marketing, an area that will benefit most from developing a funding mechanism for storage, tap-on benefits offered by seasonal price fluctuations and collateralising the stored produce. It has been reported that key challenges along this chain are the delayed farmer payments. Farmers have to wait up to two months before being paid and hence often sell their produce at one third of the market price to opportunistic traders. Such lags in payments have led to major losses at the cooperatives. Unlike maize, which has two production seasons, rice experiences significant seasonal price fluctuations because it is harvested only once.

A strategic option would therefore be to put together a support fund in collaboration with organisations already working in the rice industry, e.g. CAF and SNV, to fund a rice WHR system on the principles outlined in Annex D. In the case of rice, this could include:

- Capacity building for farmer organisations (and producer cooperatives such as COPRORIZ) on storage technologies and warehouse investments.
- Direct support to selected financial institutions in the locality (banks, MFIs, e.g. the one at Isongo, etc.) to engage in rice input finance, linking it with the WHR system.
C.6 Cassava value chain

C.6.1 Cassava 2010 estimated statistics

Total production: 2.3 million MT
Area: 197,400 ha
Average plot sizes: 0.7 ha per farmer
No. of farmers: 282,000
Zones grown: Southern and Eastern zones

C.6.2 Cassava value chain
### C.6.3 Cassava value chain – SWOT analysis

<table>
<thead>
<tr>
<th><strong>STRENGTHS</strong></th>
<th><strong>WEAKNESSES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought-resistant crop which can be stored a long time in soil before harvesting.</td>
<td>Rapid physiological deterioration of roots once harvested if not processed.</td>
</tr>
<tr>
<td>Abundant production of roots in southern and eastern Rwanda.</td>
<td>Need for both clean water and protected drying facilities for production of chips with long shelf life not susceptible to rapid rotting.</td>
</tr>
<tr>
<td></td>
<td>Processing is labour intensive; mastery of artisanal production of flour with good, consistent quality characteristics is difficult.</td>
</tr>
<tr>
<td></td>
<td>Cassava is seldom grown on single stands: it is mainly intercropped. Its growth trend has thus been modest, mainly buttressed by the growth trends of the crops that it is intercropped with. It is also grown principally for household consumption and contributes only modestly to farmer cash income.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>OPPORTUNITIES</strong></th>
<th><strong>THREATS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Renovation of the Gatsibo processing facilities in conjunction with the Cassava Initiative Platform would enable production of high-quality flour in district.</td>
<td>Outbreak of Brown Streak Virus (exists already in neighbouring Democratic Republic of Congo and Uganda), for which no varieties with proven resistance have yet been developed.</td>
</tr>
<tr>
<td>Ample range of possible uses for dried cassava, including: (i) ethanol; (ii) livestock feed; (iv) confectionery; (v) monosodium glutamate; (vi) sweeteners; and (vii) pharmacy products.</td>
<td></td>
</tr>
</tbody>
</table>


### C.6.4 Challenges and bottlenecks from a financial perspective

**Challenges**

- Current cassava processing technologies in Rwanda are largely traditional, leading to a limited range of finished products. The technologies are also labour and time intensive and result in low-quality products. The technologies do not assure product quality consistency and economies of scale.

**Bottlenecks**

- Insufficient value chain finance, particularly at processing level.
- Lack of interest in, and finance for, processing equipment (medium term financing).

### C.6.5 Strategic option proposed

IITA, ISAR, and EARRNET are involved in the cassava industry in East Arica and Rwanda. Whereas IITA and ISAR focus more on agronomy, planting material and combating the cassava mosaic disease, efforts by ISAR are directed towards introducing improved processing...
technologies. It is unclear how this initiative will include finance and also cassava trade to ensure it is sustainable. The strategic intervention would therefore be to encourage experimentation with lease finance for cassava processing, pulling in banks such as BPR and linking it with trade finance to ensure suppliers can sell their cassava. IITA and ISAR have to be close collaborating agencies in this initiative, so as to ensure their efforts succeed (i.e. that increased and better-quality cassava has a market).

As in the case of the wheat value chain, the introduction of a facilitator (some of the NGOs working in food security in the country) may contribute to developing linkages between producers, processors and financial institutions to roll out both trade and processing finance.
C.7 Dairy value chain

C.7.1 Dairy 2008 estimated statistics

- Total production: 185 million litres of milk
- Yield per cow: 3.2 litres
- Size of the milking cattle: 157,000
- Zones grown: All the areas in the country

C.7.2 Dairy value chain
C.7.3 Dairy value chain – SWOT analysis

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The sector is receiving a lot of support from the GoR. The most important initiative is PADEBL, which has two components:</td>
<td>Only a small percentage of the Rwandan national herd consists of improved breeds. That is one of the factors contributing to low yields in the sector.</td>
</tr>
<tr>
<td>- One cow, one poor household (Girinka) programme, aimed at providing the poorest households in the country with support to raise milk for home consumption.</td>
<td>- The predominant production system relies heavily on naturally growing or cultivated grass – mainly open grazing and some semi-grazing farmers. The dairy industry therefore succumbs easily to vagaries of weather.</td>
</tr>
<tr>
<td>- PADEBL chilling plants – the milk collection centres (MCCs) Milk Farmers Cooperatives, which is the potential entry point for designing a dairy value chain finance support.</td>
<td>- The use of agricultural inputs for dairy is still at very low levels: bran for feed (e.g. maize), salt blocks and treatment for ticks and worms. Such inputs are also mainly sourced from Kigali, far from production areas.</td>
</tr>
<tr>
<td>OPPORTUNITIES</td>
<td>THREATS</td>
</tr>
<tr>
<td>Despite the low level of capacity utilisation, processors achieve a profit margin of approximately 15%, which is a good indicator of the potential profitability of the sector.</td>
<td>- The level of capacity utilisation of the installed processing capacity is still extremely low: 20%.</td>
</tr>
</tbody>
</table>

C.7.4 Challenges and bottlenecks from a financial perspective

Challenges

- Increasing production remains the key challenge in the dairy value chain. In order to do so, it is critical to create an optimal model of feeding for cattle by breed that is based on a cost-benefit analysis. This also entails developing financial models to facilitate the purchase of feed, as prescribed by the feed model, through negotiations with suppliers.

Bottlenecks

- Insufficient value chain finance, particularly at primary production level.
- Lack of interest in, and finance for improved breeds and feed (medium term financing).

C.7.5 Strategic option proposed

The PADEBL project, despite some challenges and inefficiencies that have been reported in the one cow per family component, is a sound foundation for further development of the Rwanda dairy sector. As mentioned above, major improvements are clearly required at the production level,
followed by further strengthening of the MCCs. The use of better inputs (improved feeds, nutrient supplements, veterinary services and improving the cow breeds) is critical to improving the dairy sub-sector.

The optimal solution might be for PADEBL to go further and facilitate a value chain finance arrangement to enable dairy farmers to access required inputs, increase production and supply milk conveniently to MCCs, noting, however, that transport costs are significant.

The most feasible way to achieve this could be to support the MCCs in building their capacity to become the node at which financial institutions will draw repayments from loans extended to dairy farmers. To achieve this, PADEBL could facilitate the development of a dairy improvement contractual inputs and services credit scheme by bringing together financial institutions (perhaps initially BPR, but more should be invited to participate), animal feed and chemical suppliers and the artificial insemination service providers (formerly supported by the GoR through grants). Disbursed loans to such farmers can be collected following sales of milk at the MCC. Input suppliers and service providers could also benefit by receiving credit from this arrangement. The Rwanda Agricultural Guarantee Fund – discussed in Annex G – may also be a useful facilitator by guaranteeing such loans.

NGOs – such as ‘Heifer International’ and ‘Send a Cow’ – in liaison with PADEBL, can also provide technical expertise and support to enable farmers to access improved breeds.

The proposal is therefore not to design a new project but simply facilitate PADEBL in taking the next step in pursuing its primary objective of developing the dairy sector and, in doing so, making use of the opportunity provided by the financial market.

**Figure C.3  Model for dairy value chain finance**
C.8 Dealing with informational bottlenecks in Kenya and Tanzania

A whole range of information gaps and asymmetries of different kinds have been identified in this annex and in other parts of the report. In this section, two examples are given of efforts to tackle these bottlenecks that might be considered for use in Rwanda: the Kenya Agricultural Commodity Exchange Limited and the piloting of AGFiMS in Tanzania.

Kenya Agricultural Commodity Exchange Limited (KACE)

KACE is a private-sector firm facilitating competitive and efficient trade in agricultural commodities. It delivers reliable and timely marketing information and intelligence, provides a transparent and competitive market price discovery mechanism and harnesses and applies information and communication technologies (ICTs) for facilitating trade and information access and use. KACE currently operates in Kenya but its plans and mandate are to scale out to the East African Community (EAC). Rwanda, with its immediate need for such services, could therefore conveniently facilitate its extension into the country.

The objectives, mandates and areas of operation of KACE include:

1. To facilitate domestic, EAC regional and international trade in agricultural commodities and services;
2. To provide farmers and other commodity value chain actors (e.g. input suppliers, traders, brokers, processors and consumers) with reliable and timely marketing information and intelligence, and other services that enhance their bargaining power and competitiveness in the market place;
3. To provide a transparent and competitive price discovery mechanism through the operation’s physical and virtual trading floors of the exchange; and
4. To harness and apply modern information and communications technology (ICT) to facilitate trade and information access and use.

KACE has gone beyond physical contacts and effectively deploys radio and modern ICT mechanisms. The organisation has developed a number of trading floors to facilitate commodity trading by actors in commodity value chains. These include physical markets, referred to as MRC Trading Floors (MTF), a Radio Trading Floor (RTF), an online trading floor (OTF) and a Mobile Phone Trading Floor (PTF). While the first three have been developed, the fourth one is still under development. MTFs are simply physical trading boards at designated market areas, where clients place offers to sell and bids to buy at a small fee, and KACE helps to match the offers and bids. The RTF is the Soko Hewani (The Supermarket On Air), currently offered through West FM radio based in western Kenya. Plans are underway to scale it up to a national level and this could go further to an EAC regional level. The OTF is available and can be accessed at the KACE website.

In the case of Rwanda, the issue would be to invite and facilitate KACE to open a branch and link it with the young commodity-trading programmes in the country. The private-sector structure of the organisation and the high business acumen for its sustainability are the essence here. It is crucially important for its long term survival and for building confidence in the market. Further information and contacts can be found at www.kacekenya.co.ke.

AGFiMS in Tanzania

AgFiMS is a new agricultural financial markets diagnostic being piloted by the FSDT in collaboration with the Gatsby Charitable Foundation and the Rockefeller Foundation.

The underlying premise behind AgFiMS is that the lack of good quality information on the nature of demand for agricultural finance contributes to a lack of investment in the sector. Better information would therefore help to increase the flow of finance into the agricultural sector, which in many countries, notably in sub-Saharan Africa, operates far below its potential.
AgFiMS has a demand- and a supply-side component.

- The demand-side component, modelled on the FinScope surveys, comprises a survey of agricultural enterprises, from small farms managed on a commercially sustainable basis up to large processing or trading companies, across three broad categories – producers, processors and service providers.
- The supply-side component seeks to quantify how much finance there is in agriculture, deployed through the various financing channels, including agribusinesses (for example, input providers).

The intended audience for the AGFiMS research is as follows:

- Providers of financial services – to help identify market opportunities, enable new providers to enter the market, support new product development and build capacity in the supply of agriculture finance.
- The donor and foundation community – to determine the size and nature of the financing gaps and guide the design of appropriate instruments that support or catalyse a private-sector response.
- The government (including finance and agriculture ministries, central banks and central statistics offices) – to benchmark the extent to which financial institutions in their country presently serve agriculture, and to prioritise public interventions that stimulate the greater provision of financial services for agriculture.
Annex D  Collateral management and warehouse receipts

D.1 Introduction

Rwanda’s agricultural strategies place a heavy emphasis on farmer cooperatives and rural agricultural linked SACCOs. There is a need for such organisations, and for individual farmers, to finance the post-harvest handling and marketing of their produce. A collateral management system through warehouse receipts is a widely used mechanism for achieving this purpose.

Collateral management entails a tripartite relationship between:

- a lender – a financial institution such as a bank, an MF or a SACCO;
- a borrower/depositor – a farmer or a farmer cooperative; and
- a warehouse/collateral manager – an independent entity separate from the two.

The arrangement is for a borrower to deposit assets (crops) with a warehouseman, who takes full control of the assets and issues a WHR to the borrower. The lender then advances a loan to the borrower, using the WHR as collateral: the borrower’s assets in the warehouse are pledged against the loan.

In an economy like Rwanda that has experienced serious non-performing commercial bank loans in the agricultural sector, several instruments have to be in place to raise confidence amongst banks. One of them is collateral management to serve the warehouses and the WHR systems. Collateral management can be said to be the heart of a successful WHR system.

The increased productivity and overall production of staples in Rwanda – maize, beans, rice, wheat, cassava, etc. – and also growth in the coffee sub-sector all point to the need for an efficient post-harvest management system. Critical to such a system is a mechanism that will ensure secured storage of produce, in terms both of biological quality and of financial feasibility. Collateral management is the best option for achieving such an objective. Firms working in this area can offer impartial professional services in support of local, regional and even international trade, linking Rwanda’s commodity chains to lucrative markets.

Rwanda currently lacks the institutional structure, the legal and regulatory framework and the skills needed for the operation of such a system. Assuming that it is agreed that a WHR system is to be promoted in Rwanda, a detailed plan will need to be drawn up to put these elements in place. The key elements required are outlined here.

D.2 Institutional arrangements

The management of the system is often undertaken by independent specialised companies. There is room both to develop such companies and to persuade banks to invest in subsidiary companies to perform the function, as is now common practice in Mexico, Columbia, Brazil and Paraguay, as well as many high-income countries. Such firms will be watching over the collateral on behalf of the lender on a 24-hour basis, stationing dedicated staff at warehouses. The firm will generate daily, weekly and monthly stock movement reports, as well as regular and irregular reports on the status of the physical warehouses. Releases of assets are monitored and reported by staff as soon as such transactions are effected. Due diligence covering the key business areas also needs to be undertaken to ensure that the sub-sector is viable and that clients are creditworthy.

Advances in technology mean that WHRs can now be issued either electronically or as hard copies, both with well developed security features.
Figure D.1 illustrates the transactions using a SACCO as the farmer credit management agent, though the role could equally be undertaken by a farmer cooperative. We mention both because of the relatively underdeveloped state of SACCOs in Rwanda and the prominence of farmer cooperatives in some areas that grow Rwanda's staples (including some directly linked to SACCOs).

**Figure D.1 Collateral management and warehouse receipt system**

1. Farmers or farmers’ cooperatives deposit their produce in designated warehouse(s) under the full control of a collateral manager.
2. The collateral manager issues a Goods Received Note and Warehouse Receipt to the farmers, copies of which are sent to the financial institution (Bank or MFI).
3. After entering into a tripartite agreement with the bank and the collateral manager, the farmers’ cooperative (or farmers through their SACCO) applies for loan from the bank based on the estimated values of the farmers’ produce as pledges.
4. The financial institution approves the loan applied for by the farmer cooperative or SACCO and disburses the loan funds.
5. The collateral manager issues regular reports on stock movements to both the bank and the farmer cooperative or SACCO, preferably on a weekly basis, though either party can request reports at any time.
6. The farmer cooperative or the SACCO issues reports to the financial institution detailing the loan movements and changes in collateral.
7. Individual farmers who need loans against their stocks apply for them from the SACCO or farmers’ cooperative according to a prior agreed amount, based on the value of produce a farmer contributed to the stock at the warehouse. The farmer attaches with the loan application form the Goods Received Note, the Warehouse Receipt and a Letter of Hypothecation.
8. The farmers’ cooperative or SACCO approves and disburses the loan to the applying member.
9. The farmers’ cooperative or SACCO monitors repayments by making sure that the buyers of produce from the warehouse pay directly to the bank before issuance of release orders to the collateral manager. The financial institution also issues a release order to the farmers’ cooperative or SACCO.
10. Upon receipt of a release order from the farmer cooperative or SACCO, the collateral manager releases the produce to buyers.
11. The financial institution deducts its interest and fees, then credits the balance into the account of the farmers’ cooperative or SACCO.
12. The farmers’ cooperative or SACCO pays the balance either in cash or by crediting the members’ account.

D.3 Applicability to Rwandan value chains

At a meeting of the ASWG on 26 May 2011 and in subsequent correspondence, questions were raised about the viability of the proposals for collateral management and WHR systems in this report, as specified in Annex C.

The view was expressed that in the relevant crops there may be significantly more special arbitrage in the market than temporal arbitrage. In other words, people may move goods from one place to another in order to get a better price, but they do not, according to this view, store goods in order to get a better price at a later time. Part of the reason, according to this view, is that while there has been an overall upward trend in prices, there are not consistent significant jumps in prices over the course of a year.

In these circumstances, storage would only be needed for inventory management by processors, and there would not be sufficient scope for a vigorous collateral management and WHR system.

There is some force in this argument if one is principally concerned with food security within a specific production locality and to some extent very much focussing on the domestic market. But, even in that case, the argument would rest on the assumption that there are not significant fluctuations in seasonal (and cyclical) prices. However, there are reasonable (and sometimes large) price fluctuations in the relevant crops, as shown in Figure D.2.

Such fluctuations could be small within a specific production locality, considering the seasonality of some crops, but it is also necessary to consider the regional dimension. Commercialisation of all the commodities dealt with in this report entails supply chains that extend out of production areas in Rwanda and beyond to bordering countries. Sustaining the enhanced productivity and increased output achieved in recent years will require the seeking out of markets that are distant from the production areas, both within Rwanda and, especially, in regional markets. Local markets within production areas (where there may be few or no seasonal price fluctuations) and even within Rwanda (where there are fluctuations) are unlikely to be able to absorb the increased output. This may indeed be the case even if the GoR builds strategic reserves by buying some of the output.

The argument for the development of the system is premised on the trends observed to date in both temporal and spatial price fluctuations. But in the course of the analysis and consultation proposed in Section 2.3, the argument will need to be tested and refined before final decisions are taken on the system to be introduced for any specific product. This work will build upon the experience already gained through the inventory credit system already being piloted for certain crops.

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24 A member of the ASWG, Charity Hanif, defined the distinction thus (in an e-mail to Robert Stone, 30 May 2011): Spatial arbitrage refers to the tendency of the market to ship goods from one location to another whenever the price difference between the two locations is large enough to cover the cost of transportation. Temporal arbitrage refers to the tendency of the market to store goods from one time period to a later period whenever the expected increase in price between the two time periods is large enough to cover the full cost of storage, including a normal profit and risk premium.
Figure D.2  Changes in prices of selected crops, January 2006-July 2011

MAIZE
Percentage change in national average price, month on month, Jan 2006-July 2010

MAIZE
National average price RWF/Kg, Jan 2006 - July 2010

RICE
National average price RWF/Kg, Jan 2006 - July 2010

RICE
Percentage change in national average price, month on month, Jan 2006-July 2010

MILK
Percentage change in national average price, month on month, Jan 2006-July 2010

BEANS
National average price RWF/Kg, Jan 2006 - July 2010
D.4 Legal and regulatory framework

A collateral management and WHR system obviously requires a robust legal and regulatory framework to ensure that the responsibilities of each of the parties are clearly prescribed and to ensure the robustness of the collateral. Based on the experience of other countries, and the views expressed by the banks in Rwanda, this is likely to need new legislation in the form of a Warehouse Receipt Act, a Warehouse Receipt Regulations Act, regulation under the Acts and possibly a WHR regulatory body such as an Agency, or as part of an existing regulator. The role of the regulatory body would include the following:

- Ensuring the establishment and maintenance of an accurate information system.
- Determining the conditions for issuing WHR system licences.
- Suspending or revoking any licence issued to any warehouse operator for failure to comply with any provision of the Act or regulation.
- Examining books, records, papers and accounts of warehouse operators.
- Determining whether the warehouses are suitable for receiving, storing and handling of commodities.
- Investigating the receiving, storing and handling of commodities and complaints about any warehouse.

D.5 Capacity building required

The services that need to be offered in this system, and hence the skills that need to be developed in Rwanda, include:

- Collateral management;
- Stock monitoring;
- Stock audit;
- Stock insurance arrangements;
- Market information management;
- Clearing and forwarding services;
- Warehouse receipt processing and recouping;
- Trust receipt management;
- Monitoring and policing warehouses; and
- Warehouse receipt ‘negotiations’.

In line with international experience in this area, it is suggested that the most effective way of building the skills and capacity to provide these services is by creating a dedicated office within MINAGRI. This office would also be ultimately responsible of overseeing and regulating the sub-sector. In very large countries like Tanzania, this has been elevated to a fully fledged Warehouse Receipt System Agency. In the case of Rwanda, a smaller unit may suffice, at least at the outset. To be fully effective, this unit will need to be vested with full regulatory powers.

Once the unit is established, it would be advisable to engage organisations with expertise and experience in this area to provide technical assistance both for establishing the regulatory framework and also for training the human resources and providing other forms of capacity building. The Agriculture Management and Infrastructure System (AMIS) is a private agribusiness service-providing firm that has accumulated a wealth of WHR system development experience in
East Africa, particularly in Kenya, Tanzania and Malawi. MINAGRI could engage this firm to articulate how best to develop the WHR system for a selected set of crops in Rwanda.

A key issue to take into account when designing the regulatory framework for WHRs, and the associated training, is how it may fit within the regional context. Experience indicates that regional integration brings into play challenges of a slightly different nature from those found exclusively at domestic level. Models designed to handle domestic market systems alone may perform badly when called to address the challenges that come with regional integration. It is therefore imperative that the WHR system development process in Rwanda engages regional bodies that have mandates on the same issue. A good example is the Natural Resources Institute (NRI), which is a consortium funded by the common fund for commodities (CFC). It is tasked with helping countries establish commodity trade finance systems based on inventory collateralisation and warehouse receipts.²⁵

²⁵ Currently, the NRI consortium is subcontracted to the UNOPS as a project-executing agency for projects being implemented in three countries: Tanzania, Uganda and Zimbabwe. The projects are: Coffee Market Development and Trade Promotion in Eastern and Southern Africa (CFC/ICO/03FA) and Improvement of Cotton Marketing and Trade Systems in Eastern and Southern Africa (CFC/ICA/12FA). This agency, with clear regional roles and teaming up with AMIS, could also be contracted to contribute to the development of the Warehouse Receipt System in Rwanda. Through engaging NRI in the RAFSS process, Rwanda will also be able to tap resources and expertise provided by the secretariat of the Common Markets for Eastern and Southern Africa (COMESA) and the Alliance for Commodity Trade in Eastern and Southern Africa (ACTESA), both being key partners of NRI’s operations in Eastern Africa. Further information and contacts, can be found at www amisinterag.com and www.nri.org/projects/wrs.
Annex E  Financial sector policy and regulatory environment

Oversight of the financial sector in Rwanda is the responsibility of BNR. The main mission of BNR is to ensure and maintain price stability, to enhance and maintain a stable and competitive financial system without any exclusion and to support the GoR’s general economic policies. As a regulatory body, BNR defines and implements monetary policy, organises, supervises and regulates the foreign exchange market, supervises and regulates the activities of financial institutions (notably banks, MFIs, insurance companies, social security institutions, collective placement companies and pension funds institutions), supervises and regulates payment systems, mints and manages money, holds and manages official foreign exchange reserves, acts as a banker of the GoR and carries out other tasks that the laws of the country may assign to it.

From 2005 to 2010, the GoR introduced a range of policy and regulatory initiatives to strengthen the country’s financial services sector, as described in the recent supply-side study by Genesis Analytics (Napier, 2010a). The FSDP is a key component of the EDPRS, with financial inclusion being a core objective of the FSDP.

Many other policies and regulatory changes directly have an impact on the financial sector’s development and specifically on inclusion. These include the National Microfinance Policy Implementation Strategy (NMPIS) and the subsequent Microfinance Law No. 40/2008, as well as aspects of the National Savings Mobilisation Strategy (NSMS). Legislative changes have also been accompanied by both reform of the payments system and the introduction of a new credit bureau.

The NMPIS was introduced by MINECOFIN in 2007 to implement the 2006 Microfinance Policy. The strategy aims at bringing inclusive, diverse and sustainable financial services to the majority of poor households by 2011.

The NSMS was approved in 2009, bringing together a number of savings-related themes, including those referred to in the FSDP. It is a coordinating framework for existing policy initiatives relating to savings as well as a catalyst for new initiatives. It aims at boosting national savings in line with EDPRS and the goals of Vision 2020. The strategy is administered by the Financial Sector Development Secretariat in MINECOFIN. The four pillars of the NSMS are:

1. Conversion of the Caisse Sociale into a provident fund;
2. Introduction of private pensions and collective investment schemes;
3. The Umurenge SACCO programme; and the

A number of non-legislative initiatives have also had an impact on the financial sector. For example, the central bank has reorganised its Bank Supervision Department to include three directorates under a Senior Director of Financial Stability, a Microfinance Supervision Department with 13 supervisors, a Non-Bank Financial Institutions Supervision Department with 12 supervisors and a Banking Supervision Department with 11 supervisors. This has improved the supervisory focus of the NBR, although with staff turnover still uncomfortably high capacity remains strained. Another non-legislative initiative is the skills audit process promoted by the NBR as a first step towards understanding what needs to be done to upgrade skills across the financial sector.

We concur with Napier (2010a) that the greatest weakness in the policy and regulatory environment for the financial sector is perhaps the lack of a single policy framework or mechanism, within which the effectiveness of all the policies that have an impact on financial inclusion can be monitored. In addition, the policy environment may be generating inadequate incentives to prompt a more rapid development and growth of rural and agricultural finance. To the extent that these
challenges and bottlenecks have an impact on agricultural and rural finance, the implications are drawn out in the main report.
Annex F  Product innovation: Country references

This annex summarises a number of cases of successful innovation from which lessons might be drawn for the RAFSS. The first section deals with linkage banking, perhaps the most promising technique for the transformation of rural and agricultural finance in Rwanda, and the second section covers other types of innovation. It is not suggested that the products and services described in these case studies are directly replicable in Rwanda, but that they illustrate the kinds of innovation that might be possible: the key lessons for Rwanda are drawn out at the end of each section.

F.1 Linkage banking

F.1.1 Introduction – why financial linkages matter

International experience indicates that creating financial linkages between financial institutions and other types of institution (or between formal and other financial institutions) increases the availability of finance and widens the product range accessible to the unbanked population. A deeper and more diversified financial system in turn delivers dynamic benefits that enhance financial stability over time, which is one of the pillars of economic development Rwanda needs to become a middle-income economy by 2020.

This annex cites a selection of successful cases of linkages between financial institutions (both formal and informal), as well as between financial institutions and non-financial institutions, from around the world. The cases of India and Brazil are particularly relevant, as they are middle-income countries that have achieved the kind of economic success that many other developing countries aspire to replicate. The annex concludes with some lessons learnt and how they can be applied in Rwanda.26

F.1.2 Country references

Brazil: Using the ubiquity of agents to expand financial services

Brazil is seen as a global leader in branchless banking and an example of how banks have created wide-reaching branchless channels that use cards and POS devices at various retail locations. Since 2002, all municipalities in Brazil have had access to formal financial services. This is a massive achievement considering the challenges posed by geography, with more than 5,500 municipalities in the country being spread over a surface of more than 8.5 million sq km. With a population of more than 198 million (2010 estimate), approximately 30 million people have risen out of poverty in six years.

Brazil’s success is a result of 10 years of back-to-back regulatory steps, evolving from more restricted possibilities to less stringent licensing conditions. Brazil has the largest agent network in the world, with more than 113,000 agents, close to 40,000 of which offer a broad range of banking services including cash-in, cash-out, bill payments, and account opening and loan applications. Agents in Brazil conducted 2.4 billion transactions in 2009. Agents are also critical to delivering the government’s social welfare grants on time and cost-effectively to more than 12 million families.27

While these figures are very impressive, this case study is particularly relevant because of the nature of the agents operating in the country. Unlike Kenya, where branchless banking is conducted via mobile phones, the system in Brazil is bank-based and card-based, with

26 For a note on linkage banking schemes in Africa, see Robert Stone and Abigail Carpio, ‘Linkage banking and insurance schemes: Formal and informal providers combine to deepen the markets,’ in Napier (2010b).
transactions happening at POS devices at each agent location. POS locations range from post offices to corner stores and small lottery outlets, at which clients can receive their social payments and access their bank accounts.

Agents must be authorised by the Central Bank of Brazil and a bank is held fully responsible for the actions of its agents. Under this model, customers can recover from either retail agent or bank in case of fraud, negligence, etc. and banks must establish internal controls to provide for systematic monitoring of the activities performed by agents.

F.1.3 India: Differences in size do not matter when it comes to financial linkages

With total assets of US$ 81 billion at March 2010, ICICI Bank is the second largest bank in India. By all standards, ICICI is a giant. That did not, however, prevent them from using linkages with tiny informal self-help group (SHGs) as a way of expanding financial services to serve poor customers in rural areas, mainly in the state of Tamil Nadu.

SHGs are informal village savings and loan groups, with between 10 and 20 women forming a group on their own initiative, or with the help of an NGO or other self-help group promoter. Each member saves a small regular amount and the group uses their accumulated savings either as a pool to be lent out to those members who need it or to open a savings account with a nearby commercial or cooperative bank, or both. The Reserve Bank of India (RBI) has, since 1994, allowed unregistered groups to open savings accounts and to borrow from banks.\footnote{28}{Tontine and Ikiminas in Rwanda operate in a very similar way to SHGs. They are also allowed to open accounts with banks.}

The programme under ICICI depends on the training and empowerment of women in a three-tier system. The bank recruits experienced members of SHGs to become social service consultants, who form new self-help groups in neighbouring villages. The bank also hires coordinators that oversee the activities of six consultants and 120 SHGs. A bank project manager is assigned the responsibility of working with the coordinators, training the SHGs, and reviewing loan proposals. ICICI charges 18% interest on its microloans, higher than normal commercial rates but much lower than rates charged by traditional village money-lenders, and indeed lower than many non-profit MFIs. Since 2001, the programme has grown to more than 8,000 SHGs and is continuing to expand rapidly.

In addition to working with SHGs, ICICI also works through indirect channels to catalyse MFIs by providing them a line of credit to cover cash flow needs for the first three years of activity. ICICI has also made equity investments in some MFIs. Additionally, ICICI has started to partner with enterprises that are building networks of internet kiosks in rural areas.

The SHGs in ICICI’s direct service model build self-confidence, group solidarity and governance skills, while also instilling the habit of regular saving. Some SHGs have developed their own welfare funds that act as a kind of life insurance for group members. A study of some 220 SHGs by the National Bank for Agriculture and Rural Development found that micro-lending had a positive impact on income levels, self-confidence, communications skills, and enhanced participation in household decision-making, and were correlated with a decline in such social problems as drinking and domestic violence.

F.1.4 Ghana: Barclays and susu collectors working hand in hand

In Ghana, susu collectors operate mainly in local markets, their function being to handle the cash of microentrepreneurs or traders – both their savings and their loans.\footnote{29}{In the Akan language, esusu/susu means "small".} There are thousands of

\footnote{28}{Tontine and Ikiminas in Rwanda operate in a very similar way to SHGs. They are also allowed to open accounts with banks.}

\footnote{29}{In the Akan language, esusu/susu means "small".}
susu collectors in Ghana, each with hundreds of clients, from whom they collect small amounts each day, charging a fee for looking after their savings.

Hitherto, susu collectors have had limited capacity to provide lending services, as most of them do not have the capital to become significant providers of credit to their customers. This is where Barclays Bank Ghana stepped in. Barclays Bank understood the strength of susu collectors as financial service agents to micro-clients and as mobilisers of small-balance deposits. The bank decided to establish a partnership with the susu collectors in order to reach the lower end of the market more effectively. The existence of associations like the Ghana Cooperative Susu Collectors Association gave the bank a means of providing services to the collectors, including loans for on-lending to their clients, without establishing partnerships with each of them individually, which would have been prohibitively expensive. The uniqueness of this partnership stems from the way two radically different financial intermediaries – at opposite ends of the spectrum in terms of size – have linked together in a manner that enables each to benefit from the strengths and advantages of the other.

Through these partnerships, Barclays Bank is able to reach out to unbanked segments of the market that have been served by these intermediaries over the years. This is viewed by the bank as a means of gaining crucial information about the market, both the end-clients and their agents or intermediaries, and to provide the bank with greater exposure to groups of clients that may not be familiar with the products and services offered by Barclays Bank, or indeed any bank. By February 2007, that is only two years after the project began, the scheme had already generated almost US$ 2 million in new deposits for Barclays. For their part, the partner financial intermediaries benefit from having access both to capital and to the capacity-building programmes made available by the bank. (Napier, 2010b)

F.1.5 Tanzania: The relationship between commercial banks and SACCOs

CRDB Bank is the fifth largest bank in Tanzania, with a total asset valuation of over US$ 1.5 billion. The bank was formed when the former Cooperative Rural Development Bank, which was wholly government-owned, was privatised, recapitalised and restructured. Given the historic involvement of CRDB with rural areas and cooperatives, and the equity holding of Danida, CRDB's venture into rural finance seemed a natural extension of its former activities and a reflection of its broader social goal.

The linkage model with local SACCOs was based on the idea that both depth and breadth of outreach could be achieved in a self-sustainable manner only through local financial intermediaries that could provide a broad set of services through a large network to the currently under-serviced segment of the market. SACCOs, therefore, were the natural partner for CRDB.

In 2004, CRDB formalised this initiative and the CRDB Bank Microfinance Company Limited (MFC) was registered as a separate company. The nature of the linkage between the MFC and the SACCOs is manifold. Support ranges from assisting a community in the formation and registration of a SACCO to capacity building and on-going technical assistance. The selection of existing SACCOs is not based on historical performance but on the SACCO’s commitment to learning, their willingness to provide CRDB with required information, experience with/prevalence of fraud and how the SACCOs were managing them.

Since the model was conceived in 2001, CRDB has developed links with a total of 425 partners spread through 112 districts of Tanzania, a coverage of 82% of all 136 Tanzania mainland and island districts. In total, they serve more than half a million clients. By December 2009, CRDB’s
outstanding loan portfolio in this area was US$ 45.6 million, with a loan repayment performance of 97%. Partners' deposits with CRDB amounted to US$ 8.2 million.\(^{30}\)

**F.1.6 The Philippines: The role of apex in expanding financial services in rural areas**

The Philippines is an archipelago in the south-eastern part of Asia composed of 7,100 islands with a population of approximately 86 million, 60% of whom reside in urban or urbanised areas. The Philippines has one of the highest levels of income inequality in Asia, with the poorest 20 per cent of the population accounting for only 5% of total income or consumption.

Because of geographical conditions in the country, provision of financial services is expensive. For that reason, in the past the Government of the Philippines created subsidised financial programmes targeted at the poor, which were ‘costly and unsustainable, leading to gross inefficiencies, financial market distortions and a weakening of private-sector incentives to innovate.’\(^{31}\)

The Peoples Credit Financial Corporation (PFDC) is a publicly funded institution created in 1994 aimed at providing access to credit for the poor. Since its creation, PCFC has developed linkage models with MFIs for financing the microenterprises of poor women and men. PCFC partners include the rural banks, cooperative banks, thrift banks, NGOs and cooperatives that implement credit programmes using any proven microfinance lending methodology to finance livelihood projects that can augment the income of targeted poor clients. Three major sets of criteria comprise the preconditions for PCFC linkage, and they apply to all types of MFIs, which must pass institutional, financial and lending performance criteria as well as provide appropriate documentation.

At February 2011, PCFC’s 151 partners are present in 129 out of 131 major towns in the Philippines, and in 82% of the municipalities of the country. They provide financial services to almost 3 million clients. PCFC’s outstanding portfolio is US$ 82.7 million.\(^{32}\)

**F.1.7 Lessons learnt**

These five case studies offer a shopping bag of options, from commercial banks creating links with village savings and loan associations, to a publicly-owned apex developing linkages to increase access to and use of financial services. In all cases, linkages offer mutually beneficial solutions for both formal and less formal financial institutions, as well as for non-financial actors. In particular, they have allowed institutions to overcome either geographical limitations in their branch networks or asymmetries of information with poor clients in rural areas, or both, to serve clients that would otherwise have been impossible for the institutions to reach cost-effectively.

The four main lessons to be derived from those case studies are:

- **All cases were successful because they were capable of making the most of the potential of their partners** – SHGs in India were not rejected because they were small; susu collectors were not rejected because they were informal; MFIs and SACCOs in the Philippines and Tanzania were chosen as valid partners despite the fact that they do not possess the


financial muscle of formal banks; and corner stores and small lottery outlets in Brazil are now a critical part of the branchless banking network in the country because they had what banks did not – physical presence throughout the country.

- **In the cases of the linkages presented above, considerable efforts were devoted to building the capacity of the less formal partners.** In some cases, other institutions (like Danida in the case of Tanzania and PCFC’s international partners in the case of the Philippines) played a facilitator role, which included assistance on how to select good partners, to design appropriate linkage contracts, to develop adequate procedures to handle the new line of business, to hire new or train existing staff to manage and develop linkage partnerships, to use cost-benefit methods to accurately assess the profitability of new services or products and to develop integrated MIS systems that account for new business as a result of linkages.

- **The studies show how the development of a country’s financial system dramatically affects the potential for financial linkages.** Thus, in countries where formal and less formal institutions are both weak, the potential for linkages is extremely low. In contrast, in countries where formal and less formal institutions are both strong, the potential for linking is high. Conning and Kevane (2002) use the analogy of islands (institutions) linked with bridges (transactions), and indicate that: “Where financial intermediation is more developed, a dense network of actual or potential bridges across islands will be in place.”

- **One of the significant observations emanating from the research is that linkages between two financial institutions are rarely spontaneous.** The evidence indicates that the direction of or impetus for the linkage is often from the more formal to the less formal, and the driver or motivator for the linkage is often external rather than internal.

### F.2 Other product innovations

In this section, examples are presented of product innovation in four areas: asset finance, factoring, business development services and microinsurance. The list is not intended to be exhaustive (a range of other cases are discussed in the references cited here), but to illustrate how successful product development has been undertaken in rural and agricultural financial services in other countries.

#### F.2.1 Asset finance: leasing and matched savings

The analysis of the value chains in Annex C indicates that the financing of equipment and other assets is a binding constraint at the post-harvest storage and marketing level and a significant constraint at the primary production level. Leasing is an important tool for financing equipment, as it obviates the need for farmers and small businesses to provide another form of collateral: the leased asset can be used as security for the loan. Yet, as indicated in section G2.2 of Annex G, leasing has not yet been widely used in Rwanda.

**Burkina Faso: leasing and for SMEs**

The example of Burkina Bail in Burkina Faso illustrates how leasing services can be successfully launched for small businesses even in a country where leasing is not widely understood and where, initially, there was no specific legal framework governing the leasing business. Burkina Bail (*bail* means leasing in French) was established in 1996, a joint initiative of Banque Internationale de Burkina (BIB), Burkina’s largest bank, Finance for Development (FMO), the Netherlands development bank, and Cauris Investissement, a private equity firm. FMO was the technical partner, providing funds, advice and contacts for the newly established company. By 2008, Burkina Bail has a total portfolio value of CFA 7.3 billion (US$ 16.6 million), with loan repayments outstanding >90 days of only 4% (the case is described in Napier, 2010b).

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Leasing was relatively new to the country when Burkina Bail started: another company had previously tried to launch leasing services but had failed. The key ingredients of the success of Burkina Bail appear to have been the following.

- When Abdoulaye Kouatifann Sory took over as CEO in 2000, he spent a lot of time identifying potential customers and meeting them at their offices. This, he says, enabled him to ‘develop a relationship of trust’ and ‘enter into a partnership with’ his clients.
- This is an example of Burkina Bail’s wider use of a personal, one-to-one approach which was a key feature of the company, important in a country where small businesses, many run by entrepreneurs with no more than primary education, were unfamiliar with banking practices and requirements in general and leasing in particular.
- The previous company had failed partly because it offered a narrow range of products, for construction equipment only. Learning from this mistake, Burkina Bail was careful to widen its customer base by offering leasing for a wide range of equipment. They lease both standard and sophisticated equipment to SMEs, including industrial machinery and generators, ICT hardware and medical equipment, as well as vehicles. They will consider any piece of equipment provided the client can clearly demonstrate the business case.
- The government and regulators were supportive of the Burkina Bail initiative, supporting the need for appropriate regulation (though problems remained over taxation issues).
- Finally, given the shortage of people with the required skills and competencies to manage a leasing business, Burkina Bail invested a great deal of time in skills acquisition, from the CEO downwards. FMO supported this process by putting the company in contact with other leasing companies, arranging study tours for the CEO to visit them, and financing the required staff training.

**USA: matched savings – the American Dream Demonstration**

Leasing is a product mainly designed to assist SMEs to acquire assets, but asset acquisition financing mechanisms are also being developed in many countries for poor households. Some of these are based on the ‘matched savings’ concept promoted by the World Council of Credit Unions (WOCCU). This approach to offering asset-building savings services involves to directly matching the savings of low-income, economically marginalized individuals. Experiments with products and policies involving matched savings have blossomed in recent years.

Inspired by the potential of asset building and savings, for example, a large-scale program called the American Dream Demonstration (ADD) was designed to test whether low-income families could save if given access to financial services. Families were provided with an array of services such as bank accounts, financial literacy courses and funds that matched the participants’ savings to be used for specified purposes (education, homeownership, or small-business capitalization). The Corporation for Enterprise Development organized the first large-scale program in the United States from September 1997 to December 2001 in 13 participating communities across the nation (Zimmerman and Banerjee, 2009).

About 2,300 participant accounts were managed by 13 host organizations, selected competitively from across the country. All accounts were housed in regulated and insured financial institutions such as banks or credit unions. Matched funds were kept in a separate account and disbursed as either cheques made out to vendors, or reimbursed to participants upon verifying receipts of small businesses or home repair. 80% of the participants were female, the majority between the ages 20 and 49.

**Results:** By the end of the demonstration, 32% of the participants had taken a matched withdrawal. The total amount of matched withdrawals over the period of four years was $672,577. Uses of savings and matched funds included: buying a home (28%), investment in microenterprise (23%), post-secondary education (21%), home repair (18%), and retirement savings (7%). Experience
from such Individual Development Account programs shows that the presence of a match, besides offering an economic incentive, signals to the account holder that saving as a habit is worthwhile.\textsuperscript{34}

This technique has also been piloted in developing countries. Examples cited in Zimmerman and Banerjee (2009) include Assets Africa in Uganda (based on a mobile bank in rural areas) and the Puno-Cusco Corridor Project for rural women in Peru.

In Rwanda, a scheme similar to the Individual Development Accounts pioneered by WOCCU is being piloted for very poor people through the Vision 2020 Umurenge Programme Challenge Fund.

\textbf{F.2.2 Factoring}

Burkina Bail, whose leasing product is described above, expanded its services to include factoring. Factoring is a form of short-term business finance through which a business sells its invoices to a third party, a factor, in exchange for immediate payment. The factor assumes the full risk of collection, including credit losses.\textsuperscript{35} The business thus gets immediate payment, and passes any settlement risk to the factor. Burkina Bail provided this services for SMEs in Burkina Faso, but there are also examples of small scale factoring for agricultural value chains, like Biashara Factors in Kenya.

\textbf{Kenya: Biashara Factors Limited – factoring for tea farmers}

Biashara Factors Limited is the microfinance arm of the Kenya Gatsby Trust. It is a self-financing organisation that does not depend on donor funding for its operations. It gets funds from the Kenya Gatsby Trust in the form of shares and borrows from other financial institutions in Kenya and from foreign organizations such as Shared Interest, a socially oriented lender based in the UK. They have adapted their factoring service for cotton (in Nyanza province), fish (in Lake Victoria), horticulture, coffee and dairying (in Central Kenya) as well as tea (the case below, described in Royal Tropical Institute and IIRR, 2010).

The 3,000 plus members of the Kabianga cooperative in a tea-growing area near Kericho in the Rift Valley decided to reopen a run-down tea processing plant, the Kapchebet factory, and sell their tea directly through the Mombasa auction. The factory is owned by the cooperative and by the farmers. Previously, the farmers had to sell tea either to the Kenya Tea Development Agency, who paid KSh 30 ($0.38) a kilo but took up to three months to pay, or to private traders, who paid immediately but only KSh 10 ($0.13) a kilo. Having borrowed money from a national development bank to renovate the plant, the Kapchebet factory did not have enough working capital to ensure speedy payment to the farmers. So the management approached Biashara for a factoring facility.

After extensive due diligence, Biashara introduced a factoring facility in phases. The facility works as follows.

- The farmers deliver their tea to the cooperative’s collection centres, and the co-op then transports the tea to the Kapchebet factory, which processes it and delivers it to the Mombasa auction.
- Twice a week, the auction house sends a receipt to Biashara listing deliveries of tea it has received from the. The factory provides Biashara with a list of farmers and the amount of tea they have delivered. On the strength of this, Biashara pays out 70\% of the money to farmers (or more, depending on the sales to the auction).


\textsuperscript{35} Thomas Fitch, ‘Dictionary of Banking Terms’, Barrons, New York, 2000
• Making payments to over 3,000 farmers is a daunting task, which Biashara handles by paying into farmers' individual accounts with the co-op, with local banks or through the M-PESA or PostaPay money transfer services. These payments are made within three days of Biashara receiving the auction house’s receipt. The tea delivered to the Kapchebet factory acts as security for these loans.

• When it has sold the tea (about a month later), the auction house pays the full amount to Biashara – up to KSh 10 million ($125,000) a week. Biashara then deducts 10% of the total and pays this into the Kapchebet factory’s bank account to cover its processing services. The bank deducts the loan repayment instalment from the factory’s account. Biashara then pays the farmers the balance of what is due to them, minus 2.5% interest per month. This interest charge covers Biashara’s costs. Biashara currently finances an outstanding balance of about $130,000 between the auction house and the farmers.

• To ensure that the farmers fully understood the factoring process, Biashara offers quarterly training courses for farmers on basic bookkeeping and the importance of sustainable business relationships, and helped the cooperative set up systems to support the process. It covers the cost of these services from its fees.

F.2.3 Microinsurance

Two very different approaches to microinsurance are here cited, both drawn from Napier, 2010b: Microcare in Uganda and MicroEnsure in a range of countries.

Uganda: Microcare

Most Ugandans see serious illness as the greatest risk to their household finances, perhaps not surprising in a country that has battled, with some success, against the HIV/AIDS pandemic. Health insurance therefore should be viable in Uganda and Microcare is demonstrating that it can be. Microcare has two approaches: a community-based model, in which groups pay premiums to a local hospital under a managed scheme, and a more profitable corporate model. Growth is coming from the corporate model but the company says the community-based model is financially self-standing. Microcare has made judicious use of donor funding, both for start-up and expansion but also as a guaranteed insurance fund for the community-based business.

Microcare has three main products:

• Health insurance, which ranges from a basic product for the low-income market to a fully comprehensive plan for the top end;

• Third Party Administration through which Microcare Health manages health funds that company clients have created to cover the medical expenses of their staff and

• Operation of company clinics: as Microcare Health has both medical and administrative expertise, it also manages in-house company clinics, though this is not Microcare Health’s core business.

A crucial element in the Microcare model is its highly sophisticated ICT system. Unlike other forms of insurance where claims per customer are infrequent, health insurers expect multiple claims per family member every year. Managing the volume and integrity of claims can be daunting, but the ICT system that Microcare developed helps the company address this. All Microcare clients receive smartcards on enrolment. The smartcard is used for client identity verification and has photographs of the principal policyholder and all the dependents printed on it. It also shows the group or company to which the policyholder belongs. A microchip carries details on the insurance cover and up-to-date utilisation data.

This client tracking process provides valuable actuarial data and enables an audit of clinician performance and service provider costs. As a Microcare ICT specialists explained, ‘It is our responsibility to control the costs and not allow people to abuse the system. Indirectly you save
30% of the premium costs by avoiding abuses. Then we have done our job, because at the end of the day the poor people are paying the premium.’

**Multi-country: MicroEnsure**

MicroEnsure, the profit-making insurance broking subsidiary of the non-profit microfinance giant Opportunity International has the classic ‘bottom of the pyramid’ profile – very low margins compensated for by high volumes and products poor people need and can understand.

A wholly-owned subsidiary of Opportunity, MicroEnsure acts as an independent microinsurance broker. It works in partnership with Opportunity’s network partners (although the network partners are free to take on any other insurance product that suits their needs), or with other organisations that serve the poor, such as MFIs from other networks, rural banks, SACCOs and humanitarian organisations.

MicroEnsure uses a slightly adapted partner-agent model to structure its partnerships, which they believe to be the simplest, cheapest and fastest way. The model comprises three partners: a distribution partner (usually a social aggregator such as an MFI, NGO or traditional susu collector, that provides access to groups of clients); a licensed insurance company to carry the risk; and MicroEnsure. MicroEnsure provides the product concept, or assists in developing the product in collaboration with the distribution partner and insurer. It also administers the technology-driven back-office system it has developed, and provides technical training and start-up assistance to its MFI partners.

The products broadly fit into the following categories: credit life (protecting MFIs against the inability of borrowers to repay loans because of death or disability); term life (also called funeral insurance); index-based crop insurance, including innovative typhoon insurance in the Philippines; healthcare insurance; livestock insurance; property insurance; packaged insurance (which combines various products). Typically, the products cost between US$1 and US$2 a month. For inpatient healthcare insurance, the amount will vary according to the number of family members covered. Most of the premium covers the underwriting costs of the insurance partners. It also includes a mark-up added by the MFI partners to cover their own costs. Where MicroEnsure has subsidiaries, it prefers to receive its remuneration through commission from the local insurance company on the sale of the products that it has designed. In countries where it does not have a subsidiary, and its partners wish to use its services, it charges via a consultancy agreement.

MicroEnsure is profit-driven because Opportunity believes that this is the best way to pay for MicroEnsure’s fixed and variable costs and to provide for expansion. While unwilling to disclose overall profitability, MicroEnsure says that its pre-tax revenues in key countries usually cover all fixed and variable costs associated with the subsidiaries and the global team.

MicroEnsure has subsidiaries in Ghana, India, Kenya, the Philippines and Tanzania, and also provides services in Bangladesh, Malawi, Mozambique and Uganda.

**F.2.4 Business Development Services**

As explained in listing the bottlenecks to effective rural and agricultural finance in section 1.3(c), lack of skills is an important barrier constraining the development of producers’ organisations. Public actors can play a role providing training and BDS to strengthen the effective demand for agricultural finance. Evidence from other countries indicates that, by improving the ability of farmers and agribusinesses to develop credible business plans and to manage their debt and cash flows, BDS can significantly increase the accessibility of credit to recipients. An excellent example is the Private Agricultural Sector Support (PASS) programme in Tanzania.

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36 Some projects designed to improve the efficiency of values chains by improving agricultural organisation and/or agronomic practices are also called BDS, like the USAID Kenya Business Development Services
Tanzania: Private Agricultural Sector Support

Small- and medium-sized farmers in Tanzania have, for many decades, encountered major obstacles in accessing finance to enable their businesses to grow. The PASS programme was created in 2000 to address this issue, as a project by the Government of Tanzania and the Danish-funded Agricultural Sector Programme Support, becoming an autonomous trust in 2007. Danida was originally the sole funder for PASS, and also provided technical assistance: PASS aims to be operationally and financially self-sufficient by 2012. (This case study is drawn from OPM, 2009)

PASS’s main products are BDS and the provision of credit guarantees through a Credit Guarantee Fund. The BDS element is predominantly the provision of technical support in the preparation of business plans and feasibility studies. Banks in Tanzania have traditionally been reluctant to lend to the agricultural sector but six cooperating banks are now willing to do so as a result of the business plans and feasibility studies and the credit guarantees offered by PASS. PASS has been able to reach an impressive number of SME farmers and agri-businesses, both directly and through SACCOS. By 2009, PASS had facilitated investment worth TZS 58 billion ($44 million) and reached over 1,800 clients directly, which has benefited over 20,000 farmers/agri-business owners. PASS has also reached clients across a variety of agricultural sub-sectors, including rice, dairy, sugar, cotton, tea and paprika and a range of agri-processing businesses.

The role of PASS as a facilitator has been an important factor in the success of the Credit Guarantee Fund. Many general loan guarantee schemes are entirely reliant on the banks to appraise the loans. That may be appropriate in a market where the key requirement is to change the behaviour of bank credit officers. The issues in agricultural and rural finance, however, are far more complex and subtle, which is why many rural loan guarantee schemes fail. PASS’s solution was to support both the banks and the borrowers at every stage, conducing parallel appraisals of businesses and their plans as well as providing BDS services to the borrowers, so that they could act as a true facilitator, a bridge between the bank and the borrower, overcoming misapprehensions on both sides. This has led to more rational, better informed credit decisions by the banks, and greater understanding by the farmers and agro-enterprises of how to manage their debts.

PASS is now very well regarded and positioned as a knowledgeable and efficient facilitator in rural finance. One of its key success factors is that it offers a variety of complementary services to agribusinesses ‘under one roof’. It has also built strong links with key stakeholders in the agricultural sector and with financial institutions, and earned the trust and respect of banks and government. The PASS model has already been replicated in Kenya, Uganda and Mozambique.

F.2.5 Lessons learnt

These examples illustrate how innovative financial products and services can successfully be introduced into the agricultural and rural sectors, with many of the successes having a combination of the following key features.

- All the cases involved close cooperation between funders – often donors or NGOs – and service providers, from concept through design to implementation.
- That cooperation was crucial to the establishment of an appropriate time scale. In all cases, the objective was to make the product or service profitable/self-sustaining, but it was recognised that this might take a considerable time. Close consultation and monitoring was required to steer the way between premature withdrawal of financial support and perpetual dependence on external funding.
- Governments were rarely the initiators of these projects, though they were sometime involved directly as funders from an early stage. They also took a supporting role, ensuring that the Program, but in the context of this report on financial services, the focus is on the role of BDS is increasing credit accessibility by improving the business planning and management skills of applicants.
enabling environment was appropriate for the new product or service – striking an appropriate balance between innovation and stability.

- All cases were built on a very careful assessment of the needs, perception and financial capacity of end-users: products were tailor-made for the specific type of client in each case.
- Developing marketing skills among farmers is a critical step to improve business plans.
- Capacity constraints in participating institutions were also identified at an early stage and dealt with through technical assistance and training.
- The innovator could play a useful role as a facilitator, bridging the gap between poor clients and traditional financial service providers.
- In many cases, the use of sophisticated ICT systems was an important factor in providing cost-effective services to the mass market, where transactions are small and the unit cost of each service is relatively high.
Annex G  Rural and agricultural financial services in Rwanda – demand and supply

In this annex, the key characteristics of the rural financial sector are discussed, first from the perspective of demand for financial services, and then from the supply-side perspective.

G.1 Demand-side analysis

The results of the 2008 FinScope survey indicate that over 52% of adults in Rwanda are financially excluded (48% of men and 56% of women) and that banks and that MFIs serve only 14% and 7% of the population respectively. Comparing Rwanda’s access strand with those of 12 other sub-Saharan African countries in Figure G.1, one notes that only Tanzania and Mozambique have lower percentages of adults accessing formal financial institutions. It is also interesting to note, however, that 26% of the population make use of informal finance, the second biggest proportion after Kenya (27%) across the 11 selected SSA countries.

Agriculture is the primary source of income. It is noteworthy that even in the urban areas agricultural activity is high: according to FinScope, 54% of households in designated urban areas derive at least part of their income from agriculture. Income levels are extremely low in Rwanda: 77% of the population earns below the national poverty line and the majority generate their own income in an irregular manner (see below). Such a market, which is agriculture dependant with low incomes, is a classically difficult one for the financial sector to serve. Even among salaried individuals, however, banking penetration is only 32%, though it should be noted that many of the salaries that people claim to receive are extremely low.

There is a relatively small difference between rural and urban dwellers in terms of the proportions of adults who are financially excluded, with the rate of exclusion in Kigali, at 52%, being the same as in other provinces. The discrepancy in product usage, however, is striking. Lack of access to formal products is more pronounced in the rural areas, with only 19% of the rural population using formal products as opposed to the 33% of the urban population who do the same.
Looking more closely into the dataset for the Rwanda 2008 FinScope survey reveals a number of interesting features about demand for and usage of financial services in Rwanda.\(^{37}\) The following analysis focuses exclusively on the areas outside Kigali, where appropriate distinguishing between characteristics of the north, east, south and west of the country. It should be noted that outside Kigali, only 3% of the population are not involved in farming, and that 68% of adults report that they generate all their own income (i.e. have no income from employment, rent, etc).\(^{38}\)

It should be borne in mind that the regional/zonal dimension is an important one. Rwanda, has a wide variety of very different agro-ecological zones, unusual in a country of its size. The different combinations of crops and transport requirements always need to be taken into account in considering the financing requirements of the rural sector. This is illustrated by Table G.1, showing the main crops produced in the eight key zones.

### Table G.1 Production zones for key staple crops

<table>
<thead>
<tr>
<th></th>
<th>Maize</th>
<th>Beans</th>
<th>Irish potato</th>
<th>Wheat</th>
<th>Rice</th>
<th>Cassava</th>
<th>Soya</th>
</tr>
</thead>
<tbody>
<tr>
<td>North-north-west (Zone I)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North central (Zone VII)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North-eastern (Zone III)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>South-eastern (Zone VI)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bugesera (Zone V)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Central southern (Zone II)</td>
<td>✔️ ✔️</td>
<td>✔️ ✔️</td>
<td>✔️ ✔️ ✔️ ✔️</td>
<td>✔️ ✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>South central plateau (Zone VIII)</td>
<td>✔️ ✔️</td>
<td>✔️ ✔️</td>
<td>✔️ ✔️ ✔️</td>
<td>✔️ ✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>South-western (Zone IV)</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


A high proportion of Rwandans spend more than 12% of their total expenditure on cattle, livestock and crops, particularly in the north, west and south, as shown in Figure G.2. In all areas combined, 55% of adults report spending between 12% and 40% of their total expenditure on cattle, livestock and crops. The proportion was lower in the east, however, where only 44% spent that much, while 42% reported spending nothing at all on these items.

---

\(^{37}\) The source for all the information in the rest of this section is OPM’s analysis of the FinScope dataset.

\(^{38}\) The category in the questionnaire is worded, ‘Generate own income (this includes farming such as selling crop produce, selling output from cattle or livestock such as milk or eggs, selling livestock, selling phone services (tuvugane), bartering/trading goods, selling handicrafts, being a banque lambert)’. It excludes ‘Have own business’, which is a separate category.
People also say that they are investing heavily in longer term assets, particularly land, as shown in Table G.2. No fewer than 75.8% of all respondents say that they are investing in land – in the north, the figure rises to 84.7%, while a substantial 15.3% say they are investing in cattle and 20.1% in other livestock. This compares to only 8.9% who say they are investing in their own home.

Table G.2   Selected investment by FinScope respondents

<table>
<thead>
<tr>
<th>Answers to the question, ‘Which of the following, if any, are you currently investing in or putting money into?’</th>
<th>East</th>
<th>North</th>
<th>South</th>
<th>West</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment in land, including farmland in Rwanda</td>
<td>69.4</td>
<td>84.7</td>
<td>75.7</td>
<td>75.3</td>
<td>75.8</td>
</tr>
<tr>
<td>Investment in cattle</td>
<td>9.7</td>
<td>22.8</td>
<td>18.1</td>
<td>12.1</td>
<td>15.3</td>
</tr>
<tr>
<td>Investment in other livestock</td>
<td>15.3</td>
<td>22.0</td>
<td>27.0</td>
<td>16.0</td>
<td>20.1</td>
</tr>
<tr>
<td>Improving your home</td>
<td>11.8</td>
<td>8.8</td>
<td>6.0</td>
<td>9.2</td>
<td>8.9</td>
</tr>
<tr>
<td>Total</td>
<td>106.2</td>
<td>138.3</td>
<td>126.9</td>
<td>112.6</td>
<td>120.1</td>
</tr>
</tbody>
</table>

Note: Numbers do not add to 100% because more than one answer can be given.

The overwhelming majority of Rwandans usually pay for their farming inputs in cash, as shown below in Table G.3. It will be seen from the table that 91.6% of respondents say that they pay with cash (with very little regional variation), while only 3-4% of people use the conventional chain liquidity mechanism of taking inputs on loan and paying them back when they sell the livestock outputs. The reported use of all other payment methods is negligible.
Table G.3 How farmers pay for inputs

<table>
<thead>
<tr>
<th>Answers to the question, ‘How do you usually pay for your farming expenses like seeds, feed, chemicals and packaging?’ (Percentage of responses from those who have farming expenses)</th>
<th>East</th>
<th>North</th>
<th>South</th>
<th>West</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>You take this good on loan and pay back with farm products or livestock</td>
<td>1.7</td>
<td>3.7</td>
<td>4.0</td>
<td>3.4</td>
<td>3.2</td>
</tr>
<tr>
<td>Pay using cash</td>
<td>90.5</td>
<td>92.3</td>
<td>93.5</td>
<td>90.3</td>
<td>91.6</td>
</tr>
<tr>
<td>Credit card</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Borrow money to pay</td>
<td>1.1</td>
<td>0.4</td>
<td>2.5</td>
<td>0.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Pay by debit card (e.g. Maestro, Visa Electron) or ATM card or cheque card</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Pay by cheque</td>
<td>0.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Buy on the book (agatabu)</td>
<td>0.3</td>
<td>1.4</td>
<td>0.4</td>
<td>1.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Pay in instalments</td>
<td>1.6</td>
<td>1.5</td>
<td>1.9</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Other</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Have not bought these items</td>
<td>5.0</td>
<td>2.0</td>
<td>3.5</td>
<td>2.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.6</td>
<td>101.3</td>
<td>105.7</td>
<td>100.1</td>
<td>102.0</td>
</tr>
</tbody>
</table>

Note: Numbers do not add to 100% because more than one answer can be given

It is important to note, in this context, that the costs of inputs by smallholder farmers are heavily subsidised, through the CIP and its fertiliser subsidy. These subsidies are due to be phased out, however, as indicated in Box G.1, which will inevitably lead to greater cost of inputs and therefore an increase in the financing needs of primary producers.

Box G.1 Phasing out fertiliser subsidies

‘The Government has sought to remove import bottlenecks by bulk-importing fertilizers and then selling them to the private sector through an auction system through CIP, as a market-friendly means of subsidizing fertilizer costs for smallholder producers. This system has proved very successful and has seen yields increase substantially. Thus, the current system will continue to be implemented, however, MINAGRI’s work over the next year will include developing an action plan for phasing out fertilizer subsidies. This will involve closer collaboration with the private sector to continue to support and strengthen its work in the agricultural sector.’


Over half of respondents said that they were saving, though there were significant regional variations, with only 44.27% of people in the east saying that they were saving, as shown below in Table G.4.
Table G.4  Percentage of people saving and not saving

<table>
<thead>
<tr>
<th></th>
<th>East</th>
<th>North</th>
<th>South</th>
<th>West</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>44.27</td>
<td>62.91</td>
<td>55.50</td>
<td>57.05</td>
<td>54.50</td>
</tr>
<tr>
<td>No</td>
<td>55.73</td>
<td>37.09</td>
<td>44.50</td>
<td>42.95</td>
<td>45.50</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Of those who are saving, many are saving for agricultural or livestock purposes: about 60% of the answers to the question, ‘What, if anything, are you saving for?’ related to such purposes. Of those answers, 35% were for farming expenses (a short term requirement), 21% for purchasing land (long term), 22% for buying livestock (medium term) and 22% for equipment or implements (short to medium term), as shown in Figure G.3 below.

**Figure G.3  Reasons given for saving for agriculture and livestock**

![Image of reasons for saving for agriculture and livestock]

- 35% To cover farming expenses when I don’t have money (such as seeds)
- 21% For purchasing land
- 22% For buying livestock
- 22% For buying farming equipment or implements

Among savers, the most popular place for savings (after keeping cash at home) is the informal group or Rotating Savings and Credit Association – like tontine, ikamina or umuryango (39.8%), followed by banks (24.8%), as shown in Table G.5.

These informal groups are clearly important to a large number of people, providing as they do both financial benefits and benefits in terms of social solidarity – indeed people say they value the social benefits rather more than the clearly financial ones, as shown in Figure G.4 below.
Table G.5  Where people save

<table>
<thead>
<tr>
<th>Places for savings (percentages of those who are saving)</th>
<th>East</th>
<th>North</th>
<th>South</th>
<th>West</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savings at a bank</td>
<td>36.1</td>
<td>23.4</td>
<td>24.6</td>
<td>17.7</td>
<td>24.8</td>
</tr>
<tr>
<td>Savings at a MFI</td>
<td>5.1</td>
<td>4.9</td>
<td>4.3</td>
<td>4.6</td>
<td>4.7</td>
</tr>
<tr>
<td>Savings at a post office</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Employer savings schemes</td>
<td>2.8</td>
<td>0.0</td>
<td>0.7</td>
<td>0.1</td>
<td>0.8</td>
</tr>
<tr>
<td>Capital/stock market (including Treasury bonds)</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Savings account at a agricultural co-op</td>
<td>11.4</td>
<td>7.3</td>
<td>12.9</td>
<td>8.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Membership of Caisse d’Entre</td>
<td>1.6</td>
<td>2.0</td>
<td>0.9</td>
<td>0.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Membership or tontine or ikamina or umuryango</td>
<td>37.5</td>
<td>48.7</td>
<td>32.8</td>
<td>41.6</td>
<td>39.8</td>
</tr>
<tr>
<td>Give to someone else for safe keeping</td>
<td>16.2</td>
<td>12.0</td>
<td>9.8</td>
<td>19.5</td>
<td>14.3</td>
</tr>
<tr>
<td>Keep cash at home or in a secret hiding place</td>
<td>65.3</td>
<td>69.5</td>
<td>77.2</td>
<td>71.7</td>
<td>71.5</td>
</tr>
<tr>
<td>Total</td>
<td>176.9</td>
<td>167.7</td>
<td>163.2</td>
<td>163.2</td>
<td>167.0</td>
</tr>
</tbody>
</table>

Note: Numbers do not add to 100% because more than one answer can be given

Figure G.4  Reasons for being a member of an informal group

Few people say that they are borrowing, whether in goods, services or money, ranging from 22.7% in the east to 30.9% in the north, as shown in Table G.6. Furthermore, little of this borrowing is reported to be for farming or livestock purposes. Using the same categories for borrowing as listed in Figure G.3 for savings, fewer than 6% of all respondents, or 25% of borrowers, say that they are borrowing for any of these purposes.
Table G.6  Percentage of people borrowing

<table>
<thead>
<tr>
<th>Answers to the question ‘Have you borrowed any goods or services or money in the past 12 months?’ (Percentage of respondents)</th>
<th>East</th>
<th>North</th>
<th>South</th>
<th>West</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>22.7</td>
<td>30.9</td>
<td>23.0</td>
<td>33.0</td>
<td>27.1</td>
</tr>
<tr>
<td>No</td>
<td>77.3</td>
<td>69.1</td>
<td>77.0</td>
<td>67.0</td>
<td>72.9</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It should be noted that the figures in the above analysis all relate to usage of financial services, which is different from access to financial services. Despite the use of the term ‘access strand’, most of the FinScope measurements relate to usage. It is very important to keep this distinction in mind. Just because I do not use a financial service does not mean that it is not accessible to me. There may be a variety of reasons why I do not use it. A triangulation of different sources of demand side and supply side evidence is needed to establish whether a specific service is accessible, affordable and appropriate for its target market: simple usage figures do not tell the whole story.\(^{39}\)

The key conclusions to be drawn from this analysis are:

- **There appears to be a fairly high level of monetisation in the rural areas** Most people are able to use cash to buy inputs for agricultural primary production and livestock.
- **People are investing in medium to longer term assets, but for the most part these investments come from savings**, which limits the scope for such lumpy investments. Only 27% of people say that they are borrowing – whether in money, goods or services – and of those, fewer than 25% (i.e. 6% of adults) say that they are borrowing for investment in agriculture or livestock.
- **A much higher proportion of people are saving – 54% of all adults – and by far the most popular form of saving outside the home is with an informal group** (tontine, ikamina, umuryango). Approximately 40% of adults save with such a group, compared with 25% saving at a bank and 5% at an MFI.\(^{40}\)
- **These informal groups perform a range of functions, with social solidarity functions being at least as important as financial ones.** This is very encouraging, as it creates a solid foundation for the development of linkage banking between such informal groups and financial institutions such as banks, MFIs and SACCOs. Indeed, some of the informal groups interviewed during the field visit are already members of SACCOs and/or have an account with a bank. The successful Indian model of linkage banking is built upon the self-confidence, group solidarity, and governance of the informal groups (see the ICICI case study in Annex F), and Rwanda appears to have fertile ground for a similar system.

\(^{39}\) For a summary of the implications of the distinction between access and usage, see World Bank (2008), Box 1.1: ‘Access to finance vs. use: voluntary and involuntary exclusion.’ It is not entirely clear, for example, whether a recent draft for a grassroots inputs financing scheme in Rwanda (Le Turioner, 2011) is clear on that distinction, apparently using evidence that the Government estimates that only 3% of farmers receive agricultural credit to conclude that only 3% of farmers have access to credit. The current report concludes, on the contrary, that the lack of use of credit for inputs does not necessarily indicate the an equivalent lack of accessibility, and that it is not a binding constraint on production.

\(^{40}\) While approximately 72% of people say they save by keeping cash at home, the answers recorded in Table G.5 are not mutually exclusive, so it is not surprising that most people, even those who use financial institutions, also keep some of their savings in cash at home to be accessible for immediate needs.
Smallholders are paying for inputs almost exclusively by cash, drawing on their savings as required. There does not appear to be a large unsatisfied demand for short term credit for inputs.

G.2 The supply side

G.2.1 Financial intermediaries

Rwanda’s financial sector comprises the following formal financial institutions:

- Eight commercial banks, including BPR;
- Three specialised banks (Rwanda Housing Bank, BRD, Continental Discount House);
- One microfinance bank, Urwego Opportunity Bank (UOB);
- 122 MFIs;
- Eight insurance companies;
- One public pension fund (the Caisse Sociale) and one state-run medical insurer (Rama); and
- 10 private pension funds.\(^41\)

G.2.2 The banking sector

The Rwandan commercial banking sector comprises of eight banks with less than RWF 600 billion in assets (US$ 1.1 billion) but whose assets are growing at 25% per annum. By comparison, Uganda’s banking sector assets are US$ 3.9 billion and Kenya’s US$ 15.4 billion (Napier 2010a). Though small, the banks in Rwanda offer a wide range of services, including credit, savings, transfers, payments of invoices, exchange services, etc.

Physical access is concentrated in the urban areas but branch networks are still expanding, as competition forces major players outside of Kigali. In the first half of 2009, 16 new branches were opened,\(^42\) bringing the number of branches (or sub-branches) in the country to just under 250. New products have been developed or are planned and the electronic payments system is being revamped to make it more cost-effective for banks to deploy ATMs and debit cards. Growth in assets until 2008 was high and stable at about 33% per year. Private sector loans accounted for between 40% and 45% of total assets. As mentioned above, however, there was a noticeable slowdown in growth between 2008 and 2009, as the domestic economy faced a liquidity shortage and banks tightened credit, especially for mortgage lending.

To meet short term liquidity constraints, banks have focused on attracting depositors through term deposit products. As a result, the number of bank depositors grew by almost 7% from 1.10 million in 2008 to 1.17 million in 2009 (NBR, 2009 op cit.).

Table G.7 is a snapshot of key financial performance indicators for the Rwandan banking sector. Table G.8 compares Rwanda with three of the east African countries.

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\(^{41}\) NBR – Annual Reports 2008 – 2009.

Table G.7  Rwanda – financial sector performance indicators (%)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>1st Quarter 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return of Assets</td>
<td>2.4</td>
<td>1.5</td>
<td>2.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>27.0</td>
<td>15.5</td>
<td>18.0</td>
<td>11.8</td>
</tr>
<tr>
<td>Net Interest Margin</td>
<td>8.0</td>
<td>5.2</td>
<td>9.8</td>
<td>10.2</td>
</tr>
<tr>
<td>Cost-to-income</td>
<td>76.7</td>
<td>80.2</td>
<td>77.8</td>
<td>83.7</td>
</tr>
</tbody>
</table>

Source: Napier (2010a) using EAC Database

Table G.8  Comparisons of financial sector performance indicators (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>Return on Assets</th>
<th>Return on Equity</th>
<th>NPLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kenya</td>
<td>3.3</td>
<td>29.5</td>
<td>9</td>
</tr>
<tr>
<td>Uganda</td>
<td>4.3</td>
<td>27.3</td>
<td>2</td>
</tr>
<tr>
<td>Tanzania</td>
<td>3.9</td>
<td>22.6</td>
<td>7</td>
</tr>
<tr>
<td>Rwanda</td>
<td>2.4</td>
<td>11.8</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: Napier (2010a) using EAC Database

The Return on Equity (ROE) of the banking sector in Rwanda has been declining steadily from 27% in 2006 to 11.8% in 2009. To determine the efficiency of the banking sector, the cost-to-income ratio shows how well banks are covering their costs. As Table G.7 indicates, costs have been increasing as a proportion of income since 2006 as the banks expand their branch networks and increase recruitment to remain competitive.

In addition, the banks continue to struggle with high delinquency ratios. The NPL ratio reached over 50% by 2003 and, although it has been considerably reduced since then, it still remained above 12% in 2010 (NBR, 2009 and IMF, 2011). Although the position of the banks has improved significantly, it should be noted that the Staff Report on the 2010 IMF Article IV Consultation stated that, ‘the decision to grant lending licenses to additional micro finance institutions and saving and credit cooperatives is a cause for concern, given the high and growing non-performing loans in the sector as well as limited supervision capacity at the NBR and other institutions.’ (IMF, 2011)

The figures paint a picture of a sector that has the lowest profitability in the region, which is not generating sufficient return on assets, and which is faced with unsustainably high cost-to-income ratios and an unacceptable level of bad debts.

We concur with Napier (2010a) that it is difficult to disaggregate the short term dynamics of the weaker growth and liquidity issues from medium term factors (such as the very rapid expansion of the sector as new competitors become established), and from the longer term issue of high operating costs in a small market.

Salaries and extra staff benefits and training may raise human resource costs when financial institutions decide to relocate experienced staff to serve the rural and the agricultural sectors. In his study, Napier interviewed stakeholders in the banking sector and recorded several insightful comments, observations and analysis that have direct implications for the provision of rural and agricultural finance services. For example, financial service providers rated salary expenses and provisioning for bad debts as their highest costs. In addition, to set up a branch in a rural area in Rwanda, a bank needs to invest in its own electricity and water.

Mobile branches and limited service branches are available, but according to Napier these services are just as expensive to run as a full branch as they involve buildings, staff and information systems that are integrated with the centre.
Overall, the picture shows that it is the middle-income, relatively urban-based, salaried clients that are best served by the financial market of Rwanda, mainly because of the nature and composition of the financial institutions. By contrast, the bottom of the pyramid (i.e. low-income earners (salaried and others), rural and agricultural clients) is less well served. BPR and UOB stand out as exceptions: they provide products specifically designed to suit the low-income salaried markets. In terms of savings, while the supply-side barriers are low, specific requirements such as minimum deposit levels on savings accounts bar low-income earners from using the services. Loans are also mainly accessible by middle- and high-income salaried clients and traders. Low-income earners (including salaried employees) and rural micro and small business and agriculturalists are poorly served with loan products.

The range of products offered by the financial institutions is also limited. Leasing, for example, has not yet been widely used in Rwanda, even though it is a form of financing that precludes small business owners from having to provide another form of collateral because the leased asset can be used as security for the loan. In Rwanda, the maximum term is 5 years much longer than a conventional business loan. In addition, there are tax benefits for registered businesses. Yet only 469 financial leases had undertaken by financial between 2006 and 2010 (Napier, 2010). According to a market survey conducted by the IFC in 2008 65% of leasing was for business vehicles, and 64% of leasing finance therefore went to SMEs in the transport sector, followed by manufacturing SMEs (12%) and SMEs in the trade sector (11%). The majority of leasing finance is conducted in Kigali and border towns where a lot of trading activity occurs (FC, 2009a).

Despite the failure of the retail financial infrastructure to deliver low-cost services, banks seem to have gone ahead and rolled out a considerable and costly branch infrastructure to service a currently small banked market. The key challenge is now to rapidly grow the volume of business in a sustainable manner, to absorb these costs, and to improve the overall performance of the industry with clearly articulated mechanisms for serving the agricultural economy.

The RAFSS aims to deal with such challenges in the context of rural and agricultural finance. Institutional and product innovations that provide cost-effective solutions and infrastructure are needed if banks and other financial intermediaries are to serve the rural areas as viable markets.

**G.2.3 E-payment systems and rural finance**

Rwanda has a national switch, SIMTEL, whose performance has improved somewhat after the restructuring in 2007 when ADC, a German firm, recapitalised it and acquired a 75% stake. Local banks hold the remaining 25%.

Important challenges remain, however. It is reported that ATM downtimes reach as high as 75% and that card processing takes an unacceptably long time. The dysfunctional nature of the payment infrastructure has barred banks from being innovative in bringing more people into banking services and providing better products for the rural and agricultural sectors.

There are hopeful signs of the expansion by other service providers of their outreach in sub-Saharan Africa, including MasterCard and Visa. Recently, there has been a de facto liberalisation of the arrangements governing the payments system, partly brought about by a change of strategy on the part of Visa in sub-Saharan Africa. The result is a much more optimistic outlook for electronic transacting, including the likelihood that banks will start to charge for accessing an ATM network over which they will have greater control. This in turn is positive for

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43 Some of the rural branches visited during the field visit displayed notices explaining that for technical reasons the ATM was not functioning. The notices had been on display for several weeks. It was also indicated that customers could wait two or three weeks or more to receive a card after their application was approved. Other conversations referred to even longer periods of waiting for a card, in some cases several months.
financial access, for example creating opportunities for branchless banking solutions in rural areas, provided that charges can be brought down to a level that puts the services within reach of poorer people.\textsuperscript{44}

However, without specific strategies and interventions, the rural economy and agriculture are not likely to be the first to be served, especially considering infrastructural bottlenecks.

G.2.4 MFIs and the rural and agriculture sectors

There is clarity on the path Rwanda wants to follow towards developing the microfinance sub-sector, though the strategy is not very explicit regarding specific measures to address rural microenterprises and agriculture. The Microfinance Law No. 40/2008 defines four categories of MFIs: (i) informal societies with less than RWF 25 million; (ii) cooperatives with more than 100 members and RWF 25 million or more equity; (iii) deposit-taking MFIs with minimal capitalisation of RWF 300 million; and (iv) credit-only institutions with equity of above RWF 300 million.

As in other EAC countries, many of the MFIs are still located in the urban areas and provide little service to the agricultural sector. Besides the urban bias, the sector also has other features that hinder its effective contribution in the financial sector. It has a small level of capital: 59% of MFIs had equity lower than RWF 10 million in 2007; 66% percent of MFIs had been in operation for less than five years; the portfolio was of poor quality – only 14% of MFIs had a portfolio at risk >30 days lower than 5%; MIS was inadequate – 77% operated with manual MISs and 90% had no management tools. There was evidence of poor governance, and a biased concentration of MFIs in the southern and western zones was notable (Napier, 2010).

In 2007, Rwanda adopted the NMPIS with the aim of supporting ‘sustainable economic growth and social development’. Specifically, it aims to promote a vibrant microfinance industry offering inclusive, diversified, efficient and sustainable financial services. The strategic development of the industry is structured to address identified constraints facing the sector:

- inadequate mechanisms for refinancing MFIs;
- weak capacity to manage MFIs in a professional and sustainable manner;
- weakness of partnerships at all levels;
- weak capacity to support the development and diversification of products and to expand access to microfinance services;
- need to improve the policy and regulatory framework; and
- limited access of women and youth to financial services.

The expected outcomes of the NMPIS are as follows:

- The MFIs receive support in order to develop mechanisms for effective and diversified funding.
- The MFIs become professionally managed and financially viable.
- Coordination at all levels is developed and strengthened.
- Support infrastructures are properly established to enable MFIs to provide diversified products to expand the range of services and outreach.
- A policy framework and appropriate rules are adopted so as to encourage the growth and strengthening of the microfinance sector.

\textsuperscript{44} For the issues of affordability of remote access financial services, in the context of a comparative study of 30 models of remote access countries in 14 countries, and their applicability to SADC countries, see OPM (2008), ‘Testing Remote Access Models in Southern African Countries’, Finmark Trust, January 2008.
- A more appropriate approach is established to promote access of women and youth to microfinance services (this is also considered a cross-cutting issue).

It appears that the policy and strategy simply assume that the development of MFIs will automatically serve the rural and agricultural sectors. It is likely, however, that there will be a need to articulate more firmly how the strengthening of the MFI sub-sector should be pursued to ensure that it better serves the rural population, rural enterprises and the agriculture sector. This is likely to be a significant focus of the current study.

G.2.5 The insurance and pension industry and the agriculture sector

The insurance and pension sub-sectors have not yet made major contributions to the rural economy and the agriculture sector in Rwanda, or indeed to Rwanda as a whole, though modest contributions have been made by Mutuelle de Santé (health), Société Rwandaise d’Assurances (SORAS) and SONARWA (weather indexed) insurances.

There are eight insurance companies in Rwanda recognised by the BNR, with assets worth RWF 94.5 billion in 2009. From 2008 to 2010, total sector assets grew at 24% a year (Napier, 2010). The majority of the sector assets are in real estate, equity and other investments. Growth in premiums, by contrast, has been much slower. The sector is dominated by SONARWA and SORAS, which, between them, represent 51% of gross premiums.

The rest of the market is dominated by the two state-run entities, Caisse Sociale, essentially the state pension fund to which all formally employed people are supposed to contribute, and Rama, a medical insurance provider for salaried people.

The community-based health insurance scheme Mutuelle de Santé was established by law in 2007 to coordinate the provision of medical insurance to the general public. Currently, 80% of the population enjoys an element of cover through this scheme, which operates through partnerships with public and private hospitals. 52% of the financially excluded and 80% of rural dwellers are members of this scheme (FinScope, 2008). The Mutuelle de Santé is the biggest player in insurance, measured by the number of people who use it – only 2% use other forms of medical insurance and only 1% use life insurance and 1% other forms of insurance.

Although the low-income market is not a priority for the industry, SORAS and SONARWA have begun experimenting in this market through partnerships with MFIs and government bodies.

SONARWA piloted a weather index insurance product for a cooperative of tomato farmers in partnership with MINAGRI and the World Bank. SORAS has entered into partnerships with UOB and CFE Agaseke to provide credit life insurance to their clients, bundled with microloans. Funeral insurance, which has been an entry point in other countries for providers looking to engage with the low-income market, does not appear to have been considered despite the cost of funerals being high in Rwanda.

Considerable regulatory change and institutional restructuring is underway and it is still unclear what the impact will be on the provision of insurance and long term savings products to those who are currently excluded from the formal sector. In determining the regulatory environment for insurance, regulators should begin to consider a framework for microinsurance provision and supervision, perhaps learning from neighbouring Uganda as a starting point. The Uganda experience is summarised in Box G.2 and offers both positive and negative lessons for Rwanda.
Box G.2  The regulation of micro-insurance in Uganda

‘The introduction of a regulatory framework for insurance has provided room for the formal development of the market and has contributed to increased foreign participation in the market. However, this formal insurance sector legislation, regulation and supervision has only been implemented in the last ten years, implying that the industry is still in the process of development. (Before this a department in the Ministry of Finance was regulating the insurance market.) Currently, regulation relevant to insurance includes:

- The Insurance Act, Cap 213 Laws of Uganda 2000, the Insurance Regulations, 2002; and Statutory Instruments No. 59 and 60
- The Marine Insurance Act, 2002
- Co-operative Societies Act, Cap 112 of 1991; and
- Companies Act, Cap 110 of 1961.

‘Of particular relevance to micro-insurance is the Insurance Act, in that it:

- Draws a distinction between the categories of life and non-life insurance, but does not explicitly define a category for medical insurance.
- Restricts the institutions which may provide insurance to:
  - a company incorporated under the Companies Act;
  - an insurance corporation established by law;
  - a cooperative insurance society registered under the Cooperative Societies Act; and
  - a mutual insurance company.
- Provides the framework for setting a scale of minimum premium rates for certain product lines agreed between the industry association and the regulator.
- Limits distribution of insurance to registered brokers and agents.
- Restricts the collection of premiums on a credit basis to brokered business, which has been reported to hinder the development of direct sold insurance.

Provides the framework for setting a scale of maximum commission rates to be agreed between the intermediary and insurer associations and the supervisor.’

‘Regulatory drivers of the micro-insurance market in Uganda

1. Specific and inhibitive restrictions apply to market conduct: limiting distribution of insurance by banks and MDIs; setting minimum premium rates (which stifle competition), commission capping (which can make it uneconomical to distribute to lower income consumers) and restricting provision of credit on premium payments to brokers (which makes direct distribution unattractive).

2. Recent establishment of regulations and a supervisory body (the Uganda Insurance Commission) for the industry, which only occurred in the last decade, has meant that trust in the industry and a compliance culture is still developing.

3. But the regulatory attitude has been open to the benefits which foreign entry to the market can bring.

4. Absence of explicit health insurance regulation has created uncertainty for players in the space or potentially entering it, but has also created a gap for market development, with new entrants and product innovation occurring.

5. Size and other compliance restrictions on mutual insurers have contributed to discouraging the emergence of these providers, despite regulation making some concessions for them.’

G.2.6 Government initiatives: The AGF and the Rural Investment Facility 2 (RIF2)

The AGF and the RIF2 are the two most important government-sponsored initiatives created to facilitate access to finance for inputs and technical assistance to promote the development of the agricultural sector. These initiatives are managed by the BNR and used by interested local commercial banks and MFIs.

- **The AGF has been developed to increase the participation of commercial banks in financing the activities of the Rwandan agriculture sub-sectors.** Its main objective is reducing banks’ exposure to risk in agricultural loans and overcoming the lack of sufficient guarantees for entrepreneurs wishing to launch viable projects. The AGF can cover up to 30% of short term loans and as much as 50% of long term loans.

Coffee and tea producers are the main users of AGF – 77% of the distributed funds are awarded to export activities. Subsistence crops, apiculture, aviculture and energy make up 11% of funds awarded. The AGF is mostly a joint effort between the GoR and the Netherlands Cooperation, which funds 90% of the RWF 2.8 billion total funds (see Table C.1 in Annex C for more details on the distribution of the AGF).

From the perspective of the AGF programme, all agricultural activities are eligible to receive funding. That includes production, processing, distribution, and all other activities allied to agriculture, including the purchase of inputs. Project proposals must be financially viable/bankable, and the investor must be capable of paying back the loan facility.

- **The RIF2 is an initiative aimed at providing grants to facilitate the development of productive projects in rural areas.** The programme is funded by the International Development Agency of the World Bank. The BNR is now administering the second phase of the programme with US$ 10 million, covering up to 25% of any projects dedicated to the GoR’s poverty reduction programme.

Three main categories of investments are eligible for RIF 2 funds:

- **Category I: Primary Agricultural Production.** Category I includes investments such as machinery, construction of agricultural buildings, land acquisition and improvements, storage facilities and transport facilities. Project costs can be RWF 1–50 million. Loans up to RWF 10 million receive a grant of 25% of the investment loan, while loans above RWF 10 million receive a grant of 20% of the investment. 45% of RIF 2 is intended to be used in this category.

- **Category II: Processing of Agricultural products.** Category II includes processing equipment and construction of processing facilities. Project costs can be RWF 2–150 million. Loans up to RWF 50 million receive a grant of 25% of the investment loan, while loans above this receive 20% of the investment. 35% of RIF 2 is intended to be used in this category.

- **Category III: Agriculture Support Services.** Category III includes seed chain investments, extension services, and capacity building. Project costs can be RWF 2–150 million. Loans will receive a grant worth 15% of the investment loan. A maximum of 20% of the RIF2 facility is intended to be used in this category.

An analysis of the uses of RIF2 shows that staple crops (maize, Irish potatoes, wheat, beans, cassava and rice) together with daily and livestock projects are the main beneficiaries of RIF2 (see Table G.9). It is important to note the small number of coffee and tea projects funded by this programme – a sign that cash crops have secured funding lines from commercial banks and therefore don’t need to apply to this kind of programme.

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45 Other initiatives include the Women’s Guarantee Fund, the RSSP, or the Millennium Village Programme in Rwanda.
Table G.9  Uses of RIF2

<table>
<thead>
<tr>
<th>No. of projects</th>
<th>Percentage of projects</th>
<th>Total amount projects (RWF)</th>
<th>Total amount grants (RWF)</th>
<th>Percentage of grants</th>
<th>Average size grant (RWF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horticulture</td>
<td>171</td>
<td>8.7%</td>
<td>1,941,537,787</td>
<td>13.8%</td>
<td>1,185,507</td>
</tr>
<tr>
<td>Staples</td>
<td>651</td>
<td>33.1%</td>
<td>4,117,224,889</td>
<td>30.3%</td>
<td>683,803</td>
</tr>
<tr>
<td>Dairy and Livestock</td>
<td>1080</td>
<td>54.9%</td>
<td>718,675,667</td>
<td>48.8%</td>
<td>663,485</td>
</tr>
<tr>
<td>Tea &amp; Coffee</td>
<td>59</td>
<td>3.0%</td>
<td>911,252,232</td>
<td>6.7%</td>
<td>1,669,915</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>0.2%</td>
<td>38,490,580</td>
<td>0.4%</td>
<td>1,916,667</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1964</td>
<td>99.8%</td>
<td>14,194,681,155</td>
<td>100.0%</td>
<td>747,819</td>
</tr>
</tbody>
</table>

Source: OPM using MINAGRI data

Table G.10 is even more significant, as it shows that almost 98% of the total funding provided by RIF2 has been used in Category I investments in Primary Production. The strong demand for the RIF from the staple crop sector, compared to the relatively weak demand for the AGF, reinforces the finding in this report that for staple crops, at present, the unsatisfied demand for financial services is more in relation to medium term investment finance than to short term input finance, but that the binding constraints in finance lie at the post-harvest stage.

Table G.10  Utilisation by category, RIF2

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount (RWF)</th>
<th>Percentage %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category I</td>
<td>1,437,966,132</td>
<td>97.9</td>
</tr>
<tr>
<td>Category II</td>
<td>30,750,000</td>
<td>2.1</td>
</tr>
<tr>
<td>Category III</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,468,716,132</td>
<td>100.0</td>
</tr>
</tbody>
</table>

G.2.7  Opportunities and challenges for financial institutions in Rwanda

As described in this section, there has been considerable progress in the development of the financial sector in recent years, but a number of challenges remain to be confronted if the sector is to serve adequately the country’s requirements for rural and agricultural finance.

A key challenge is the lack of diversity in the sector, particularly in the rural areas. There are relatively few layers of diverse financial institutions between the large, relatively expensive commercial banks and the much smaller MFIs, SACCOS, VSLAs and informal groups. This makes it very difficult for the banks to serve poor clients with small transaction requirements through forms of linkage banking like wholesale banking.

For these and other reasons, the conventional banks remain niche players for the middle- and high-income and salaried sectors of the community, large exporters and formal small and medium enterprises. The banks have a declining return on equity and high delinquency ratio; their branch networks, though expanding, are not yet supporting extensive business in agriculture. Only one bank, BPR, is currently developing a strategy to design more suitable products for agriculture.

The MFIs are not yet meeting the gap, because they are still focused mainly in the urban areas, providing few services to rural communities, apart from the newly established SACCOS that have yet to establish themselves as robust and sustainable.
To generate more diversity in the financial sector, invigorate the linkages within the sector and serve the agricultural value chains with adequate and appropriate finance, current and proposed reforms in the financial sector will need to be accelerated, including

- Significant improvement and expansion of the e-payments system
- Concerted action to bridge the skills gap at every levels and.
- The further development of the insurance sector and its products

In sum, it is evident that Rwanda’s financial sector does not currently meet the demands posed by the country’s rural economy and particularly the agriculture sector. Transforming traditional smallholder agriculture and professionalising (or modernising) the smallholder farmers, as articulated by the PSTA, will require significant developments in the financial sector. Not only will the regulatory framework for rural institutions and MFIs require improvements, but also institutional and product innovations are essential. The RAFSS will need to attract public- and private-sector investments towards such innovations.