

Republic of Rwanda



Ministry of Trade and Industry

DOMESTIC MARKET RECAPTURING STRATEGY

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ABBREVIATIONS

MINICOM	Ministry of Trade and Industry
CAGR	Compound Average Annual Growth Rate
DMRS	Domestic Market Recapturing Strategy
DRC	Democratic Republic of the Congo
EAC	East African Community
EDPRS	Economic Development and Poverty Reduction Strategy
GDP	Gross Domestic Product
GoR	Government of Rwanda
HS	Harmonised System
ICT	Information and Communication Technologies
IDEC	Industrial Development and Export Council
ISI	Import Substitution Industrialisation
IT	Information Technology
ITC	International Trade Centre
NES	National Export Strategy
NIP	National Industrial Policy
NISR	National Institute of Statistics of Rwanda
PSDS	Private Sector Development Strategy
RDB	Rwanda Development Board
REER	Real Effective Exchange Rate
UN	United Nations
USD	United States Dollar
WTO	World Trade Organisation

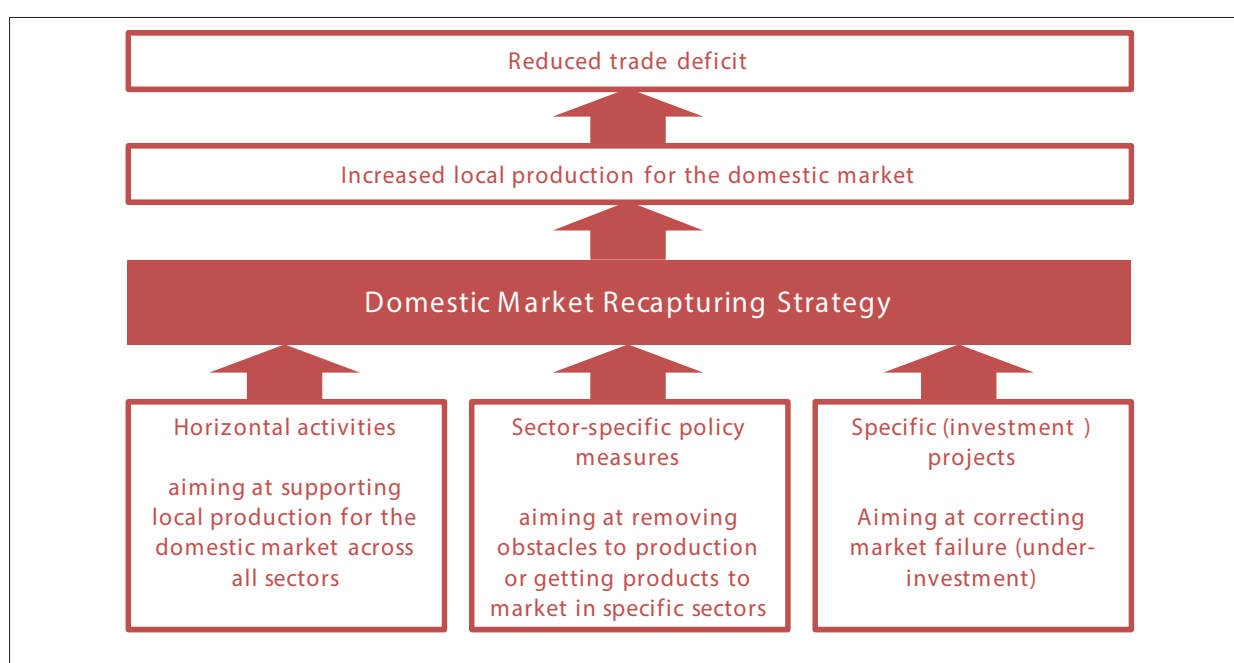
1. INTRODUCTION

Over the past years, Rwanda has had a consistent external trade deficit, which has contributed to a negative balance of payments situation in the country. In response, the Ministry of Trade and Industry (MINICOM) considers the development of Rwanda's existing and potential production capacity a priority. To this end the present Domestic Market Recapturing Strategy (DMRS) has been prepared (see rationale in section 2). It complements the Government's National Industrial Policy and National Export Strategy, and aims at reducing Rwanda's trade deficit. The time horizon for the DMRS covers the period 2015 to 2020, coinciding with the Vision 2020 time frame.

The DMRS has been developed based on comprehensive consultations with public and private sector stakeholders. Care has been taken to avoid duplication and conflict with the various existing policies and strategies. Many good, reasonable and promising initiatives are already under way, and wherever this is the case, the DMRS takes a coordinating and monitoring role, rather than to reinvent the wheel (section 3). Clear objectives (section 4) and principles (section 5) ensure the implementability of the DMRS as well as measuring progress and results.

The DMRS rests on three pillars of activities (Figure 1): First, horizontal activities aim at supporting local production for the domestic market across all sectors (section 6). Second, policy measures aim at removing obstacles to production or getting products to market in specific sectors (section 7). Third, the DMRS also foresees the development of specific investment projects where supply side constraints or market opportunities are identified (section 8).

Figure 1: Overall logic of the DMRS



The text of the DMRS has deliberately been kept as short as possible. Therefore, the analysis and findings underlying the Strategy, as well as more detailed recommendations and implementation issues are provided in the annexes. Furthermore, an initial set of business cases for specific potential investment projects has been prepared as separate documents. It is hoped that their implementation will contribute to the achievement of the DMRS objectives, and ultimately the realisation of the Vision 2020.

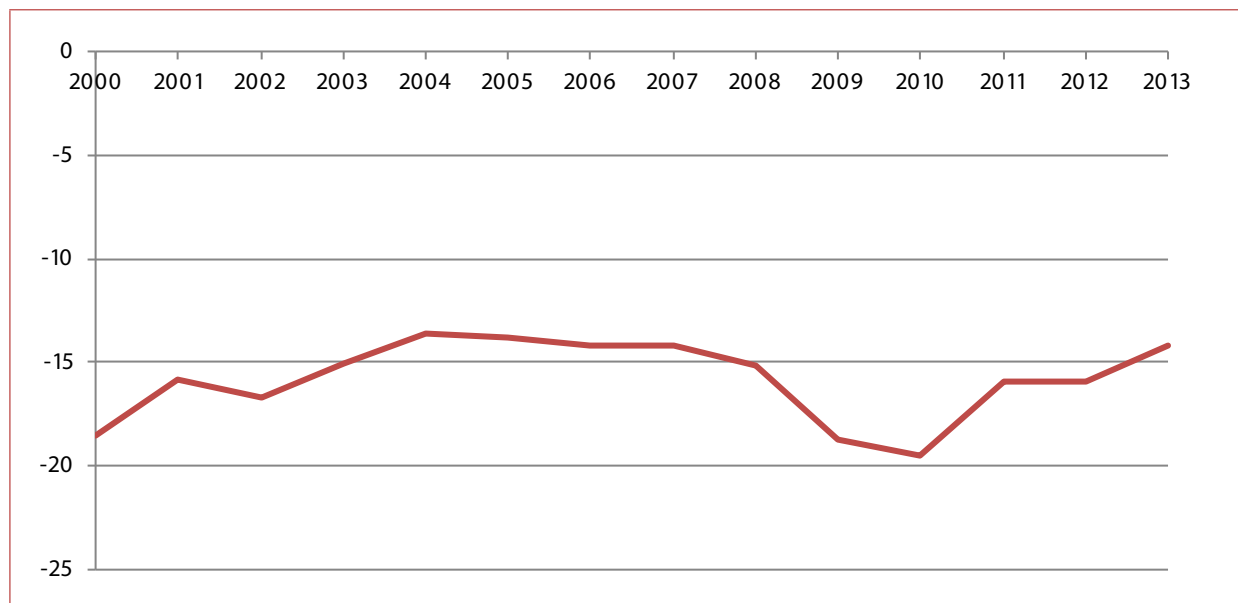
2. RATIONALE FOR THE DMRS

The need for a DMRS results from two fundamental considerations. First, in the long run, structural change and transformation are required if the Vision 2020 objective of transforming Rwanda into a middle-income country by the year is to be achieved. Presently, agricultural activity is largely on a subsistence level, services activities are mostly focussing on trade, and the industrial sector is small. Exports are concentrated on few commodities. Although there is some potential to expand exports in the short-term, as explained in the National Export Strategy, in many other sectors steps are required to upgrade producers and services providers to enable them to compete with imports, with a medium-term view of making them export-ready. This is the first major task of the DMRS.

Second, in the short term the key motivation for the DMRS arises from Rwanda's balance of payments situation which is a threat to national self-reliance. As Figure 2 shows, Rwanda has had a consistent and sizable deficit from its

trade in goods and services, and even though it improved over the most recent four years, from almost 20% of GDP to less than 15% of GDP in 2013, it still constitutes an important macroeconomic issue in need of attention. While a negative external balance over a number of years is not necessarily a problem if a country uses the imports to build its productive capacity and then increases exports, a continuous deficit over more than a dozen of years clearly calls for policy action. The DMRS is one component in the Government's response to the reduction of the trade deficit.

Figure 2: Rwanda's external balance on goods and services, 2001-2013 (% of GDP)



Source: World Development Indicators

In this context, it has to be recalled that the trade balance cannot significantly improve without increasing domestic savings. In other words, it is important to find ways to save in order to become self-reliant.

The DMRS is not proposing to shield domestic production behind high barriers to import (such as import bans, increasing import tariffs or subsidies that could be characterised as prohibited export or import-substitution subsidies), for three reasons: First, it would be in contradiction to the Government's overall policy of private-sector driven development in an open-economy context. Second, the Government is aware that, when economic dynamics are fully taken into account, a tax on imports is also effectively a tax on exports. This reflects the fact that success in suppressing imports may result in the exchange rate appreciating in real terms, which in turn undermines the competitiveness of exports. Third, such a policy would be impossible given Rwanda's commitments under international and regional agreements, including under the WTO and the EAC. Rather, the approach pursued by the DMRS is to empower domestic production to compete with imports on an equal footing.

3. THE DMRS IN RWANDA'S DEVELOPMENTAL POLICY FRAMEWORK

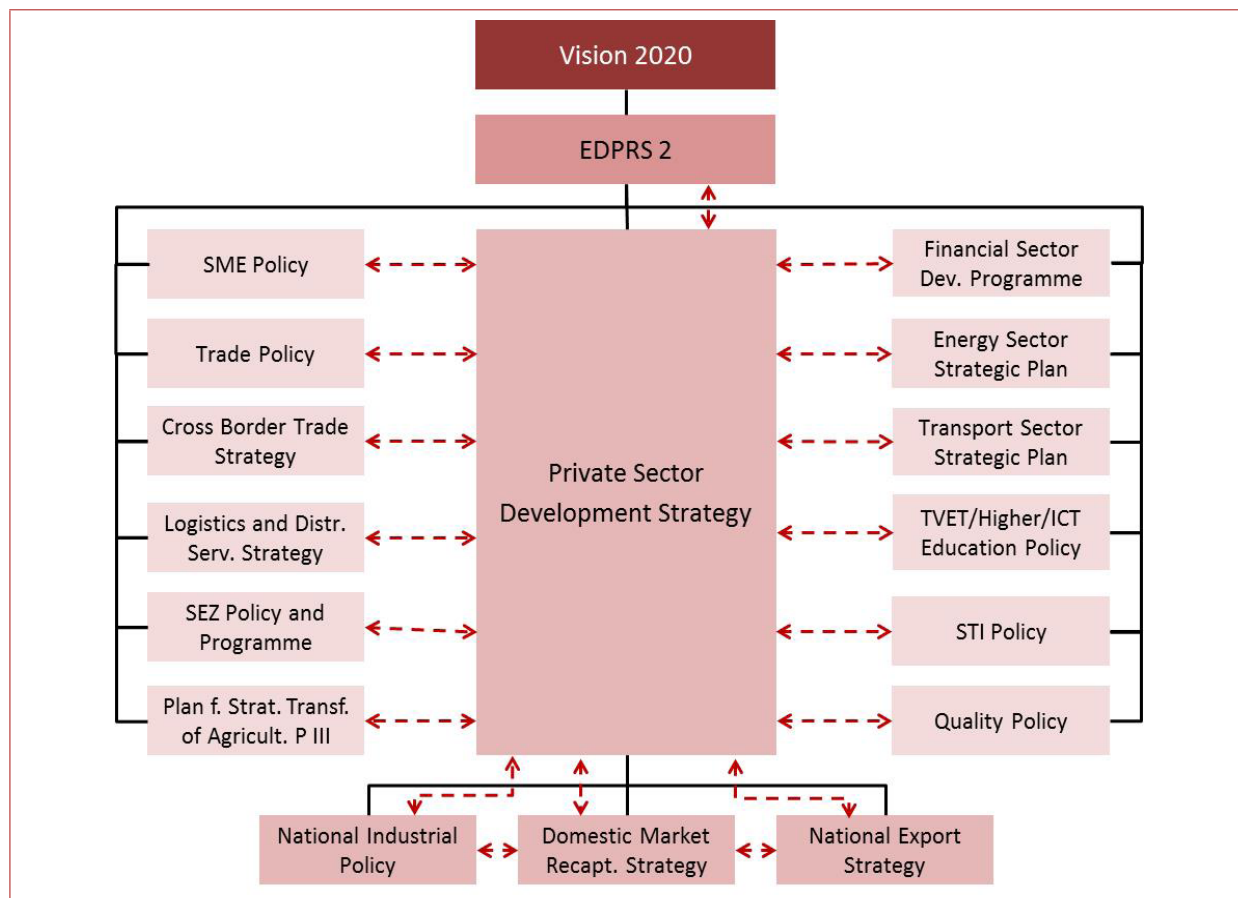
In view of the fact Rwanda already has a number of strategies and policies for the development of its productive sectors in place, it is important – in order to ensure consistency and coherence, and avoid duplication of activities – to locate the DMRS in the wider framework of economic strategies and policies.

As the policy map in Figure 3 shows, the overall policy framework in Rwanda is well developed. Rwanda possesses a number of interlinked development policies and strategies, all of which aim to increase the competitiveness of its economy. The Government of Rwanda has formulated targets in its Vision 2020 which stretch over the period of 2000 to 2020 formulating long term development goals. In particular, Vision 2020 sets Rwanda on a path to economic transformation from a “subsistence agriculture economy to a knowledge-based society”. In line with this, policies and strategies formulated within the framework of the Economic Development and Poverty Reduction Strategies (EDPRS) 1 and 2 as of 2008 and 2013 respectively focused on economic growth and diversification by strengthening the role of the private sector.

In particular, in order to meet the private sector development goals of EDPRS 2, the GoR has developed the Private Sector Development Strategy (PSDS). As Figure 3 illustrates, it stands at the centre of EDPRS 2 and aims to “develop an entrepreneurial, innovative and competitive sector that delivers broad band and inclusive economic growth.” The PSDS aims to remedy obstacles to growth and investment in Rwanda faced by business. As such, the PSDS provides a framework for reform, setting out key gaps and weaknesses of efforts undertaken to date, and suggests gap-closing solutions. It constitutes the key overarching policy document for the development of the DMRS.

As Figure 3 illustrates (shown to the left and right of the PSDS) there are a number of other policies and strategies which are related to the implementation of the PSDS, such as for example the Logistics and Distribution Services Strategy or the Financial Sector Development Programme. They are relevant for any strategy aiming to recapture domestic markets since they aim to improve the competitive environment of the Rwandan economy and hence have been taken into account in the formulation of the DMRS to avoid duplication of efforts and inconsistencies.

Figure 3: Policy Map for Rwanda's Domestic Market Recapturing Strategy



Finally and most importantly for the DMRS, Figure 3 shows the two other policy documents which have been given particular attention in the development of the DMRS: the National Industrial Policy (NIP) and the National Export Strategy (NES), both adopted in 2011 and currently being reviewed.

The NIP is based on three broad objectives:

- Increase domestic production for local consumption;
- Improve Rwanda's export competitiveness; and
- Create an enabling environment for Rwanda's industrialization.

The NIP differentiates between sectors, including industry, agriculture and service sectors, with immediate growth potential – feasible sectors – and sectors which are not yet feasible but might become so in the future – desirable sectors. Accordingly, sectors are clustered and prioritised as follows:

- **Short Term:** Agro-processing (including pyrethrum, dairy, vegetable oil, soaps and detergents); ICT; high-end tourism; textiles (including silk, leather & leather goods); minerals processing;
- **Medium Term:** Construction materials (including cement); Pharmaceuticals; chemical products (including fertilizers);
- **Long Term:** Building materials (metal parts and structures); bio plastics; other high-tech industries.

In terms of activities, the NIP puts a focus on horizontal activities, complemented by a limited number of vertical support measures, such as value chain analyses. The DMRS aims at complementing this by a stronger focus on sector-specific support measures.

The NES aims to raise exports and complements existing policies and strategies through both horizontal and vertical

sector-specific interventions. The identified sectors which benefit from support under the NES are:

- Traditional export sectors: tea, coffee, tourism and mining,
- Non-traditional export sectors: horticulture, business process outsourcing, home décor and fashion, and Greenfield sectors to be identified.

Since none of the NES priority sectors account for major imports, there is no overlap between the sectoral approach in the NES and the DMRS.

In sum, the NIP itself, the PSDS and the various related policies address objective 3, while the NES has addressed objective 2. However, the first objective has hitherto not been addressed by a focused strategy. The DMRS covers this void.

4. VISION AND OBJECTIVES

4.1 Vision

The vision of the DMRS is:

To contribute to the Vision 2020 objective of setting Rwanda on a path to economic transformation from a subsistence agriculture economy to a knowledge-based society.

4.2 Objectives

The objective of the DMRS follows from the vision presented above and is closely aligned with the NIP:

To increase domestic production for local consumption while contributing to structural transformation of the productive sector and increasing international competitiveness.

This objective both addresses the short-term issues of an unsustainable trade balance and the need for structural change of the Rwandan economy.

The indicators to measure progress towards the objectives are:

- Reduction in the share of imports in total domestic consumption overall, and particularly in priority sectors identified in the DMRS;
- Above-average increase in output of priority sectors.

4.3 Anticipated Impact

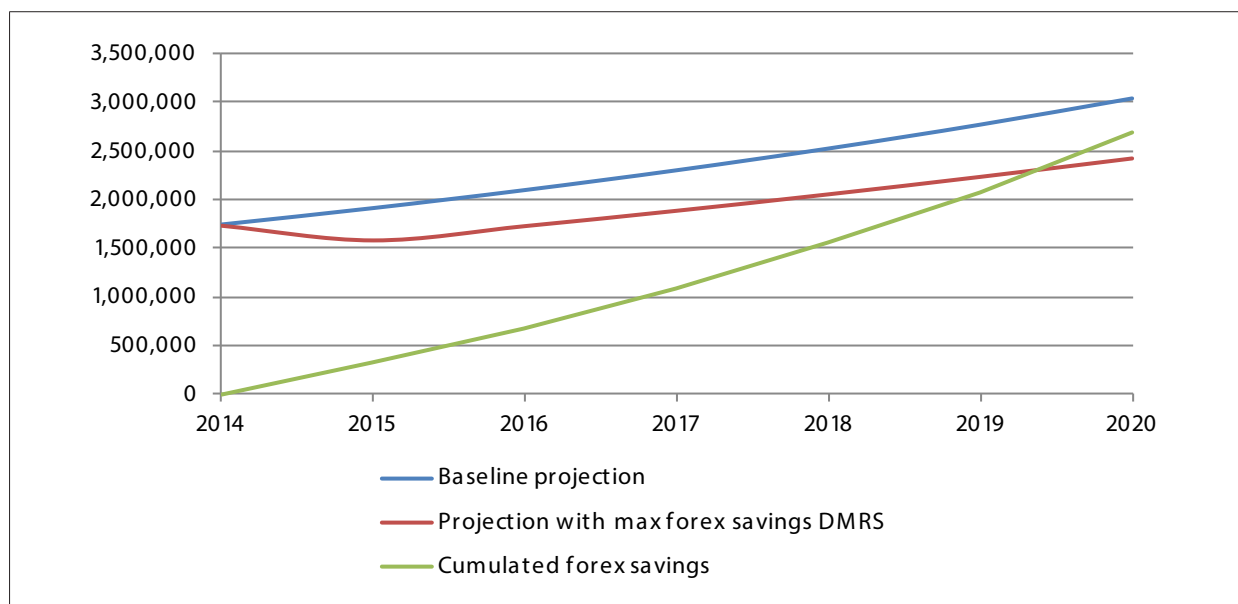
In an optimistic scenario, the total foreign exchange savings induced by the DMRS could reach almost USD 450 million per year in the DMRS period. Altogether the total potential foreign exchange savings resulting from the DMRS account for 17.8% of the import bill. Almost one third of this would come from the cement sector. This would reduce Rwanda's average annual import bill by almost 6%. With regard to the effects of other sectors on the trade balance, these will be more limited, in no case exceeding USD 37 million (sugar), or about 1.5% of the import bill. Due to the low concentration of Rwanda's imports, the impact on the trade balance of substituting imports in a particular sector will be limited as a rule.

Figure 4 illustrates the potential effect of the DMRS on the trade balance. The blue line shows the projected development of net goods imports over the period 2014 to 2020. The red line shows the development of imports assuming that the savings induced by the DMRS are realised in full from 2015 onwards. As can be seen, this would have a major one-off effect in 2015 and also leads to slower growth of imports thereafter – but note that imports in absolute terms are still expected to increase.

This should however not be considered a concern, as Rwanda is expected to remain an open economy actively trading with the region and the world. Finally, the green line shows the cumulated foreign exchange savings that could be realised by the DMRS. These could reach more than USD 2.5 billion at the end of the six-year DMRS period – which is more than one year's full import bill during the period.

Again, it is stressed that this constitutes a scenario where all proposed measures are successfully implemented; however, even in a scenario with "only" 50% of the potential foreign exchange earnings are realized it would still be a significant contribution.

Figure 4: Potential effect of DMRS on import values and foreign exchange savings, projection 2015-2020



Source: Authors' projections.

5. DMRS PRINCIPLES AND POLICY APPROACHES

The DMRS aims at achieving the above stated objectives through a comprehensive set of approaches and activities. At the same time, the DMRS is only one component in the Government's policy framework for economic development. Therefore it is necessary to clarify what the DMRS does, and what it does not do.

5.1 Focus on Microeconomic Approaches Based on Sound Macroeconomic Policy

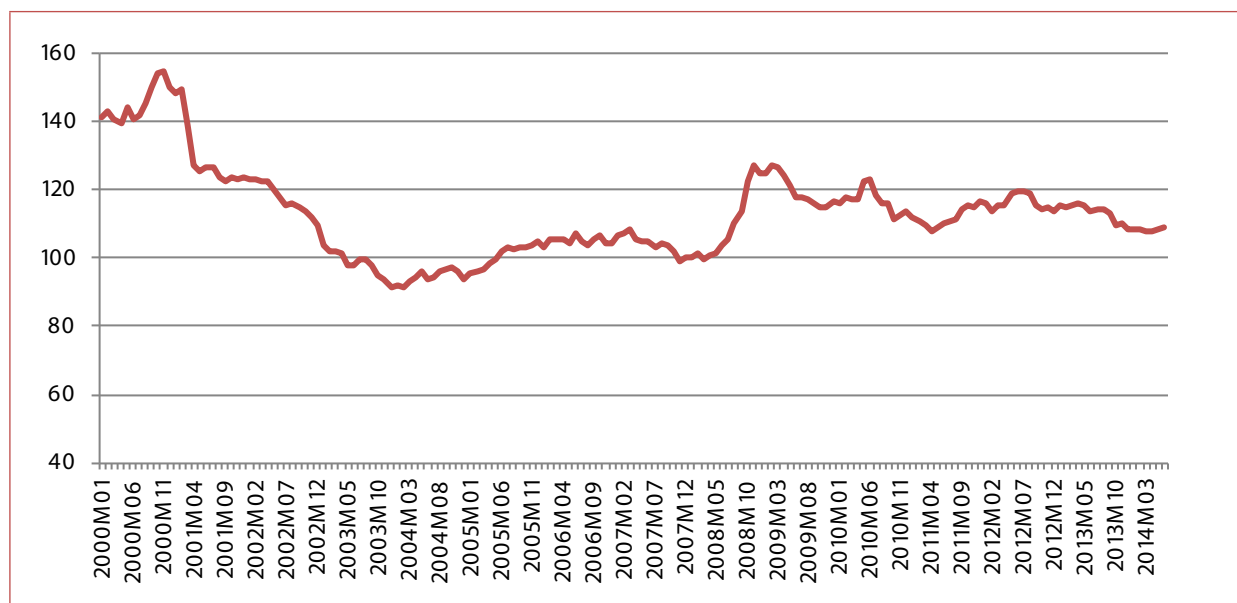
A balance of payments problem is a macroeconomic issue, but it depends on both macroeconomic and microeconomic factors. Among the former, the real exchange rate is of primary importance.

As Figure 5 shows, although the Rwanda Franc has been slightly overvalued, the real effective exchange rate has been relatively stable over recent years, suggesting no fundamental imbalances, but still leaving some room for improving international competitiveness – data suggest that it is still being overvalued by about 10%.

This is an issue also addressed in the NES which “draws the attention of policymakers and regulators to the impact of the real exchange rate on Rwanda's exports” (p. 18). While a competitive real exchange rate makes imports more expensive and thus might hurt domestic producers depending on imported inputs, it supports the development of domestic value chains and thus the DMRS.

Given the DMRS' role in Rwanda's policy framework, as discussed in section 3, it is not within the scope of the DMRS itself to address macroeconomic issues such as monetary and exchange rate policies; the DMRS primarily targets microeconomic tools. However, for these to be successful, it is essential that they be coordinated with appropriate supportive macroeconomic policies, such as maintaining a competitive exchange rate. Also, addressing the savings rate is not at the core of the DMRS; however, certain measures aimed at increasing savings are included, for example as part of the communication strategy.

Figure 5: Real effective exchange rate (REER) index, Rwanda Franc against 138 trading partners, January 2001 – June 2014 (December 2007 = 100)



Source: <http://www.bruegel.org/datasets/real-effective-exchange-rates-for-178-countries-a-new-database/>

5.2 Horizontal and Vertical Approaches

The DMRS combines both sector-specific (vertical) and cross-sectoral (horizontal) measures.

This is both in line and complementary with the NIP approach, which states that “Competing with imports [...] requires significant investment and technological upgrading for Rwandan firms, with specific cluster focus required, particularly in advanced industries such as pharmaceuticals or building materials” (p. 13). In line with this approach, a number of sectoral initiatives and action plans have been developed, which have been considered, and which are brought together, in the DMRS. Nevertheless, the rationale for sector support under the DMRS remains within the overall policy orientation of the Government to only intervene in the economy where market failure is diagnosed – this could, for example, be coordination problems in case of sectors dominated by informal, small scale activity; the existence of positive externalities, etc.

Horizontal measures – such as infrastructure development, vocational training, etc. – have extensively been addressed in the PSDS as well as in the NIP; they therefore are not the focus of the DMRS. However, there are certain horizontal measures which specifically support domestic businesses producing for the domestic market, and these are addressed by the DMRS. The communications campaign is an example. Care has been taken to avoid measures which would violate WTO rules. Tariff policies could be considered in coordination with the EAC Partner States only, e.g. in the context of the upcoming review of the common external tariff (CET), but are not the focus of the DMRS.

5.3 Combination of Short-term Improvements and Long-term Strategic Approach

In line with the dual objective of improving the balance of payments in the short term and contributing to structural change of the economy, the DMRS over the period of six year (2015 to 2020) combines activities which aim at both quick wins and longer term technological transformation.

In the short run, the DMRS approach is to identify a limited number of sectors where Rwanda spends a lot internationally but which consist of products it could produce locally, with a preference on those based on local inputs, and with the possibility to have effects in the very near term (quick wins). These are complemented by some horizontal activities, such as the “Buy Rwandan” campaign which also aim at fast results.

This short-term approach is complemented by measures aiming at achieving longer term benefits, based on technological development and with a focus of upgrading domestic business so that they not only can compete with imports but could start exporting. This is considered important for the long-term success of the DMRS, since it is the combined effect of reduced imports and increased exports that will improve Rwanda’s foreign exchange position. Hence, domestic market recapturing might be best viewed as a “stepping stone” to export development. In turn, this requires that technological development is an explicit part of the DMRS, and measures have to be identified accordingly.

6. HORIZONTAL MEASURES

Some general findings with implications for the identification of horizontal measures can be summarised from the preceding analysis. First, in view of the wide dispersion of Rwanda's imports across different products, sector- or product specific support measures by the DMRS are justified only in the sectors accounting for the highest value imports. Few of these are consumer goods.

In addition, domestic market recapturing of consumer products is limited due to the frequent existence of different market segments, which are determined by price, quality, image/brand loyalty and other factors. Based on the meetings with stakeholders it appears that domestic producers typically target an intermediate market segment, while imports would either target upmarket consumers (global brands), or the particularly price-conscious (low-priced imports from e.g. EAC countries or China). Market recapturing strategies especially for consumer goods should therefore not be focused on product-specific support measures but have a more horizontal approach. But horizontal measures of course also are to the benefit of products used as inputs by the business sector.

Such horizontal DMRS support measures are planned to include:

- Awareness raising for consumers about domestic goods and services, e.g. through a national communications and branding campaign (section 6.1);
- Strengthening demand for domestically produced goods and services in government procurement (section 6.2);
- Upgrading the capacity of domestic firms to produce goods and services through a national SME upgrading programme (section 6.3); and
- Improving the quality of domestically produced goods and services through an upgrade of the national quality infrastructure and training of entrepreneurs, with a particular focus on quality and quality management issues (section 6.4).

6.1 Communications Campaign

The main objective of the communication strategy is to induce Rwandan consumers to buy more domestically produced goods and services, rather than imported ones. Thereby, the communication strategy will contribute to a reduction of Rwanda's trade deficit. The communication strategy is one of the key horizontal measures of the Domestic Market Recapturing Strategy (DMRS).

6.1.1 Context

The high level of imports on Rwanda's market is not primarily an issue of a gap in supplies. Indeed, most domestic producers suffer from low capacity utilisation. While this is to an extent the result of raw materials and operational problems, another factor is low demand for domestically produced goods and services due to a perception among consumers – not necessarily true – that imported products are superior in quality or cheaper in price.

6.1.2 Policy Recommendations

A communication strategy has been prepared as part of the DMRS. It is suggested to be implemented as a matter of urgency.

The communication strategy is aimed to achieve three results which are to be achieved by three components:

- (1) First, national branding will improve the image of domestically produced goods and services as good value-for-money products. The expected result is an improved image/perception that consumers have of goods and services "Made in Rwanda". The Rwanda brand would function as an umbrella brand for domestically produced services and products.
- (2) Second, the strategy will educate consumers about the benefits of buying Rwandan goods and services. The expected result is increased knowledge of consumers about quality and standards issues and reduced sales of sub-standard goods and services.
- (3) Third, the communication strategy will highlight/showcase specific products and services, on a rotating basis. The expected results are increased sales of these products and services, thereby directly contributing to foreign exchange savings.

6.2 Government Procurement

The report "Encouraging Growth of SMEs through Public Procurement"¹ identifies seven key policy recommendations linked to public procurement with potential to assist Rwandan SMEs recapture domestic markets. These policy recommendations are fully relevant in the context of the DMRS, especially since Rwandan firms/sectors with market recapturing potential identified in sections 7 and 8 are in most cases the same SMEs that were consulted during the preparation of the study "Encouraging Growth of SMEs through Public Procurement". Thus it is proposed that these recommendations are considered as horizontal priority measures under the DMRS. The content of the study "Encouraging Growth of SMEs through Public Procurement" has therefore been summarized in this section.

¹ This report was published by Karisimbi Partners on 18 October 2013 and is currently awaiting for Cabinet consideration.

6.2.1 Context

The Ministries and Agencies of the Government of Rwanda together comprise the largest source of demand for goods and services in the country. In 2012 alone, 12% of GDP was spent on public procurement. As such there is significant potential to help develop the skills and capacity of the local SME manufacturing and services sector through GoR's procurement processes. At the moment, the principal barriers to entry in public procurement for SMEs are:

- Late payments as well as long payment terms severely constrain working capital and increase the financial burden on SMEs who need to purchase guarantees, etc.
- An over-emphasis on price that fails to take into account additional value that SMEs may offer, such as proximity, quick turnaround, aftercare, or other benefits.
- Disproportionately strict technical and financial criteria without considering always the specifics of the job in question. In addition, a lack of clarity by GoR procuring entities on the specific technical requirements of a project often leads to costly changes mid-project.
- Large contract values can also be a significant problem in some instances, as they entail the need for larger guarantees and availability of working capital which often goes beyond the capacity of SMEs.

6.2.2 Policy Recommendations

After considering global best practice, the current policy environment, and the constraints that are faced daily by SMEs in the Rwandan marketplace, the following policies are recommended. These recommendations are designed to enable GoR to obtain its dual objectives of maximizing long-term value for money in procurement while also encouraging the development of the local SME sector. More detail is provided on each recommendation in the subsequent pages:

- (1) Pay SMEs quickly and efficiently. Delayed payments are the number one complaint of the domestic SME sector and are significantly impeding competition for GoR contracts. Resolve the issue by establishing signing authorities to reduce number of approvals, ensuring funds are allocated in advance, and including penalties to officers and interest to payees in the event of non-compliance.
- (2) Amend local price preference to focus not on domestic firms (which include traders) but rather on domestic manufacturing and service SMEs creating value in country. In addition, leadership will need to clearly articulate the value of using local preference
- (3) Use lots and framework agreements more frequently to break up larger tenders especially for bundled goods and establish framework agreements over time. This will reduce costs on both sides by increasing competition and SME sourcing while lowering the guarantee and working capital requirements.
- (4) Look beyond price to overall value for money by factoring in additional competitive advantages that SMEs have such as proximity, quick turnaround, and aftercare.
- (5) Ensure that tender criteria are accurate and proportionate to the project in question—at times by allocating budget to fund a subject technical expert who can advise procurement officers on optimal ToRs or specifications.
- (6) Encourage increasing subcontracting on fair terms between larger firms (both domestic and international) and local SMEs.
- (7) Upgrade the procurement profession, by defining a clear career track starting from university courses all the way through to the upgrade senior level within agencies, with regular training and promotion.

It is recommended that the implementation of the policy measures identified above is coordinated by the DMRS coordination mechanism described in section 9. In this respect these policy measures have been included in the DMRS action plan presented in Annex A.

6.3 National Business Upgrading Programme

The objective of the National Business Upgrading Programme is to extend and strengthen on-going business upgrading programmes and fully take into account the issue of domestic market recapturing.

6.3.1 Context

There are currently a number of overlapping initiatives linked to SME upgrading. Government initiatives have been streamlined in the National Employment Programme which is currently under implementation. This includes, among other things, a common Government Secretariat under MIFOTRA, decentralization of business development services to districts which are restructured to have business units, and finance services assembled under Business Development Fund. Also, the RDB Manufacturing Growth Programme, which targets larger firms, provides technical assistance to the manufacturing sector on a cost-sharing basis. Moreover, RDB is currently implementing a programme aimed specifically at increasing export capabilities of Rwandan companies (Export Development and Export Promotion Programmes).

Finally, RDB has also recently implemented the Supplier Development Programme² which tried to assist Rwandan companies recapture domestic market but has shown limited results.

6.3.2 Policy Recommendations

The following policies are recommended:

- (1) Regroup various overlapping programmes under one National Business Upgrading Programme, and extend eligibility to companies that have domestic market recapturing potential – this could be done as part of the Rwanda Growth Anchor Initiative foreseen under the 2014 PSDS Project Appraisal Document: Current initiatives such as the Export Development Programme and the Manufacturing Growth Programme seem to have similar objectives and should therefore be regrouped into one National Business Upgrading Programme, to be coordinated with the National Employment Programme.

In designing the new programme, market recapturing and export development should not be viewed as separate or exclusive activities but rather as sequential/ complementary ones. For instance, market recapturing should be perceived as a stepping stone to export development. Hence programmes aimed specifically at assisting companies recapture markets (such as the Supplier Development Programme) should be integrated with other existing ones into a unique Upgrading Programme. In practice, this implies extending various existing programmes to companies that might not have export development potential yet, but that have demonstrated market recapturing potential. Close coordination with the National Employment Programme has to be ensured.

- (2) Fully integrate the findings of the Suppliers Development Programme into the National Upgrading Business Programme³: Over the course of executing the programme, consultants, RDB and TradeMark East Africa have identified several key lessons that have impacted the ability of the programme to deliver desired results. These have been documented and should be fully taken into account in the design of the National Upgrading Programme. These include seven key lessons:

- Lesson 1: Enable Innovation and Market Unlocking Investments;
- Lesson 2: Integrate Export Promotion into Domestic Market Recapturing;
- Lesson 3: Leverage Government of Rwanda Spending (Public Procurement);
- Lesson 4: Set Targets for Total Spending Lower;
- Lesson 5: Create Market Information Resources to Reduce Barriers to Buyers;
- Lesson 6: Allow more time for Gaining Agreement and vetting participants;
- Lesson 7: Expand Scope to Include New Products or Greenfield Investments.

6.4 Upgrading the National Quality Infrastructure

The objective of upgrading of the national quality infrastructure is two-fold: On the one hand, it aims at ensuring that the quality of domestically produced goods improves by increasing access to product testing and certification. On the other hand, it aims at enforcing existing standards, for instance in order to prevent imports of products that do not meet national quality standards (including counterfeit or smuggled products, etc.).

6.4.1 Context

The capacity of the Rwanda Standards Board (RSB) is limited at present. The prerequisite services required of RSB include a wide range of standards, ability to conduct quality tests, calibrations, auditing and training capabilities. These are still in need of upgrading in order to meet requirements of the domestic market. For instance, accreditation of its laboratories and services remains a major challenge.

RSB's capacity constraints result in inadequate testing capacities which cause delays of products getting to the market, including domestic products. There is also the major issue of enforcement of existing standards. For instance, the RSB has developed standards and policies on material thickness (for quality and safety) but the market regulation and enforcement of standards still needs to be improved. Several stakeholders pointed out that importers are known to use sub-standard quality and steel thicknesses and that Rwandan customers are not yet informed enough to determine sub-standard quality products RSB is however now working on raising awareness on construction materials standards.

6.4.2 Policy Recommendations

Given the context, the following policies are recommended:

- (1) Make RSB a central partner of the DMRS: as pointed out in section 6.1, the communications campaign will need to convince consumers that the quality of locally produced goods is at least as high as those of competing imports.

While it will not be necessary that all products associated with the communications campaign undergo certification (for instance goods such as clothes do not present health or safety issues and therefore would not need to be certified), it is expected that a large share of the products (especially food, construction materials and certain light

² The implementation of the Suppliers Development Programme included identifying potential products and services to target as “opportunities” via a close working relationship with large companies importing materials into the country. Success was to be achieved through sustained collaboration between large buyers and potential suppliers, with the consultant acting as a facilitator, business planner and capacity builder in order to support the supplier in attaining the correct mix of operational and management capabilities in order to effectively serve the buyer and win their continued business.

³ See for instance Supplier Development Programme – NOC Update by Karisimbi Business Partners.

manufactured products which have clear health and safety impact) will need to be certified as a prerequisite to be included in the campaign.

For instance, it will be required for certain products to achieve RSB's S-Mark prior to being included in the campaign. Hence RSB should be closely involved in the following activities, inter alia:

- Defining the minimum standard requirements for the products endorsed by the communications campaign;
 - "Fast-tracking" product certification for companies that wish to join the communications campaign;
 - Conduct random monitoring / testing of the products in order to ensure the on-going credibility of the campaign.
- (2)** Strengthen the capacities of RSB to test domestic products: It will be essential for the GoR to continue to mobilize resources in order to strengthen the institutional capacities to engage in product/system certification. While on-going interventions and programs are partly addressing the need to strengthen RSB (for instance, TMEA is currently providing support to RSB in the area of HACCP certification and construction material testing), the inclusion of RSB as a major partner/stakeholder of the DMRS will need to be coupled with support interventions that will ensure that RSB is able to fulfil its role under the DMRS.
- (3)** Harmonization of standards in the EAC: The Government should work together with RSB and EAC partner governments to develop further standards that are appropriate and enforceable in the EAC, especially in sectors identified under the DMRS. The main objective of this activity will be to ensure that a level playing field exists between producers in the region.
- (4)** Strengthen the capacities of government agencies to enforce standards: As pointed out above, certain products are currently entering the Rwandan market despite the fact that they do not meet local standards (smuggled construction materials for instance). It will therefore be essential to continue to strengthen the capacities of government departments and agencies (such as Customs) to enforce existing standards. Such actions which could include awareness-raising should be part of the DMRS.

It is recommended that the implementation of the policy measures identified above is coordinated by the DMRS coordination mechanism described in section 9. In this respect these policy measures have been included in the DMRS action plan presented in Annex A.

7.0 SECTORAL MEASURES

As has been explained above, horizontal measures need to be complemented with policy measures and flanking support targeting constraints in specific sectors. This requires, first and foremost, the identification and selection of the sectors to be supported.

7.1 Identification of Priority Sectors

The assessment of the domestic market recapturing potential of products and product groups was undertaken in a staged approach:

- First, in line with the DMRS objective of reducing the trade deficit through increased domestic production for the domestic market, the starting point for assessing the market recapturing potential was to analyse the value and growth of imports of goods and services since 2009;
- The second stage was to identify the feasibility of recapturing (fully or in part) the domestic market, based on production capacities and potential and a number of other factors;
- The third stage consisted in ranking the identified sectors based on the potential impact that recapturing may have on the trade balance. For each sector, a rough estimate was made with regard to the share of imports that could potentially be substituted by domestic production. Furthermore, the role of other policies and support measures, as well as of current and planned investments in the sector in the sector was assessed (this is included in the short sector profiles presented in annex B to the DMRS);
- As part of the sector profiles, potential investment projects to be supported by the DMRS were also identified; here, the DMRS plays a subsidiary role, and therefore business cases are developed only where investment potential has been found but yet no public or private sector investment projects have been developed. It is encouraging to note that for most priority sectors, key investments projects are already under way or at least in the process of being defined, so that the additional contribution of the DMRS in this regard can be limited to some selected projects. Overall, however, the existence of private and public sector investment projects indicates that there is substantial transparency in the market in Rwanda, and investment decisions are based on a sound economic and business rational, i.e. there is no market failure.

For the sake of presentation, the individual detailed sectors were aggregated into three main priority sectors of the DMRS, i.e. construction materials, light manufacturing and agro-processing.

The results of the analysis are summarised in Table 1, which provides a simple traffic light assessment of the domestic market recapturing potential, the priority of a sub-sector for the DMRS, and potential investment projects to be supported by the DMRS: a green assessment indicates the possibility of high market recapturing potential/priority, a yellow assessment an intermediate potential/priority, and a red assessment low potential or priority, at least in the foreseeable future.

Table 1: DMRS Priority Sectors

Sector	Potential forex savings p.a., 2015-20 (USD million)*	Recapturing potential	Priority for DMRS	Existing investment projects	Priority for investment proposal under DMRS
Construction materials	206				
Cement	140	High	High	Yes (cement)	Low for cement; high for substitutes (bricks, etc.)
Steel & iron	34	High	Medium	Yes (steel)	Low for iron & steel; high for substitutes (timber products)
Aluminium products	15	Medium	Medium	No	Low for aluminium structure; high for substitutes (timber products)
Paints & varnishes	7	Medium	Medium	Yes	Low
Plastic tubes/construction materials	6	Medium	Medium	Yes	Low
Ceramic/granite tiles	4	Medium	Medium	Yes	Low
Light manufacturing	124				
Textiles & garments	37	High	High	Limited	High (mosquito nets)
Pharmaceuticals	26	High	Medium	Yes	Medium
Soaps & detergents	20	High	High	Yes	Low
Reagents	12	Medium	Medium	No	Medium (reagents)
Packaging materials	10	Medium	High	Yes	Medium (paperpack.)
Wooden furniture	8	Medium	Medium	Yes	Low
Hand tools	5	Medium	Medium	No	Medium (hand tools)
Insecticides	4	Medium	Medium	Yes	Low
Beauty/make up preparations	2	Low	Low	Yes	Low
Agro-processing	112				
Sugar	28	High	Medium	Yes	Low
Fertiliser	26	High	High	Limited	Medium (organic fertiliser)
Edible Oils	24	High	High	Yes	Medium (soya)
Rice	21	High	Medium	Yes	Low
Dried fish/aquaculture	7	Medium	Medium	Yes	Medium (dried fish, aquaculture)
Maize	6	Medium	High	Yes	Low

*Gross forex savings, i.e. excluding cost of imported inputs.

7.2 Construction Materials

7.2.1 Sector Characteristics

Construction materials – mainly steel and cement – constitute 10% of current imports. With the growing demand from a booming construction sector the trade deficits from these products will increase significantly over the coming years. If the trend in construction continues, the supply of cement will be outpaced by demand as the new cement plant in Rusizi starts operation. Demand for steel is already considerably larger than supply.

Population growth will cause a large demand for housing in the coming decades. According to the population projections from the National Census (2012), 102,000 new households are currently created every year. This will accelerate to 184,000 new households by 2027. A calculation on materials required to meet the current housing needs gives a picture of a large latent demand. If the current needs were to be met by concrete building it would require 938,400 MT cement for the walls alone – twice the current total demand. This would rise to 1,692,800 MT by 2027. Add to this cement requirement for floors. In addition, concrete requires steel for re-enforcement. Meeting housing demand would require 43,000 MT of steel bars and rods – twice current imports.

Meeting housing demands with brick housing only would generate an additional demand of cement of 294,443 MT by 2015 and no additional requirements for steel. Unlocking constraints to demand and supply for housing could facilitate demand for traditional concrete products as well as new domestic products. These constraints pertain to the business environment for housing developers, access to mortgage funding for households and education and standards in the construction sector.

Expansion of domestic production capacity for steel and cement is limited by the needs for power and raw materials. It is therefore advisable to diversify into less energy intensive products with domestically available raw materials. Product diversifications will give more options to fill trade deficit gaps as well as more options for the construction sector.

The identified raw materials and products are:

- Clay – Fired bricks, tiles, extruded clay and indoor clay products;
- Timber – laminated beams, joinery, panels, cladding, windows, doors, cabinetry;
- Sand – mainly and input to other products. Float glass could be researched;
- Stone – limestone for cement, East African Granite, construction stone, volcanic stone for stone wool or in concrete;
- Agro-waste – straw board panels for roofs and ceiling;
- Compressed soil for low-cost bricks and tiles.

7.2.2 Proposed Measures

1. Expand domestic production and use of clay products

Clay products of high quality are already produced in Rwanda. However, producers operate at relatively low capacity utilization. In response, the following measures are recommended:

- **Access to raw materials:**
 - Although raw materials are plenty there are competing land uses. Proper zoning and in some cases land acquisition is necessary.
 - Transport costs between extraction site and production unit is high. Satellite plants can be set up in areas near clay deposits. Moreover, this brings production closer to markets.
- **Production issues:**
 - Technical and economic standards for ceramic products are claimed to be undefined and need review.
 - Energy costs are high. Innovative solutions are needed to fire tiles at a lower cost. For example, in Vietnam, tiles are fired with rice husks. This and other agro-waste (e.g. from sugarcane) could be a solution in Rwanda benefitting clay producers as well as farmers. There is already one small-scale rice-husk fired production unit in Kayonza District.
 - Alternatively, brick production could be integrated with power plants which have excess power production outside peak-hours. During these hours, energy, which would be wasted otherwise, can be used for brick firing.
- **Market issues:**
 - Although demand outstrips supply on the domestic market, there is competition with foreign suppliers and the informal sector. Competing products are often sub-standard and not taxed. Enforcing and monitoring standards will create a level playing field. Moreover, standardized bricks require less mortar and may therefore be more cost-effective for consumers although the bricks are more expensive.
 - When the above improvements have been implemented, showcasing clay in housing development projects would be proof that clay can be a cost-effective alternative to foreign products.

2. Expand production and use of domestic timber products

For the increased use of timber in construction works, which could partially substitute imported steel/metal and aluminium structures, the following measures are proposed:

- **Raw materials:**
 - Forest area is targeted to increase to 20% of the land area to the current level. This requires continuous expansion and replanting of forest areas. Incentives for artisanal wood lots can be given.
 - Establish proper managed sources of timber from managed forests or through partnerships with industry (such as tea factories).
 - Establish relationships with forest owners to manage the supply of timber. E.g. Most Tea plantations own larger forest areas in the country.
 - Encourage proper sourcing, drying and production of all timber types.
- **Production:**
 - Sourcing, drying and production requires a high skill-level, and the required skills are currently limited to few people in Rwanda. One pocket of excellence is the Rubengera Technical Secondary School where Rwandan youth learn to produce materials of high quality. Experience from there can be used to expand the skills-base.
 - There currently is no producer of these products at an industrial scale.
 - Establish acceptable quality and performance standards – introduce timber grading.
- **Markets:**
 - Knowledge on the use of timber among housing developers and structural engineers is currently limited. Curricula could be reviewed to consider whether the education of structural engineers is directed adequately toward timber structures.
 - Construction regulations should be reviewed to consider whether they accurately take the properties of structural timber into account.
 - Information campaign on the benefits of timber structures.
 - Showcase applications of timber in new construction development projects.

3. Embrace compressed soil products as viable material for low-cost housing as well high-range buildings

- **Raw materials/Production:**
 - Production and raw material extraction can happen close to the construction site.
 - Conduct research on the optimal production mixes and machinery and instigate proper training.
 - Review current production standards and provide technical assistance to cooperatives.
- **Markets:**

- Review construction standards as to whether they adequately accommodate for proper use of soil-based materials – instigate training in following and monitoring standards.
- Apply technology to high profile projects to demonstrate potential quality and to fight against the perception of soil being “un-progressive”.
- The production of soil bricks can be integrated with public works schemes or with the Vision Umurenge Programme.

4. Facilitate straw board panels as a viable alternative for mid-range housing

• Production:

- Prioritize training of local workers for the factory.
- The capacity of the factory starts fairly low – at 5000 houses per year. This may be enough for the current market but only a fraction of the needs for affordable housing.

• Markets:

- Review the existing building standards to accommodate this new material.
- Straw panel housing needs availability of timber structures. A local timber beam production will enhance competitiveness of straw panel boards.
- Develop low-cost housing prototypes and test development projects to estimate costs and showcase properties of the straw-based materials vis-à-vis others.

5. Facilitate further production of sand and stone materials

- Further exploration of deposits to quantify the feasibility of extraction.
- Expand the knowledge of East African Granite vis-à-vis other materials.
- Engage in dialogue with targeted potential investors in glass and stone wool.

6. Facilitate a market for domestic building materials by unlocking constraints to housing demand

- Facilitate housing demand through financial innovation in mortgage bonds. Potentially introduce specialized mortgage banks.

7. Improve the business environment for private housing developers

- Facilitate land access for developers by clear and consistent zoning;
- Ensure timely provision of infrastructure to developed areas;
- Facilitate access to finance by separating the process of construction permits in two phases: 1) Planning permit should be as brief as possible and only serve the purpose of securing funding for detailed designs and development. 2) Design permit to ensure that designs live up to building standards.

8. Re-direct regulation and education toward the new domestic building materials

- Review the current standards to ensure they accommodate for the alternative materials.
- Consider revision of the current regulations which are inspired by (parts of) the UK regulations from 1998. In doing so, consider the Eurocode which is a framework developed for 28 different European countries. It is thus a flexible framework that ensures international standards. This will also facilitate foreign investment as the Eurocode is known by foreign developers.
- Review the curricula for education relevant to the construction sectors and ensure that new graduates are familiar with the new domestic building materials.

7.3 Agro-processing Sector

7.3.1 Sector Characteristics

The agro-processing sector (including food and beverages) is the largest industrial sector in Rwanda’s economy (after construction). At the same time, it also accounts for more than 12% of Rwanda’s net imports. The main sub-sectors in terms of imports are:

- Edible oil;
- Sugar;
- Wheat and flour;
- Rice;
- Maize;
- Malt;
- Dried fish; and
- Numerous other agricultural goods and their downstream products.

The sector faces a number of challenges. These include low capacity utilisation and the high fluctuation in the availability of raw materials due to a heavy dependence on rain-fed agriculture, and challenges establishing supply links between processors and smallholder farmers. Weaknesses in the national quality infrastructure are another impediment to offering Rwandan consumers, proven and tested high quality products.

Low Capacity Utilization

A common problem for Rwanda's agro-processing sector is the limited or inadequate capacity utilisation due to insufficient raw materials for the major agricultural that are processed for the domestic market. For the maize processing sector, the average capacity utilization for maize mills in Rwanda is about 65%; average capacity utilization for rice processing mills in Rwanda is 22% while the average utilization of the major sugar and edible oils factories is 69% and 15%, respectively.

The low capacity utilization is due to a number of factors, including limitations in the amount of arable land for agricultural production, the low technology used in agricultural production and the fact that agricultural production is mainly dominated by low-productive smallholder farmers. Despite the substantial effort that the government has invested in getting small holder farmers to produce and sell in cooperatives, organisational problems still persist within small holder farmers cooperatives.

The low capacity utilization at factory level within the maize, rice, edible oils processing plants is due to a number of factors, including limitations in the amount of arable land for agricultural production, the low technology used in agricultural production and the fact that agricultural production is mainly dominated by low-productive smallholder farmers who may have challenges in accessing processors. Despite the substantial effort that the government has invested in getting small holder farmers to produce and sell in cooperatives, organisational problems still persist within small holder farmers cooperatives.

Heavy dependence on rain-fed agriculture

Although the Government has invested significant resources in irrigation infrastructure, agricultural production systems in Rwanda are still heavily dependent on seasonal rainfall patterns. In some areas where modern irrigation systems have been put in place, maintenance of these systems by small holder farmers has been a challenge. Dependence on rain fed systems affects agricultural productivity and subsequently leads to low capacity utilisation since production is restricted to the two rainy seasons in the year.

Limited availability and use of crop insurance

Limited crop and welfare insurance among smallholder farmers is another aspect that characterises agro-processing value chains, keeping farmers trapped in low productive agriculture. Given that the lack of crop insurance negatively affects farmers' investments in modern inputs like fertilisers and improved seeds leads to low production and subsequently low capacity utilisation at the downstream factories. Given that low capacity utilisation is a major constraint that cuts across most of the agro-processing industries in Rwanda, addressing low productivity is key to improving capacity utilization within Rwanda's agro-processing sector.

7.3.2 Proposed Measures

Given that Rwanda is a small landlocked mountainous country with a growing population, there are competing demands for land use, including for human settlements, livestock rearing, and land for crop production. The limitation on the amount of arable land available for agricultural production implies that there will always be limits to how much agricultural production can be expanded in order to meet the demand of the downstream agro-processing sector. Given this scenario, the only plausible alternative to expand production is the use modern and intensive farming methods like green house technology, irrigation systems, use of improved and high yielding varieties of maize, soya bean, rice and other agricultural products. These modern and intensive systems will ensure that both land and labour productivity is increased, as opposed to expanding the area under production.

Against this background, the DMRS proposes the following measures to address the above identified constraints:

- 1) Attract medium and large scale farmers to work with small scale farmers or cooperatives of small scale farmers under contract farming arrangements or outgrower schemes: Given that the majority of agricultural producers are small scale, there is an urgent need to attract medium and large scale agro-processors who will operate at all levels of the agricultural value chain, including production of raw materials, which is normally left to small holder farmers. One of the measures to attracting these large scale producers and agro-processors is to provide targeted tax incentives specifically for the agro-processing sector just as is the practice with FDI in other sectors of the economy. Tax incentives for agro-processing industries could include five-year tax holidays for newly established agro-processing industries and tax exemptions for inputs used in the agro-processing industries in Rwanda. Indeed some value chains like wheat may have to import raw materials from countries that produce them more effectively. However, maize and soya productivity can be improved by intensive commercial farming given that the conditions in Rwanda under which these crops grow are not so different from those in countries where these products are currently sourced.
- 2) Avail supporting infrastructure: The provision of incentives to attract both foreign and domestic direct investment in the agro-processing sector should be coupled with the provision or earmarking of land for modern large scale farming, and the provision of affordable and reliable energy to support agro-processing. In addition, the provision of feeder roads to reach small-holder outgrowers and to transport agricultural produce to markets is key to recapturing the domestic market in the agro-processing sector.
- 3) Develop Rwanda's Commodity Exchange and Warehouse receipt system: Given that the lack of credit

among smallholder farmers is one of the factors that limits investments into modern farming techniques like fertilisers and improved seeds, developing Rwanda's commodity exchange is key to ensuring that farmers can access credit based on a grain bank where they deposit their agricultural produce in return for a warehouse receipt which can be used as collateral to access credit for small-holder farmers. Once grain banks or warehouse stores have been decentralised and made accessible to small holder farmers within their localities, this system can be linked to local credit institutions like SACCOs that can provide consumption credit to small holder farmers. Although this system may take some time to operationalise, small holder farmers will understand the benefits of getting good prices for their produce rather than selling to informal traders who usually exploit them with below market prices

- 4) Introduce and expand crop insurance schemes: Implementation of a commodity exchange among small holder farmers can be complemented with crop insurance schemes among producers. Research from Ghana has shown that farmers who access crop insurance were more likely to undertake risky investment decisions including fertiliser purchase. In addition, once farmers accessed crop insurance they worked harder on their fields, treating agriculture as a business and increasing their productivity in the process. These lessons could be experimented with in Rwanda and scaled up once they have proven successful.
- 5) Harness the power of franchising to promote value addition into Rwanda's agro-processing sector: Due to the capital and skills limitations among some actors in the agro-processing chain, Rwandan agro-processors can harness the power of franchising from established brands like McDonalds in order to tap skills needed to add value to agricultural products such as Irish potatoes and other poultry products. Such brands are attractive to the growing middle class in urban centres and would utilise local Rwandan agricultural products.
- 6) Harness linkages between agro-processing, animal feeds production, and organic fertiliser usage to improve agricultural productivity: In order to increase domestic market recapturing in the agro-processing sector, actors should increasingly harness linkages that exist between different agro-processing sectors in order to promote efficiency. The processing of edible oils produces animal feeds like seed cakes as a by-product. If treated scientifically, animal waste can be used to produce both bio-gas which is energy and organic fertilizers for improved maize and soya bean production. Given the arable land and fertilizer limitations among small holder farmers, harnessing these linkages can increase land productivity. Although some of these linkages are being harnessed by MINIMEX and Mt. Meru Soyco, there is need to harness organic fertilisers and bio-gas more so at the small holder farm level.
- 7) Investing in additional irrigation infrastructure and greenhouse technology: In order to recapture the domestic market, the government should continue to expand its investments into irrigation infrastructure in order to increase land and labour productivity with farmer cooperatives and large scale farmers. This will help reduce raw material supply constraints and increase capacity utilisation within the agro-processing sector. The use of irrigation, fertilisers and greenhouse technology implies that conditions for agricultural production are controlled and can be used productively throughout the year, rather than in the two seasons only. Greenhouse technology has been effectively used in small countries like Israel, the experience of which is to be studied in detail, so that Rwanda could apply lessons learnt.

7.4 Light Manufacturing

7.4.1 Sector Characteristics

As shown in section 7.1, the light manufacturing sector comprises a very heterogeneous set of products/sub-sectors, but common constraints have been identified, e.g.:

- Given the limited size of the domestic market, economies of scale can only be achieved if not only the domestic market but also export markets are targeted.
- The cost and limited supply of electricity (resulting from the fact that installed capacity in the country remains low) leads to low capacity utilization and limits expansion opportunities for companies with high electricity consumption.
- Manufacturers often depend on import of raw materials (e.g. cotton for textile & garments; active pharmaceutical ingredients for medicaments; various chemicals for plastic products; etc.) and the high transport charges from the ports to the factory and the long lead times between placing orders and delivery, impact negatively on the final cost of raw materials;
- Finally, manufacturers often face a shortage of appropriately trained technical staff.

In addition, there are specific constraints at the sub-sector level, which will be the focus of the measures proposed in the following section. The main sub-sectors in terms of the domestic market recapturing potential are:

- Pharmaceuticals (Medicaments; Vaccines; Laboratory reagents)
- Textiles and garments;
- Plastic products;
- Paper and paper products/packaging materials;
- Soaps & detergents;

- Insecticides;
- Wooden furniture; and
- Miscellaneous products such as hand tools used in agriculture horticulture or forestry.

7.4.2 Proposed Measures

Most of the common constraints mentioned in the previous section are already addressed through existing policies or strategies. For example, EDPRS 2, PSDS, the Transport Sector Strategy and the Energy Sector Strategy address energy and transport infrastructure issues sufficiently: implementation of these programmes should be supported. Likewise, the Trade Logistics Strategy and Cross border Trade Strategy address issues related to the improvement of trade logistics for importers and exporters and should also be supported. Finally, in the field of skills development, EDPRS 2 and PSDS foresee developing work experience opportunities including internships, apprenticeships and industrial attachments and a TVET Fund has recently been set up, financed by the German Financial Cooperation.

The DMRS proposes the following additional measures to address specific constraints:

1. Accelerate the finalization of the regulatory framework for pharmaceuticals, in particular the establishment of the Rwanda Food and Medicines Authority. This is crucial as it will be very difficult to attract new entrants and investors in the pharmaceuticals sector as long as the regulatory framework is underdeveloped. The existence of a fully established regulatory framework is indeed considered as a prerequisite by many investors in the sector.
2. Strengthen the cooperation between the Rwanda Agriculture Board (RAB) and the domestic producer of pesticides Agropharm Africa. RAB has a good knowledge of the agricultural sector's needs and could keep Agropharm Africa informed on the needs for specific products in the area of insecticides, fungicides and the like. Even if Agropharm Africa does not produce the relevant product yet, the company might be in a position to develop it, building on the technical expertise of the Agropharm Group. This would also be coherent with our recommendations on public procurement (section 6.2).
3. Revisit Law N° 57/2008 of 10/09/2008, which prohibits manufacturing, importation, use and sale of Polyethylene (PE) made products in Rwanda, as the following issues have been identified:
 - According to private sector stakeholders, in implementing the Law, the ban has in practice been extended to include other plastic materials like polypropylene, laminates, PVC and polyester. The private sector attributes this state of affairs to the ambiguous interpretation of the Law by Rwanda Environment Management Authority (REMA). Such inconsistent and unclear application of the Law discouraged new investors in Rwanda as many who invested in the past discovered at a very late stage of setting up about the additional cost induced by the interpretation of the Law.
 - The Law provides a possibility for companies to apply for exemptions. Since its inception, a number of companies have used this possibility albeit with mixed success. A lack of clear criteria for exemptions and full transparency of the exemption process added considerable uncertainty to the process.
 - Finally, it is further claimed by private stakeholders that products imported to Rwanda from EAC and other regions are not subject to the same rules and that products from the EAC are freely imported even when they are packaged in polyethylene. This unfairly places imported products at an advantage, price-competitive wise.

The Law therefore currently puts domestic producers at a competitive disadvantage and seems to stall production and additional investments in the plastic products sector. First of all, it would be crucial to clarify the exact scope of the law. In this context, the DMRS recommends allowing polyethylene packaging with oxidizing agents (a potential investor has already been identified to produce this type of packaging). Clarifying the exact scope of the law would also reduce the unpredictability associated with giving exemptions to individual companies.

Furthermore, a regulatory impact assessment of the law would need to be undertaken with a view to eliminating differential treatment between domestic producers and imports. One option could be to introduce an environmental levy to eliminate the cost differential between Rwandan producers (which must use alternative, more expensive packaging materials) and imports. Another option, which might in fact be preferable, would be to convert the ban on plastics into a tax, which would be applied to both imports and domestic products. As a general rule, taxes (or financial incentives) are better than bans.

The importance of domestically producing packaging materials is high, as these constitute a vital input for a range of other domestic industries. Therefore, revisiting the Law would not only have implications for producers of plastic products but for all producers that would use plastics to package their products.

8. PRIORITY PROJECTS

The third pillar of the DMRS is constituted by specific investment projects for the production of goods with identified domestic market recapturing potential. These are selected based on clear and transparent selection criteria (section 8.1). A shortlist of potential projects has been developed (section 8.2) and is complemented, for selected projects, by separate more detailed business cases. During the DMRS implementation period, it is foreseen that additional business cases will be developed on a regular basis in order to have a continuous pipeline of projects in place for the attraction of investors, implementation through public-private partnerships, or by the Government itself.

8.1 Selection Criteria for Priority Projects

The third pillar of the DMRS is constituted by specific (investment) projects for which the DMRS provides direct support. In order to be eligible and selected for DMRS support, a project must satisfy a number of criteria. These are:

- (1) The project will directly contribute to a reduction in imports. Projects will be ranked based on the value of their contribution to import reduction. This need not be through the substitution of products by the domestic production of the same product but could also be achieved through substitutes;
- (2) There is no ongoing or planned project initiated by the public or private sector. In this context, Table 2 provides an overview of recent, ongoing and planned investment projects in the priority sectors that have been developed outside the scope of the DMRS and which will therefore only be monitored and supported through flanking measures by the DMRS;
- (3) A local market must exist. Export potential to neighbouring countries is an added plus as it will ensure sustainability of demand, and allow benefitting from economies of scale which are unattainable on the small Rwandan market alone;
- (4) Availability (or potential availability, subject to investments) of local raw materials;
- (5) Preference is given to labour and/or capital intensive products as opposed to land and/or skills intensive ones; and
- (6) Preference is given to projects which have strong (potential) linkages with other sectors in Rwanda, with a view to creating value chains or clusters.

Table 2: Recent/ ongoing/ planned projects not directly under, but to be supported by, the DMRS

Sector	Projects
Construction materials	
Cement	<p>Projects to expand domestic production include:</p> <ul style="list-style-type: none"> • CIMERWA's 600,000 MT per year plant, which is expected to become operational by the 2nd quarter of 2015; • With the complete (100%) acquisition of Kigali Cement by Kenya's Athi River Mining (ARM) Limited, plans are underway to increase production capacity beyond the current installed 100,000 tonnes with further investments.
Steel & iron	<p>RDB is leading a targeted investment promotion campaign for the construction materials sector and has prepared investment profiles for key opportunities in the sector (including in the steel products sub-sector).</p> <p>Also, several significant new investments are ongoing or planned in the sector and several existing domestic producers intend to expand production: For example, the company Master Steel (which is currently manufacturing roofing sheets, bottom sections and door frames, and in parallel importing and distributing finished goods such as hollow sections, steel bars, rebars, and nails) has planned a massive investment to significantly expand production capacity (more than ten-fold) in early 2015. This investment will not only increase production capacity for the products the company already manufactures, but also allow the company to start manufacturing new products such as hollow sections, mirrored steel plates and nails.</p>
Aluminium products	<p>Companies in the sector are retooling machinery and equipment and restructuring their management systems in order to enhance competitiveness of their products. RDB is also poised to promote the sector.</p>

Sector	Projects
Paints & varnishes	<p>Several new investments are ongoing or planned in the sector, the two most significant being the following:</p> <ul style="list-style-type: none"> ▪ Uganda's Sadolin Paints, is planning to set up a paint factory in the Kigali Special Economic Zone in 2015 (the company already owns the land in the SEZ and is awaiting approval of construction plans). The factory is expected to start production in March 2015 and will have capacity to produce 250,000 litres of paint per month. The total investment is 1 million USD and it is expected that some of the paints will be exported to Burundi, the Democratic Republic of Congo and South Sudan. ▪ Kenya's Crown Paints, East Africa's leading paint manufacturer, plans to invest an estimated 2.2 million USD in the next 5 years to set up a manufacturing plant in Rwanda to serve the expected growing Rwanda market, as well as Burundi and DRC. Crown Industries is reportedly looking at the premium side of the market and therefore plans to emphasise quality rather than price.
Plastic tubes/ construction materials	<p>SONATUBES is diversifying its product range with a view to better compete with imported products on certain segments on the domestic market. SONATUBES also plans to start the production of HDPE pipes, which should allow the company to recapture a large share of if not all the domestic market for HDPE pipes.</p>
Ceramic/ granite tiles	<p>East Africa Granite Industry (EAGI) started operating in 2012 with a showroom and commercial department in Kigali. The coming on stream of the production facilities of EAGI has created/expanded domestic production.</p>
Light manufacturing	
Textiles & garments	<p>A "turnaround" business plan for UTEXRWA outlines measures and initiatives to facilitate UTEXRWA's recapturing of the domestic market for institutional uniforms and other garments as well fabrics and clothes for the general population. Investments are also being attracted, including from China, expected to generate 3,000 jobs; however, these are mainly aimed at production for export.</p>
Pharmaceuticals	<p>The EAC has recently launched the implementation of a four-year (2012-2016) Regional Pharmaceutical Manufacturing Plan of Action. The Action Plan commits the five partner states to engage in collaborative efforts towards developing regional capability for regional sourcing of pharmaceutical drugs.</p> <p>The Federation of East African Pharmaceutical Manufacturers (FEAPM) was formed as a platform to address the common challenges and exploit emerging opportunities for East African pharmaceutical manufacturers. The EAC has also launched in 2013 the EAC Medicines Registration Harmonization (MRH) programme which aims at harmonizing medicines regulation systems and procedures in the region in accordance with national and international policies and standards. Within this framework, guidelines on Good Manufacturing Practices (GMP) for Medicinal Products in the EAC have been developed.</p> <p>Rwanda and Uganda have signed in July 2014 a bilateral Trade and investment framework agreement on pharmaceutical products. In this context, the Ministry of Health is currently working on a MoU with Cipla Quality Chemical Industry Limited (CiplaQCIL), a Uganda-based manufacturer of anti-retroviral drugs¹.</p> <p>The ultimate goal of the MoU is for CiplaQCIL to set up in Rwanda a manufacturing plant that would manufacture other essential drugs than those CiplaQCIL currently manufactures in Kampala. The MoU is also expected to include provisions related to technology transfer and capacity-building (e.g. a program of internships at the Ugandan plant is foreseen).</p> <p>Other efforts to attract FDI in the sector are ongoing, notably at RDB which has developed a promotional plan for the pharmaceutical sector. The TMEA-funded Market Linkages Programme at RDB is currently looking at the pharmaceuticals sector and has identified a new potential investor.</p>
Soaps & detergents	<p>A strategy for turning around SULFO Industries Ltd and the soap sector has been prepared. RDB has also identified soap as a priority product for investment targeting and has registered a number of proposed investments in the sector.</p>

Sector	Projects
Reagents	Agropharm Africa is considering the possible production of reagents in the future.
Plastic packaging	A number of companies, both local and foreign have registered their intentions to produce plastic containers and other plastic materials for both the domestic and export markets.
Wooden furniture	Recent upgrades and capacity expansion by existing firms as well as new foreign direct investments in new production facilities will facilitate recapturing of the domestic markets with the possibility of increased exports to the regional EAC market (especially Burundi and DRC).
Hand tools	None.
Insecticides	<p>Horizon Sopyrwa has recently adopted a comprehensive Strategic Plan for the period 2014-2018 with ambitious targets and is starting now its implementation.</p> <p>Agropharm Africa has plans to expand its production and in particular to diversify its range of products. This would involve developing a new range of products that would be more affordable for domestic farmers but the company is also considering going into other products such as fungicides: tests are being carried out and production could start in 2015.</p>
Beauty/ make up preparations	None.
Agro-processing	
Sugar	<p>A feasibility study for the construction of a second plant in Nasho has been undertaken and subsequently updated by a potential Mauritian investor in 2012. The updated study recommended the construction of a second plant in Nasho, Ndego and Kirehe sectors. From the 7000 – 10000 ha of earmarked land an annual crop of approximately 650,000 tons cane is projected for annual production.</p> <p>Approximately 13% sucrose is expected from this crop, with a conversion to sugar of around 80,000 tons per annum. Based on the findings of the study, the Mauritian investor has approached MINICOM with an expression of interest to invest in the site.</p> <p>The investor is ready to invest US\$ 160 million in a new plant and employ about 2100 permanent workers. The sugar factory will have the capacity to crush approximately 650,000 tons of sugarcane per annum and produce 80,000 tons of pure sugar per annum. The investors intend to produce electricity using waste from sugarcane production as raw material.</p> <p>The investor has submitted a business plan to MINAGRI for review. MINAGRI is reviewing the business plan and if approved will allocated the requested land to the investor so that construction of the site can begin.</p>
Fertiliser	Some attempts have been made to produce bio-organic fertilisers in form of bio-slurry which is a by product of the process used to produce bio-gas in Rwanda. However these efforts are scattered and done at household level rather than at a commercial level.
Edible oils	<p>Currently, 12,000 hectares are needed for soyabean production in order to get full capacity utilisation by edible oil processors. MINAGRI has so far only earmarked 5,384ha of land for soyabean farming leaving a shortfall of about 5,600 ha.</p> <p>In addition, given its installed capacity Mt Meru Soyco needs about 8,000 hectares of land to break even. This implies that greater efforts are still needed to attract larger farmers into the supply chain.</p>
Rice	<p>MINAGRI, with the collaboration of development partners such as the World Bank, has invested efforts in reclaiming marshlands to support rice production in Rwanda, under the Rural Sector Support Program.</p> <p>In addition, farmers have been organised into cooperatives, provided with extension services and linked with rice processors. However, there are still limitations in the number of rice mills in the vicinity of each marshland. There is also the need to link more rice cooperatives to the processors.</p>

Sector	Projects
Dried fish/ aquaculture	<p>The Inland Lakes Integrated Development and Management Support Project (PAIGELAC), funded by the African Development Bank, started in 2006 to “restore the ecosystems and stop indiscriminate fishing, with the ultimate goals of increasing fish production, improve nutrition, ensure food security and improve the incomes of the beneficiaries in a sustainable manner”.</p> <p>Some of the key outcomes of the project include: 251 cooperatives were formed, amongst them 186 for aquaculture, and 65 capture fisheries; the lakes have been restocked with a view to improving production: the restocking took place in 2 phases, in 2011 and in 2012, and 15 inland lakes have been restocked with about 760,000 tilapia niloticus fingerlings; Kigembe Fish Farm has been rehabilitated into a modern fish hatchery with a capacity of producing at least 10 million fingerlings per year; two Regional Fishery Products Promotion Centers, equipped with ice making machines, have been established.</p> <p>Moreover, an Urban Fishery Promotion Centre in the Kigali Economic Zone has been constructed: this center includes a 75 cubic meters cold room that can as well be used by exporters of other perishables, as it is not far from the airport; a total of 678 cages for Tilapia intensive farming on several lakes have been secured; fishers have been trained on cooperatives and fisheries management, fish farmers have been trained on modern fish farming.</p> <p>Training was also provided on ponds construction and management, tilapia seed production, feed formulation and cage culture; and a Fisheries and Fish Farming Master Plan was developed and passed by Cabinet in 2011.</p> <p>Following the realization that capture fisheries only could not be sufficient to provide enough fish to the growing Rwandan population, the project has extended its activities in aquaculture development. In 2011, the PAIGELAC started the pilot aquaculture project in Lake Kivu on the Rusizi side that was mentioned in previous sections.</p> <p>The PAIGELAC project officially ended in December 2012. Currently, the African Development Bank does not envisage a second phase because the agriculture sector is no longer a focus area for AfDB (AfDB is now focusing on Transport, Energy and Private Sector). Discussions in the Sector Working Group have shown interest for the fisheries subsector from other development partners including the EU.</p>
Maize	<p>The land consolidation and crop intensification programs are currently being implemented by MINAGRI. There is an East African commodity exchange based in Kigali. This initiative aims at stabilising production risks faced by farmers through a grain bank where farmers can deposit their grain and use it as collateral to access short term credit.</p> <p>MINAGRI is also undertaking a campaign to attract private sector players into the agricultural sector. This should be able to mitigate distribution problems and also encourage production at a high scale.</p> <p>MINIMEX, one of the key maize processors, has established with Bralirwa a joint venture company, BRAMIN, to grow maize locally and secure the supply of high quality maize for BRALIRWA’s operations in sufficient quantities (BRALIRWA contributed 250 ha to the joint venture company). This should see gains in production volumes.</p>

Source: Sector profiles in Annex B.

8.2 List of Potential Projects

Based on the analysis undertaken, investment project opportunities tentatively exist in the following sectors.

8.2.1 Construction Materials

The construction sector is today heavily reliant on cement and steel. Demand for construction materials is high and it is projected to grow significantly in the coming years. Given the high energy intensity and lack of local raw materials for producing cement and steel there is a need to diversify into alternative products that can be produced with local raw materials and at low energy costs.

Clay

There is currently a domestic production of high-quality clay products. This existing expertise can be built on to expand production and decrease production costs. This requires investment in raw material sourcing, distribution, and use of alternative sources (such as agro-waste) for energy. Where deemed necessary, clear demarcation of land use on potential extraction sites could complement investment activities. Factories can also use excess power generation outside peak-hours. Local production facilities that are close to extraction sites can be installed and serve the local markets to decrease transport costs.

Factories to produce timber structures and wood products

Straw is abundant and for decades straw board panels have been used elsewhere to build houses at all price-ranges. Now this technology is being introduced to Rwanda with a new factory to start in 2015.

Laminated timber beams will be needed for the straw board panel houses, and would generally reduce dependency on steel. At present, however, laminate timber beams are not being produced in Rwanda at an industrial scale. Moreover, there is demand (and much potential for increased demand) for wooden windows, doors, floors, clads, and cabinetry. Eucalyptus and grevalia trees can also be used for this. The Rubengera Technical Secondary School in Karongi District has shown that timber beams and other products of high quality can be produced in Rwanda.

Compressed soil Community Processing Centre

Compressed soil is a low cost material which can produce quality bricks and tiles if the right mixes and technologies are used. Soil products can also be aesthetically pleasing and used for high-end buildings. Products can be produced on-site in a labour-intensive production process. But scale-technology for a factory also exists and could potentially produce bricks competitively. To develop the production of compressed soil construction materials, the DMRS should introduce a test facility such as a Community Processing Centre to test optimal soil mixes and train cooperatives to produce it.

Housing projects to test and showcase new products

The Government will have to address the growing housing supply gap. In doing so, a number of housing projects could inspire local investors by showcasing the use of alternative local building materials. By initiating some of housing projects using alternative local building materials the DMRS will both provide housing and secure a minimum market for private investors who may be reluctant to invest to begin with as it has not yet been showcased that viable investments can be made in mid-range and low-range housing. We propose a project with 500 brick dwellings (higher-midrange), 500 straw board dwellings (mid-range) and 500 soil brick dwellings (lower-mid-range).

8.2.2 Agro-processing

Various primary and processed agricultural products constitute a major share of Rwanda's total imports, while domestic production is existing yet characterised by low productivity and subsistence farming. While it is true that major expansion of agricultural production is not possible given Rwanda's geographical constraints and high population density, productivity increases should be feasible and enable the sector to satisfy a considerably larger share of domestic market demand than is currently the case. Other small and densely populated countries which have managed to become major agricultural producers, and could therefore provide important lessons for Rwanda, are the Netherlands and Israel. In terms of policy focus, although the Vision 2020 stipulates a reduction of the agricultural sector to GDP from 46% in 2005 to 33% in 2020⁴ and thus does not priority of the economic development strategy, the Vision puts an emphasis on modernising the sector. The DMRS is fully in line with this. Specific investment project opportunities could exist in the following sub-sectors:

Soybean

Attracting investment into the soybean supply chain, especially commercial farming is crucial because it will complement the efforts being undertaken by smallholder soybean cooperatives in increasing soybean production in Rwanda. MINAGRI has allocated and earmarked some land for soya bean production Rwanda. However the earmarked land is not sufficient to meet demand of Mt. Meru, which implies that imports will still complement domestic production in the short run. Once soya bean is streamlined into the Crop Intensification and Land Consolidation Programmes through increased sensitization by MINAGRI, soya imports will reduce over time.

Organic fertilisers

Organic fertilisers present a good opportunity for domestic market re-capturing since these can be made from locally available materials including compost from livestock waste. The implementation of the one cow per family presents

⁴ *The share of agriculture in GDP has been approximately 33% since 2008 (NISR, GDP Annual Tables).*

a good opportunity for producing organic fertilisers in Rwanda. Manufacturing some of the organic fertilizers using readily available animal waste could reduce the fertiliser import bill by up to 50%.

Maize

In addition, there is still a very big potential to reduce the imports of maize grain by producing more maize locally. This can be done – and is to a certain extent already being done under the Crop Intensification Programme – by tackling the bottlenecks in the production through arrangements like contract farming between maize millers and maize producing cooperatives.

These contract farming arrangements should be embedded with credit access measures such as farmers using their maize grain to access short term credit, providing flexible credit arrangements to purchase inputs, improving the quality of extension services available to farmers and putting into place storage facilities for post harvest handling at the grassroots.

These measures have the capacity to re-capture the domestic market by about 40%. In addition, these measures have to be accompanied with the supply of affordable and readily available energy at the village level to boost maize processing.

Aquaculture

Rwanda's fish consumption has historically been low and well above regional averages, but the domestic demand for fish is growing rapidly, as the nutritional benefits of fish become more apparent to the population. However, the domestic demand is currently still largely unmet, in spite of significant imports.

Thanks to the efforts of the PAIGELAC project which was implemented from 2006 to 2012, domestic production has increased steadily in recent years, in particular due to the introduction of cage fish farming. A pilot aquaculture project was started on Lake Kivu in 2011, the first phase of which has recently been completed and was considered a success.

In this context, there is strong potential for the domestic production to replace a large share of current imports in the future and recapture the domestic market. There is also potential to export to neighbouring countries: 60% of the pilot aquaculture project's output are for example being exported. But to achieve these goals, it is critical to build on the progress made under the PAIGELAC project and on the success of the pilot aquaculture pilot project, by focusing on attracting investment in aquaculture parks.

Animal and fish feed

In line with the development of aquaculture in Rwanda, there is also an opportunity in producing fish feed domestically as the lack of locally available quality fish feed is increasingly becoming a crucial constraint for the subsector. Fish feed is indeed the main input for aquaculture, accounting for up to 60% of production costs, and is already on high demand in Rwanda. Fish feed can be produced using vegetable proteins, cereal grains, soy, which are all locally available.

Two domestic companies involved in fish farming have recently started producing fish feeds on a small scale, but their production is too small to satisfy the domestic demand and besides domestic fish farmers still seem to prefer importing feeds from Uganda that are perceived to be of higher quality but are also expensive. In this context, the establishment of a fish feed factory of a high producing capacity and manufacturing quality fish feeds is still needed in Rwanda.

This is a critical area for the fisheries sector as a whole because the unavailability of inputs makes aquaculture unattractive for new investment. Aquaculture growth can only reach its maximum potential through utilization of locally available fish feed.

8.2.3 Light Manufacturing

Mosquito nets

Over the 5-year period 2009 to 2013, Rwanda imported 68.7 million USD worth of mosquito bed nets averaging 13.7 million USD per annum. The main clients are the Government of Rwanda and donors. Export opportunities also exist to the DRC and Burundi markets.

Mosquito bed nets are therefore a significant market opportunity and there is strong potential to recapture the domestic market for this product. The project would thus be to establish a mosquito bed net production facility in Rwanda, for which we would recommend a joint venture between the domestic manufacturer of textile and garments UTEXRWA and the domestic manufacturer of pesticides Agropharm Africa, which has technical expertise in manufacturing mosquito repellents.

UTEXRWA is already producing mosquito bed nets (with a current capacity of 5,000 mosquito nets per day) and is considering to expand production to better take advantage of the mosquito bed net market opportunity. Agropharm Africa has specific expertise in mosquito repellents and would be the ideal technical partner if UTEXRWA aims to scale up production and recapture the market. Furthermore, consultations with Agropharm Africa have confirmed interest from the company in partnering with UTEXRWA in this area. In addition to setting up this joint venture, partnerships with development partners such as WHO should also be pursued.

Vaccines

Domestic market recapturing potential has been identified for the pharmaceuticals sector as a whole, but while several initiatives are ongoing to attract investment for the production of medicaments in Rwanda, there is no specific initiative targeting vaccine manufacturing even though immediate investment opportunities might also exist in this area. Comparatively, vaccines imports are also less diversified than medicaments imports (the top 4 vaccine products imported by Rwanda account for about 75-80% of the country's total vaccine imports), which means there is potential for a larger share of imports to be replaced.

In the absence of domestic production of vaccines, the domestic market size for vaccine products is equivalent to the country's net imports of vaccines, i.e. about 30 million USD per year. There would also be potential to export to the region, as there is currently no vaccine manufacturer in East Africa. A potential relevant partner to start up local production of vaccines in Rwanda could be the WHO's Technology Transfer Initiative, which has for example in recent years launched an initiative to facilitate the establishment of local production of pandemic influenza vaccines in 14 developing countries through seed funding and technical support.

Diagnostics/laboratory reagents

The domestic market for diagnostics and laboratory reagents market is witnessing significant growth of 18% per year since 2009. Imports are mainly from USA, Japan, South Africa and Germany, suggesting very little production in the EAC region. This provides an opportunity for domestic production of these reagents in Rwanda with the possibility of exports to other EAC countries, especially Burundi and DRC. The WHO is encouraging countries to start their own local production of simple basic reagents for health laboratory services so as to assure constant supply of quality reagents as well as save scarce foreign exchange. This aligns with DMRS.

The existing facilities and resources of LABOPHAR and RSB could be mobilized towards the commercial production of diagnostic and laboratory reagents based on detailed market research to determine the range of reagents to be produced, their quantities and their level of sophistication. Based on available facilities and resources and considering the relevant pre-establishment studies and the required pre-operating activities, market recapturing potential could be realised over the medium to long term.

Packaging materials

For many domestically produced goods most if not all inputs are imported. As a result, identifying inputs which are common to various domestically produced goods could constitute a significant contribution to the domestic market recapturing. One such input, which could be supplied to a large variety of goods (both consumer and intermediaries), are packaging materials. Local demand is high and expected to grow further and there is potential to export to EAC member states. For example, it is estimated that two thirds of current imports of plastic packaging/containers could be replaced by domestic production.

8.3 Shortlisted Priority Projects

For the preparation of more detailed business cases, the following potential projects were prioritised in collaboration with MINICOM. For these, separate business cases have been prepared as pilots under the DMRS.

- Mosquito nets: The business case proposes, in an initial stage, a "cut & sew" production of long-lasting insecticidal nets (LLINs) in Rwanda, with an intended output of 2 million pieces per year (single shift operation). The business case suggests that the venture would be profitable under a public private partnership business model.

The model proposes the involvement of GoR (represented by the Rwanda Biomedical Centre, RBC), a private Rwandan investor/Rwanda based foreign investor and WHO-certified LLIN fabric manufacturer/supplier. In a second stage, LLIN fabric production would also be planned to be done in Rwanda.

The expected net annual foreign exchange savings from this project during the first phase are USD 9.1 million assuming that sales are only domestic. If part of the output is exported, the impact on foreign exchange will be even more beneficial. Further expansion in production capacity would allow tapping the vast regional market, while stage two production would further reduce foreign exchange expenditures by about USD 2.7 per net, or USD 5.4 million per year (at an output of 2 million pieces).

Initial investment required would comprise an equity investment of USD 354 thousand and a supplier's credit of USD 1.5 million. To sustain operations, the venture would rely on a revolving supplier's credit averaging USD 10.3 million per annum which would be fully repaid at the end of each operating year with interest at the rate of 18%. (As an alternative to the supplier credit, higher capitalisation of the project – e.g. through a higher Government contribution – could be envisaged.) With an average debt service coverage ratio of 2.44 throughout the life of the average, average annual net profit would be USD 3.8 million, indicating the availability of cash for dividend payments each year.

- Organic fertilisers: Rwanda does not presently produce any fertiliser. The domestic market size is thus equal to net imports, which have grown in value terms from about USD 30.8 million in 2009 to about USD 39.3 million in 2013, at an average annual rate of 6.3%. The market is expected to increase further in the future in response to

increased demand for non-traditional crops like soybeans and maize, as well as the various initiatives to intensify agricultural production in the country.

- The business case proposes substituting part of the imported inorganic fertilisers by the domestic production of bio-organic fertiliser from domestically available inputs. Domestic production would consist of selecting one of the two (or a combination of the two) methods of industrial production of bio-organic fertiliser:
 - Cost-minimising option: Installation and operation of one tonne per hour closed production facilities at district level, in ten of the 30 districts in Rwanda. This fertiliser would be sold at a lower per-hectare price than inorganic fertiliser;
 - Quality maximising option: Installation and operation of ten tonne per 24 hours production facilities at district level, in 16 districts, using Rapid Thermophilic Digestion Technology. This fertiliser would be sold at the same price per hectare as inorganic fertiliser, given its added value for soil fertility and farm productivity.

Under both options, total production capacity would be sufficient to cover 76%, in volume terms, of the domestic fertiliser market over the period 2015-20. In terms of potential foreign exchange savings, the substitution of 50% in value terms of imported inorganic fertiliser by domestically produced bio-organic fertiliser, produced from locally sourced raw materials, would amount to an average of USD 26 million per year.

The projects' financial performance is comparable. For the cost-minimising option, average annual net profit before tax for all production units is calculated at USD 3.52 million. The total initial investment capital required for initiating the whole project, i.e. for the establishment of ten production units would be USD 3.28 million, which includes 3 months working capital. For the quality maximising option, average annual net profit before tax is calculated at USD 11.08 million, and the investment cost at USD 14.44 million.

In operational terms, the business case suggests that production could be organised under a public-private partnership involving Rwanda Agricultural Board and a private entity. This follows from the currently highly regulated nature of the market.

- Aquaculture and dried fish: Over the period 2009-2013 Rwanda imported an average of USD 5.4 million worth of dried fish per year. Although Rwanda's imports of dried fish were almost non-existent before 2006, they have grown fast in recent years, at an average annual rate of 45.7% over the 2009-2013 period.

Although Rwanda's fish production has grown steadily in recent years, it is still low and cannot meet the domestic demand, which is expected to continue growing in the coming years. The country is still a net importer of Nile tilapia, which accounts for more than 90% of consumption on the domestic market. There is however considerable potential for aquaculture growth. In light of this situation and in line with the DMRS, investment is proposed in:

- Commercial production of fishmeal made from locally available small-sized fish species (haplochromines), for both human consumption and animal feed manufacture (as ingredient for the production of feeds for poultry, pigs and farmed fish);
- Aquaculture of Nile tilapia and catfish. Two options are considered: (i) cage fish farming and (ii) tank-based aquaculture.

The fish meal and fish produced as part of these ventures would not only target the domestic market (and replace a share of Rwanda's current imports of dried fish) but also target export markets, in particular DRC, which takes the bulk of the regional fish trade.

Initial investment and working capital requirements to start the production of 300 tons of fishmeal per year are 424 thousand USD. Initial investment and working capital requirements for the production of 1,200 tons of Nile tilapia through cage fish farming and 300 tons of Nile tilapia through tank culture are 1.56 million USD and 378 thousand USD respectively. Taken together, the total investment cost of the project as proposed in this business case would be 2.36 million USD.

The financial and profitability analysis indicates that the project, as well as each of the three individual components/production units, will be profitable. The average annual sales revenue is estimated at 6.52 million USD – which would also be equal to the net foreign exchange savings, since all inputs would be sourced locally – and the average annual net profit before tax is estimated at 2.62 million USD.

Table 2 summarises the key financial data of the three shortlisted projects. Taken together, with an investment capital of 7.6 to 29 million USD, they would generate an annual average profit of between 9.9 and 17.5 million USD and generate net foreign exchange savings of more than 40 million USD per year, assuming that all output is sold domestically. Since all projects have export potential, the actual foreign exchange savings are expected to be higher.

For these projects, the next steps to be undertaken in principle are:

- To take a decision by whom projects are to be implemented, i.e. as pure private sector projects, public-private partnerships, or public investment projects;
- In case of private sector involvement, to identify and approach potential investors. Likewise, if support by international financing institutions is envisaged to be requested for the investment project, potential funders need to be contacted;
- Sign implementation agreements;
- Implement investment project.

Table 2: Shortlisted priority projects- key financial data (USD million)

	Mosquito nets	Organic fertiliser	Fish	Total
Net foreign exchange savings per year	9.1 (phase 1) 14.5 (phase 2)	26	6.5	41.6 (phase 1) 47.0 (phase 2)
Annual profit before tax	3.8	3.5 (cost-optimising) 11.1 (quality maximising)	2.6	9.9 to 17.5
Investment capital requirement (incl. working capital)	1.9 (plus 10.3 revolving supplier credit, potentially to be substituted by equity)	3.3 (cost-optimising) 14.4 (quality maximising)	2.4	7.6 to 29.0

For the first set of priority projects, for which business cases have already been developed, the above steps are planned to be implemented within 12 months. In this context, it should be noted that private sector investment activity is comprehensive, and the obvious projects, which often will contribute significantly to reducing Rwanda's imports, are already covered. For the DMRS this means that the focus will be on those projects which are considered as too risky, commercially, by private investors.

It is planned that the Government establish an investment fund or holding company to acquire industrial assets, partner them with local firms, and eventually privatize and use the proceeds to repeat the process and fund other investment projects on a revolving basis. The capitalization of the fund should be sufficient to fund the shortlisted priority projects identified above; i.e. be around USD 20 million.

As mentioned above, during the DMRS implementation period, it is foreseen that additional business cases will be developed on a regular basis in order to have a continuous pipeline of projects. The first business cases to be developed are planned to focus on a set of potential projects in the construction materials sector as indicated in section 8.2.1, on pharmaceuticals and on packaging materials.

9. IMPLEMENTATION FRAMEWORK

9.1 Institutional Set-up

The DMRS will be coordinated by IDEC along the same principles as the NES/NIP, in order to avoid the establishment of competing and duplicating structures. This is in line with the positioning of the DMRS within Rwanda's developmental policy framework as presented on Section 3 above.

Some sub-sets of the Strategy, such as the communication strategy, have their own institutional arrangements. Thus, a company will be contracted to manage the communication strategy, assigning to it an annual budget to be transferred by MINICOM, with potential contributions from the private sector. An efficient governance structure will be created to oversee the campaign. This may either include MINICOM as Chair and other government agencies important for the implementation of the strategy, such as RDB and RSB, or be constituted by IDEC.

9.2 Implementation Plan and Budget

An implementation plan for the DMRS has been developed and is provided in Annex A. The total estimated budget required for the DMRS is USD 25 million of which USD 20 million as seed capital for the revolving investment fund/holding.

9.3 Monitoring and Evaluation

Monitoring and evaluation of the DMRS will be undertaken based on progress indicators and targets as identified in the results framework (Annex A).

ANNEX A: RESULTS FRAMEWORK AND IMPLEMENTATION PLAN

Table 2 presents the results framework for the DMRS as well as lists the main activities to be undertaken within each of the identified components. It is to be complemented by yearly action plans, further detailing the activities to be undertaken (see sections 6 to 8 in the DMRS for further details).

Table 3: *Results Framework and Activity Plan*

Objective	Success indicator	Measurement	Baseline	Target
To increase domestic production for local consumption while contributing to structural transformation of the productive sector and increasing international competitiveness.	<ul style="list-style-type: none"> Reduction in the share of imports in total domestic consumption overall, and particularly in priority sectors identified in the DMRS; Above-average increase in output of priority sectors. 	NISR statistics on domestic production and imports	To be determined	Annual increase of x%
Results	Success indicator	Measurement	Baseline	Target
1. An improved balance of payment	Value and percentage of foreign exchange savings as share of baseline net imports	NISR statistics	<ul style="list-style-type: none"> Value: USD 0 Percentage: Projected net imports 2015-20 without DMRS 	<ul style="list-style-type: none"> Value: USD 1.5 billion (cumulated, 2015-20) Percentage: Foreign exchange savings reach 20% by end of DMRS period compared to baseline
2. Increase in net imports is reduced	Reduced growth rate of net imports of goods	NISR statistics	Av. growth rate 2009-13: 9.8%	Av. growth rate 2015-20: 8.8%
3. Increase in investment in priority sectors of the DMRS	Value of investment in priority sectors of the DMRS	NISR/RDB statistics	To be determined	To be determined
Horizontal Activities				
1. Communication Campaign		Responsibility	Deadline	Budget (2015)
1.1. Branding campaign		Implementing body in cooperation with MINICOM, RSB and private sector	Implementation to start in Dec. 2014 Dec. 2014 - ongoing	See separate communication strategy (USD 1 million)
1.2. Consumer education campaign		Implementing body	July 2015-June 2016	
1.3. Sector and product specific communication campaign		Implementing body	July 2015-June 2016	
1.4. Monitoring and evaluation		Evaluation expert/firm Procurement: MINICOM	Feb. 2015 – ongoing on a yearly basis	

Horizontal Activities	Responsibility	Deadline	Budget (2015)
2. Government Procurement		Procurement Laws to be amended by 12/2015	
2.1. Pay SMEs quickly and efficiently.	National Law Reform Commission	12/2015	None, except for potential legal support in amending procurement rules and manual (USD 50,000)
2.2. Amend local price preference	National Law Reform Commission	12/2015	
2.3. Use lots and framework agreements more frequently	National Law Reform Commission	12/2015	
2.4. Look beyond price to overall value for money	National Law Reform Commission	12/2015	
2.5. Ensure that tender criteria are accurate and proportionate	National Law Reform Commission	12/2015	
2.6. Encourage increasing subcontracting on fair terms	National Law Reform Commission	12/2015	
2.7. Upgrade the procurement profession	National Law Reform Commission	12/2015	Cost for training programme (USD 100,000)
3. National SME Upgrading Programme		New enlarged SME Upgrading Programme to start by 07/2015	
3.1. Regroup various overlapping programmes under one National Upgrading Programme, and extend eligibility to companies that have domestic market recapturing potential	RDB	07/2015 - ongoing	Cost for study to rationalize programmes and restructuring (USD 50,000); later cost savings expected from leaner programme management structure
3.2. When designing the National Upgrading Programme, fully integrate the findings of the Suppliers Development Programme	RDB	07/2015	
4. Upgrading the National Quality Infrastructure		RBS Capacity Building Programme to start by 07/2015	
4.1. Make RSB a central partner of the DMRS	MINICOM	06/2015	Cost for joint workshops (USD 50,000)
4.2. Strengthen the capacities of RSB to test domestic products	MINICOM / RSB	07/2015 - ongoing	Cost for training (USD 200,000)
4.3. Strengthen the capacities of government agencies to enforce standards	MINICOM / RSB	07/2015 – ongoing	Cost for equipment and training (USD 2-3 million)

Sector Measures	Responsibility	Deadline	Budget
1. Construction Materials			
1.1. Expand domestic production and use of clay products	MINICOM	07/2015 (concept) - ongoing	
1.2. Expand production and use of domestic timber products	MINICOM	07/2015 (concept) – ongoing	
1.3. Embrace compressed soil products as viable material for low-cost housing as well high-range buildings	MINICOM	07/2015 (concept) – ongoing	Cost for concept development USD 500,000
1.4. Facilitate straw board panels as a viable alternative for mid-range housing	MINICOM	07/2015 (concept) – ongoing	
1.5. Facilitate further production of sand and stone materials	MINICOM	12/2015 (concept)	
1.6. Facilitate a market for domestic building materials by unlocking constraints to housing demand	MINICOM/BNR/MINIFRA/RHA	2016	Cost for development of new financial instruments/study of mortgage bank (USD 100,000)
1.7. Improve the business environment for private housing developers	MINICOM/MINIFRA/MINALOC/ RHA		None – part of ongoing work.
1.8. Re-direct regulation and education toward the new domestic building materials	MINICOM/MINIFRA/RHA	12/2015	Cost for curriculum development, training of trainers (USD 200,000)
2. Agro-processing Sector			
2.1. Attract medium and large scale farmers to work with small scale farmers or cooperatives of small scale farmers under contract farming arrangements or outgrower schemes	MINAGRI/RDB	Ongoing	Cost of linkage activities (USD 500,000)
2.2. Avail supporting infrastructure	MINAGRI/MINIFRA	2016	To be determined in detailed studies
2.3. Develop Rwanda's Commodity Exchange and Warehouse receipt system	BNR/MINAGRI/MINICOM	Mid 2016	Cost for feasibility study (USD 50,000) and establishment costs
2.4. Introduce and expand crop insurance schemes	BNR/MINAGRI/MINICOM	2016	To be determined.
2.5. Harness the power of franchising to promote value addition into Rwanda's agro-processing sector	MINICOM/RDB/BNR/MIN-AGRI	2016	Cost for franchising study (USD 100,000) and promotion of concept (USD 200,000)

Sector Measures	Responsibility	Deadline	Budget
1. Construction Materials			
2.6. Harness linkages between agro-processing, animal feeds production, and organic fertiliser usage to improve agricultural productivity	MINAGRI/MINICOM	12/2015	Part of 2.3 under investment projects below.
3. Light Manufacturing			
3.1. Accelerate the finalization of the regulatory framework for pharmaceuticals, in particular the establishment of the Rwanda Food and Medicines Authority.	MOH	06/2015	None, except for potential legal support (USD 50,000); establishment cost of RFMA
3.2. Strengthen the cooperation between the Rwanda Agriculture Board (RAB) and the domestic producer of pesticides Agropharm Africa.	RAB	06/2015	To be determined.
3.3. Revisit Law N° 57/2008 of 10/09/2008, which prohibits manufacturing, importation, use and sale of Polyethylene (PE) made products in Rwanda	MINICOM/MINIRENA	06/2015	None, except for potential legal support (USD 50,000)
Investment projects	Responsibility	Deadline	Budget
1. Project pipeline			
1.1. Develop at least three further business cases for products with domestic market recapturing potential per year	MINICOM/RDB	Ongoing	Cost for studies (USD 50,000 per study)
2. Implement DMRS priority projects (see separate business cases)			
2.1. Mosquito nets	MINICOM/RDB	12/2015	Cost for establishing revolving fund: establishment cost (USD 20 million); operating cost per year (USD 500,000)
2.2. Aquaculture and fishery	MINICOM/MINAGRI/RDB	12/2015	
2.3. Organic fertiliser	MINICOM/MINAGRI/RDB	12/2015	



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DOMESTIC MARKET RECAPTURING STRATEGY



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