

### Rwandan Agriculture and Development

The dependence upon the agriculture sector for Rwanda's economy and poverty reduction efforts has been recognised by the Government of Rwanda (GoR), especially true when it comes to food crops. The sector in Rwanda accounts for 33% of GDP, 87% of employment, and substantial foreign exchange especially from tea and coffee. Therefore, if there is one sector that has to mainstream environment as a priority, it is agriculture.

Under Rwanda's current Economic Development and Poverty Reduction Strategy (EDPRS) the agricultural sector is expected to play a key role in eliminating poverty. The key requirements for the sector to play this role effectively include *optimal utilization, sustainable management, and conservation of environment and natural resources.*

The commitment of the GoR is further demonstrated through the Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II 2009 (PSTaII). This plan clearly outlines how to create a commercially viable, environmentally responsible and sustainable sector. Some of the key principles underpinning the sector are:

**POVERTY REDUCTION** – national policies consider agriculture to springboard to achieving pro-poor growth keeping in mind that agricultural development is highly dependent on natural resources endowment such as the availability and suitability of arable land, fertile soil, climatic conditions and water

**INCREASING PRODUCTIVITY and COMPETITIVENESS** – agriculture is seen as the vehicle for raising rural incomes and spurring progressive development in the secondary and tertiary sectors; key to reducing poverty. However, this will be impossible to achieve if agricultural farming practices become major contributor to environmental degradation through pollution, greenhouse gas (GHG) emissions, deforestation and soil degradation

**MARKET DRIVEN** – resources allocations and production decisions must be market driven, as increased productivity and production cannot be realized unless decision-making is linked to the markets from which farmers returns are obtained. The market driven agricultural policies must need to ensure that agriculture does not become the largest source of GHG in Rwanda as this will threaten soil fertility and consequently productivity.

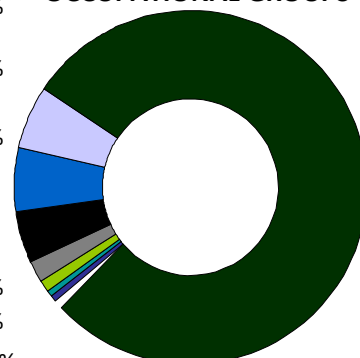
**ENVIRONMENTAL SUSTAINABILITY** – central to agriculture policy given Rwanda's unique topography and environmental challenges

**PARTICIPATION IN and LOCAL OWNERSHIP of ACTIVITIES** – only way in which durable and sustainable agricultural transformation can be achieved, as farmers need to be convinced of the soundness of new approaches and technologies if they are to apply them in their fields

\*Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II (PSTaII), February 2009.

Senior Officials and Managers	0.1%
Drivers and Machine Operators	0.5%
Office Clerks	0.6%
Unskilled Labourers	1%
Professionals	2%
Semi-Skilled Operatives	4%
Skilled Service Sector	5.7%
Commercial and Sales	5.8%
Agricultural Workers	79.5%

### OCCUPATIONAL GROUPS



Source: EICV2 data: usual job of adults 15 years and over years, and in employment

### Latest Agriculture Sector facts

The Crop Intensification Program (CIP) has been instrumental to agriculture sector growth:

- The program on agricultural intensification has had its expenditure increase substantially, from 46% of MINAGRI's expenditure in 2006 to 83% in 2008
- Yields have doubled or tripled in CIP areas (since 2007) for crops such as wheat, maize and cassava
- The overall 5.5% in 2009 growth in Rwanda was largely fuelled by agriculture, where output grew by 10.4% - the highest growth in the last five years.

Considering the size and impact of the CIP, the assurance of sustainable production system within the program is potentially central to sustainable natural resource and environmental management.

\*Public Expenditure Review for Environment to Support PEI in Rwanda, 7<sup>th</sup> National Leadership Retreat.

### Agricultural Challenges

Rwanda's landscape faces a unique set of challenges; due to the country's high population density, land is a scarce commodity, while labor is Rwanda's most abundant resource. As a result, soil fertility has deteriorated dramatically overtime and much of Rwanda's land is a high risk of erosion.

The risk of erosion is increased by the need of smallholders to cultivate slopes of up to 55% and farming land that is not suited to purpose. As erosion increase so does the risk of floods, landslides and the continued degrading of the soil quality. Landslides in particular, can happen with little warning and cause extreme devastation, as was the case in the March 2010 Ugandan mud slides.

Aside from landslides, erosion can cause reduced agricultural production by the washing away of soil and the loss of essential nutrients.

Erosion affects 50% of all farmers, which equates to a 30% decline in farm productivity; this means



Photo: David Mafabi - Daily Monitor 2010

### (Agricultural Challenges continued)

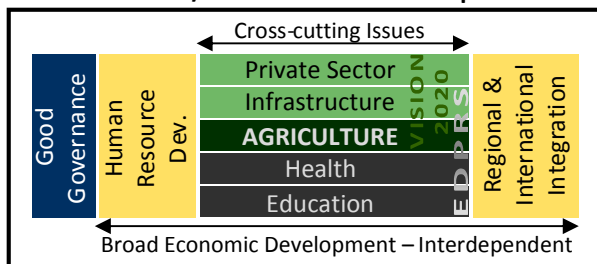
Rwanda loses over 15 tonnes of topsoil each year. Moreover, the deterioration of soil reduces food availability for people who depend solely on agriculture. It is estimated that about 40,000 people each year fail to be fed due to soil erosion (ROR 2004).

Source: Rwanda State of Environment and Outlook (p. 14)

## Agriculture and National Planning

Agriculture is recognized as an integral part of economic development and poverty reduction and has been identified as a cross-cutting issue.

### Vision 2020/EDPRS Pillars of Development



**Vision 2020** is the first to identify the need of turning Rwanda's agricultural production from subsistence into a commercially viable and sustainable industry. It also notes the stress on the land due to the population size:

*"...a substantial number of rural families who subsist on agriculture own less than 1 hectare, which is too small to earn a living... This results in intense exploitation of the land ... The net result has been a decline in land productivity and massive environmental degradation..."*

**EDPRS** incorporated the Millennium Development Goals (MDGs). EDPRS explains how agriculture and the environment are intertwined and central to accomplishing MDG 1 and 7.

**The National Agricultural Policy 2004** (NAP) has acknowledged the role for increased production of traditional export crops, and the need to increase the quality, amount and variety of crops for export. It also focuses on the soil and water conservation, and role of the private sector.

Although growth in agriculture is one of the most effective strategies for reducing poverty and promoting overall growth, there are a few environmental challenges triggered by increased agricultural production that must be studied and addressed.

## Improving Agriculture

The effective use of resources ensures the success of Rwanda's agricultural sector, the integration of farming systems is essential, along with farmer training, development of entrepreneurial capacities and a strengthening of the institutional framework.\*

In order for a viable and sustainable sector, soil must be preserved and past degradation reversed. Improvement can be achieved through Practices for which can reduce soil erosion and increase fertility, which means agricultural productivity, can be maintained at a lower cost.

The GoR, for example, is spending heavily on subsidizing fertilizers, estimated at Rwf 1.50 billion in 2008 (PER-2007). It is known economic returns to using fertilizer are very negligible due to high costs associated with its importation to a landlocked country. Given the steep terrain of Rwanda, it cannot be ruled out that some fertilizer is lost. Subsidized fertilizers could act as a disincentive to adoption of alternative land use practices. Spending to systematically help farmers restore ecosystem functions on their land through legumes, agro-forestry, is therefore considered to be a more sustainable way of increasing productivity.

The targeted management of other natural resources also contributes directly to an economically viable and sustainable sector. In particular the protection of marshes, lakes, rivers, peatlands and other wetlands require protection, as they provide valuable reservoirs of water and biodiversity, as well as energy sources.

Marshland accounts for about 6% of the territory in Rwanda, 165,000 hectares, 55% are cultivated with traditional methods and only 3% using water management practices. It is crucial to rationalize wetland farming so as to allow time for the regeneration of soils and the water table.

'Protected areas' sites marshlands have been restored and crop production increased two or three-fold on the slopes of hillsides, according to officials of the marshland and hillside management committees. Water from the marshland is resurfacing after a dry period of more than three years. Papyrus has started growing there once more, while several rare species of waterfowl have reappeared. <sup>[1]</sup> **Growth in agricultural productivity itself is not sufficient-it must be environmentally sound to ensure its sustainability.**

[1] Regreening Rwanda's Thousand Hills, Food and Agriculture Organization of the United Nations; 29 October 2008.  
\*Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II (PSTAI), February 2009.

## Case Study: Beekeeping in Rwanda

Beekeeping is a growing industry in sustainable agriculture practices, especially in forested areas such as Nyungwe Forest.

The bees nest in tree holes and local harvesters would cut down trees or set smoky fires at the base of a tree to drive bees away while they climb the trees to collect the honey causing damage and fires in the area.

These harvesting methods also harmed the bees themselves and have detrimental effects, because bees are an essential part of the ecosystem for pollination.

Through the support of the government, NGOs and donors, organized beekeeping has been established in Nyungwe reducing the major cause of forest fires in the National Park.

Cooperatives, such as the Terimbera Muvumvu Cooperative (a group of 22 women), was supported through USAID to teach local women about beekeeping and to provide viable "bio-diversity friendly" economic opportunities to local residents, particularly women and youth.

**Creating new industries such as beekeeping directly contributes to the achieving the Millennium Development Goals:**

- 1 – End Poverty and Hunger** – provides new economic opportunities, supplemental incomes
- 3 – Gender Equality** – cooperatives focusing on women
- 4 – Child Health** – honey is high in nutrients and provides need nourishment
- 7 – Environmental Sustainability** – artificial hives are placed at the edge of the forest to allow the bees to pollinate