

World Food Day 2014



Family Farming Feeding the World, Caring for the Earth



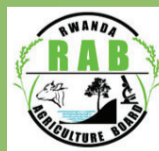
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It is family farming; it is eliminating poverty and hunger



BY THOMAS KAGERA

The Government of Rwanda joined the rest of the world to celebrate the World Food Day on 16th October to bring awareness to global hunger. The theme for this year was "Family Farming: Feeding the World, Caring for the Earth."

Information from FAO and World Food Programme indicates that the world over, a total of 805 million people go without food. This comes amidst increasing use of technologies, which as well comes with population spiral, climate change, ozone layer depletion in some parts of the earth and a plethora of other happenings in man's interaction with the environment.

When world leaders were setting targets for the Millennium Development Goals, halving hunger and poverty were put together in Goal number one; for it is by reducing these to insignificant levels that the other goals can be adequately and pragmatically addressed.

Rwanda's approach to the elimination of food and nutritional insecurity has been founded on empowering small scale farmers and supporting them with back-up infrastructures all throughout the country. From the Crop Intensification programme, the attendant programmes such as Girinka, fertiliser use, land and watershed husbandry, increased mechanization, development of sustainable production systems and research.

There are testimonies from around the country that are a telling register of what has been achieved, production per unit area has improved, food security and nutritional security have been attained throughout the country. Food security has also come with extrication of over a million people from poverty in the last two years.

According to FAO, 98% of the farms in the world are family farms; they therefore play an important role in production, environment protection and cultural values. Family farms ensure equitable access to food and eliminate food gaps and eventually the income gaps. In Rwanda, family

farms are responsible for increased consumption, savings and rural investment through cooperatives and general improvement of welfare.

Rwanda is among the sub-Saharan countries that has met MDG one of halving hunger and poverty. Rwanda's story points out the fact that a war against hunger and poverty is possible so long as there is political commitment, a holistic approach, social participation and family farming.

Private investments in the agriculture sector have been summoned in the hunger elimination equation to not only sustain the investments the government has made over the last ten years, but also to make sure it makes the additional investments required to create more vitality in the sector to attain the ideals of EDPRS2, Vision 2020, MDG1 and beyond.

At macro-level therefore, the new set target for agriculture growth under CAADP 2 is 8.5%; which calls for doubling the efforts. The private sector, with the back-up investments by the government, is capable of being

at the fore in driving this growth.

While in the last five years a million people have been lifted out of poverty, the new target is to through PSTA 3 is to lift over 2 million people out of poverty.

The government is bringing as many private sector players in the loop as possible, to enable them understand what is expected of them, and open them to reality that there are investment opportunities in the agriculture sector, so they will not venture there for charity. This will be a good way of supports the efforts of famers through family farms.

As largest employers, caretakers of the earth, feeding big populations of the world, family farms require to be taken even to a higher level; farmers thereof need to be trained, in the technical farming methods, but also taking there gardens as enterprises and active businesses which can form a good springboard for getting them out of poverty. Cooperatives in Rwanda have been a great development platform and empowering them should only be amplified.



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Crop Intensification Program (CIP)

The program implementation started in September 2007 with the main goals of increasing agricultural productivity in high potential food crops and ensuring food security and self-sufficiency.

CIP currently undertakes a multi-pronged approach that includes facilitation of access to inputs (improved seeds and fertilizers), consolidation of land use, provision of extension services, and improvement of post harvest handling and storage mechanisms. It focuses on seven priority crops; maize, wheat, rice, Irish potato, beans, banana and cassava.

Distribution of improved inputs

Access to improved inputs has long been inhibiting farmers from raising productivity levels. The access was curtailed by the low demand and high costs which were further amplified by the difficulties in transportation to rural areas. To overcome these constraints, CIP took a 'supply-push' approach whereby the government initially supplied the inputs on credit and farmers are persuaded to use them.

Improved Seeds

To augment productivity, CIP imported improved seeds from regional seed companies that have advanced into hybrid seed technologies, especially for maize and wheat. These varieties were given to farmers to help increase crop output. In addition, improved planting materials, focussed on distribution of disease free material for cassava, potato and banana to farmers. Climbing beans that have higher yields than ordinary bush beans were distributed more widely across the country. More recently climbing beans with extra iron levels in them are being distributed to increase the nutritional benefit of beans to farmers.

Under CIP, the use of improved seeds by farmers went up from 3% to 40%. By encouraging farmers to use improved seeds, CIP has substantially increased the local demand and the capacity for seed production. Five local seed companies have started engaging in hybrid seed production while regional companies have setup businesses in Rwanda. Improved seeds are increasingly becoming a tradable commodity as local appreciation and demand increases. This is probably one of the biggest successes of CIP.

Access to fertilizers

Through bulk orders, CIP imported fertilizers and distributed to farmers through various service



Farmers harvesting rice.

providers. About 83% of fertilizers were used by farmers growing maize, wheat, rice and potato. From less than 2,000 tons of fertilizers available to farmers, fertilizer availability now stands at 40,000 metric tons and will continue to grow to about 100,000 metric tons.

A fertilizer distribution system was setup and managed by government for 4 years but was last year privatized to local businesses. Agro dealerships, shops that are licensed to sell fertilizers have been set up across the whole country providing business to local communities and ensuring that farmers have fertilizers where they need them. Farmers are able to access financing through SACCOs and crop insurance allows faster and easier lending to farmers.

Consolidation of land use

Due to growing demographic pressure, agricultural land in Rwanda is highly fragmented. Since the use of inputs such as the improved seeds and fertilizer can be translated into profitability for smallholder farmers only if the land fragmentation is overcome, the land use patterns have been reorganized. Under the land consolidation policy, farmers in a given area need to grow specific food crops in a synchronized fashion that improves productivity and environmental sustainability. It also requires resettlement of family housing in an administrative area (Umudugudu) from the agriculturally productive lands.

Although met with reluctance from farmers at initial stages of implementation, farmers have now embraced it. The biggest advantage of CIP is scale; it lifts individual farming activities from

a miniature scale at the household level to nationally recognize farming scale based on consolidation at the cooperative level. CIP has the following advantages, as it;

- reduces volume/cost ratio, logistics and transportation costs of inputs and outputs
- increases accessibility of inputs, and provides a focused market for farm inputs that allows agro dealers to have a larger coverage
- provides increased coverage of proximity extension services
- enables equitable distribution of natural resources such as water
- increases land- and crop productivity.
- facilitates market access for farm produce

Outputs of CIP

Having solved major logistical problems for farmers CIP has had a

major impact on the overall output of the Agriculture sector. It has increased productivity at household level, led to increased marketable surplus from farmers, has significantly reduced post harvest losses and contributed to poverty reduction. Production of cereals increased three folds mostly from use of fertilizers and improved seed. Production of cassava and potatoes increased by 5-10 fold while yields per hectare in rice are in line with international production levels.

At the same time post-harvest losses were reduced from over 30% to 12%. Overall, CIP has transformed Rwanda into a food secure nation and has contributed significantly to the nation's poverty reduction efforts. The food security status moved from the country being able to meet only 70% of its food needs to capacity to meet 200% of its food needs. On poverty, national poverty

levels fell by 12% of which at least 45% is attributed to the agriculture sector. CIP has been a major driver. CIP has also revealed the massive potential that exists in the country in increasing the smallholder agricultural productivity. It has also testified that the cost of achieving food security is fiscally manageable. It demonstrates that land use patterns can define the growth in productivity and development of the agriculture sector.

CIP has significantly contributed to the growth of the private sector in Agriculture; today, over 5 companies have taken over fertilizer importation and distribution from government and are reaching farmers through a network of over 2,000 agro-dealerships across the country. Four international seed companies and 5 nascent local companies are in seed business taking seeds to farmers across the country and linking up with local cooperatives that are producing seeds as a business.

Ware housing and storage in agriculture has grown from less than 10,000 metric ton capacity to 170,000 metric ton capacity in a period of five years and is still growing. Three privately owned animal feed industries will be in place at the end of the year and will be supported from CIP output especially maize and soya bean. Agro-processing is beginning to grow and there is an increasing appetite for farmer financing through contract farming. That will create a win-win situation.

The ministry has also put in place national strategic reserves that are intended to address issues of food deficit as and when they may occur.



Storage facilities for National Strategic Reserves in the Kigali Economic Zone.



Many farmers have embraced mechanization.

Although demand has so far been low; since the inception and implementation of national food reserves program was started, less than 5 percent of the food stored has been used because majority of the population have enough food. It has so far only been used in disaster management.

Agricultural mechanization

In 2010 the Government of established the Irrigation and Mechanization Task Force with an ultimate goal of increasing farm machineries from zero to 25 per cent in 2017; targeting 45% by 2020.

The Government started with purchase of 266 tractors and 1500 heavy implements (accessories) like seed planting, plough disks among others and used them to set up village mechanization centers distributed across the country. The Village Mechanization Service Center (VMC) offer; hire services, training, rent or purchase of tractors. This has been embraced by many farmers which as a result has led to the emergence of a strong private sector that offers hire services across a number of districts in the Eastern province. There are 3 companies that have established farmers service centers in four of the mechanizable districts of the Eastern province. The ministry is working on growing mechanisation in the post-harvest area to add value to produce but to also create jobs for the youth.

Irrigation

The ministry has also invested a lot in infrastructure such as different irrigation schemes, drainage systems/dams, terraces.

As the country continues to grapple with the diverse effects of climate change, the ministry is focussing more on irrigation.

Area under irrigation has grown from 3,000 ha in 2005 to 27,000 ha by end 2013 which will grow to at least 65,000 hectares of land by 2017. This has been done by retaining water in reservoirs and

allowing it to be used throughout the year; over 30 retaining dams with water holding capacity of close to 50million cubic meters have been built in the last 20 years. The Ministry has ventured into new forms of irrigation that had never been tested in the country before although they widely exist; pumped irrigation in the form of center pivots, sprinklers etc. and hillside irrigation were introduced in Rwanda and are now on an area of 4,000 ha providing 3 crops a year (maize, beans/soybean and vegetables).

There are also private initiatives; Bralirwa/Minimex are irrigating 260 ha with center pivots in Kayonza district and plan to grow it to 760 ha in the next three years. Farmers around water bodies have bought pumps and started irrigation and the Ministry is planning to grow this by promoting farmer led irrigation starting with September 2014. This would allow farmers that have easy access to any surface water or underground water to carry out irrigation. We plan to fast-track this initiative by subsidizing the cost of equipment and or technical support to farmers. We believe that we can get to install around 3,000 ha every year through

farmer based irrigation. This will be done by building capacity of farmers especially those whose fields are near water bodies or sources. This form of irrigation has the highest potential to support household level food security in the face of climate change.

LAND HUSBANDRY AND TERRACING

In 1988, only 37% of land was protected against erosion, mainly using progressive terraces. After 1994, a comprehensive land husbandry programme of terracing and agro- forestry was rolled out nationwide to reduce soil loss. Later in 2008 a more ambitious comprehensive land husbandry program was introduced that combined terracing with water harvesting and increased productivity. This program that has been nicknamed, 'unfold Rwanda' increase land available for cultivation by 47% (20 % from previously eroded soils and 27% from previously land considered too marginal for agriculture). Alongside an aggressive composting and liming program, the resulting terraces are turning into major food baskets. On these terraces, erosion is reduced by 70-90% and water is harvested in reservoirs



Consolidation of land use.



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An irrigation facility in Muvumba.

and used in irrigation. Production on terraced slopes has increased from an average of 469usD/ ha/year to 2,240 usD/ha/year. Terraces are constructed with community participation further bring incomes that transform lives on these slopes. Today, the land effectively protected against soil erosion is over 70%. (Soil erosion baseline report, 2013).

AGRICULTURAL EXTENSION SERVICES

The National Agricultural Extension System aims to contribute in achieving the National and international development goals, such as: Vision 2020 which considers agricultural sector as the main source of economic growth of the country, Economic Development and Poverty Reduction Strategy (EDPRS), National agricultural policy the Strategic Plan for the Transformation of Agriculture (PSTA), Millennium Development

Goals (MDGs) and NEPAD perspectives. The Agriculture Extension Department is mainly concerned with Modernization of the Agricultural sector in Rwanda through efficient extension Services focused on the technology innovations, farmer education and professionalization. The main goals include: Maintain national food security; improved productivity; Increased incomes for farmers and Improved Livelihoods. The management and implementation of integrated farmer oriented agricultural extension services in the country is guided by the National Agricultural extension strategy (2009).

TWIGIRE EXTENSION MODEL

This a decentralized approach to empower districts and devolve decision-making management and implementation of agricultural activities to the village level where farmers are organized into groups of 15- 20 farmers with a group leader whose main role is to guide and supervise the group members in uptake of good agronomic practices.

The farmer promoters are selected at one per village and trained in practical skills of crops as well as soft skills of planning and communication to act as the extension agents to other farmers in their respective villages.

The FFS facilitators who are trained through the FFS approach are mapped out at cell level (one per cell) to train the farmer promoters. Agriculture committees are established at all levels to act as command post and the roles and responsibilities include Coordination, Monitoring, Reporting, Mobilization and Advisory.



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RWANDA
Unity in Diversity

Family Farming: “Feeding the world, caring for the earth”

BY ATTAHER MAIGA

FAO REPRESENTATIVE TO RWANDA

World Food Day (WFD) is celebrated every year around the world on 16 October.

This year's theme is “*Family Farming: Feeding the world, caring for the earth.*” It reminds us all on the significant role of family farmers to food security and sustainable management of natural resources, in a year 2014 which has been designated by the United Nations as “International Year of Family Farming”. In Rwanda the 34th observance of World Food Day is being celebrated in Ngoma District (Eastern Province).

The 2014 WFD commemorates the 69th Anniversary of the founding of the Food and Agriculture Organization of

the United Nations (FAO). Eradicating hunger and achieving food security for all remain at the heart of FAO's efforts – to make sure people have regular access to enough high-quality food to lead active and healthy lives. To achieve its mandate, FAO has been implementing five global strategic objectives: i) contribute to the eradication of hunger, food insecurity and malnutrition; ii) increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner; iii) reduce rural poverty; iv) enable inclusive and efficient agricultural and food systems at local and international level; v) increase the resilience of livelihoods to threats and crises.

In Rwanda, FAO operates within the ONE UN family whose priority interventions are articulated in the United Nations Development Assistance Plan (UNDAP 2013-2018), and aligned with the EDPRS-

II objectives. FAO's interventions in Rwanda are outlined in its Country Programming Framework (CPF), focusing on four priority outcomes: food security and nutrition; sustainable use of natural resources; agribusiness development and agricultural knowledge management. The role and importance of the agricultural sector in sustaining the Rwandan economic growth and poverty alleviation are clearly highlighted in the EDPRS and other national sectoral strategic development plans.

It has been established that GDP growth from the agricultural sector is up to four times more effective in reducing rural poverty than growth generated by other sectors, because the effects directly go to people at the grassroots. Between 2000 and 2010, Rwanda's agricultural sector grew by 5.8% per annum. The sector accounted for 33% of GDP in 2013, and generates 70% of export revenues. This would have not been possible without the hard work of Rwandan family farmers.

The facts presented in FAO's flagship annual report on State of Food and Agriculture (SOFA - 2014) clearly justify the emphasis being placed on family farming. Around 500 million of the world's 570 million farms are run by families. They are the main caretakers of our natural resources. As a sector, they form the world's largest employer, supply more than 80 percent of the world's food in terms of value, and are often the main producers of fresh food and prosper in dairy, poultry and pig production.

This year's being dedicated to family farming allows us to see that the rural family can respond to food insecurity without compromising our dwindled natural resources. However we must be responsive to their needs, as they are among the most vulnerable group to the effects of resource depletion and climate change.

While evidence shows impressive

yields on land managed by family farmers, many smaller farms are unable to produce enough to provide decent livelihoods for the families. Family farming is thus faced with triple challenges: productivity growth to meet the world's need for food security and better nutrition; environmental sustainability to protect the planet and to secure their own productive capacity; and productivity growth and livelihood diversification to lift themselves out of poverty and hunger.

Given these challenges, SOFA 2014 report suggests that family farmers must innovate. The report calls for the public sector, working with farmers, civil society organizations and the private sector, to improve innovation systems for agriculture. Agricultural innovation systems include all the institutions and actors that support farmers in developing and adopting better ways of working in today's increasingly complex world. The report also emphasizes that it is imperative to boost output per worker, especially in low-income countries, in order to lift farmers incomes and expand rural economic welfare in general.

Currently, farm sizes are becoming smaller and smaller in most developing countries, where many smallholder farm households derive the bulk of their income from off-farm activities. Policies should aim to increase access to agricultural inputs such as seeds and fertilizers as well as access to markets and credit, according to SOFA 2014 report.

To encourage family farmers to invest in sustainable agricultural practices, which often have high start-up costs and long pay-off periods, authorities should seek to provide a conducive policy to support farmers to obtain financial means to overcome their constraints as well as promote know-how best practices on agriculture. It is also important to make youth see this sector attractive as their involvement in this sector is inevitable to stimulate new ideas and innovation in agriculture.

On the occasion of World Food Day, we commend the Government of Rwanda for the remarkable achievements recorded in the country's agriculture transformation agenda. Let us renew our commitment to food security and nutrition, as well as encouraging private sector to play a leading role in agribusiness promotion and value chain development. Let us salute the Rwandan family farmer's efforts, and their laudable contributions to achieving the national socio-economic goals. Let us applaud the role of Rwandan youth and women in the noble fight for sustainable food and nutrition security.



Attaher Maiga,
FAO Representative
to Rwanda



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Promoting healthy diet among vulnerable households in Nyamagabe and Rutsiro district

In response to national efforts by Government of Rwanda to eradicate pervasive chronic malnutrition or stunting situation among children under the age of two, FAO, a specialized UN agency whose mandate is to help eradicate hunger, is implementing two joint projects with UNICEF, WFP and WHO to fight child malnutrition in two most affected districts of Nyamagabe and Rutsiro. The project has been generously funded by the Swiss Development Cooperation (SDC) and the Embassy of the Kingdom of Netherlands.



Relevancy to national Context

Despite impressive improvement on national food situation, Rwanda

still faces serious challenges of child malnutrition under five years of age. Latest data from Demographics and Health Survey in 2010 show that while the acute

malnutrition rate has sharply declined from 5% in 2005 to 3% in 2010, chronic malnutrition, or stunting, remains pervasive at 44 % nationally. Furthermore,

anemia affects 38% of children below 5 years old and 17% of women aged 15-49 years. Given this situation, Rwanda has been at the forefront to tackle chronic malnutrition together with all stakeholders.

Strengthening collaboration and partnership

Together with other UN Agencies (WHO, UNICEF and WFP), the interventions build up on the best practices from the partners that have been specialized in adopting multi-sector approaches to tackle and prevent chronic malnutrition at a country level. Access to food, improved care and hygiene practices are the key cornerstone of the joint effort.

In collaboration with the Ministry of Agriculture, FAO is supporting the mainstreaming of interventions across agriculture sector strategy through developing a nutrition action plan. A similar support will be carried up with the Ministry of Education.

The approach piloted in the two districts of Rutsiro and Nyamagabe will be scaled up in other districts of the country.



FAO-led component aims at promoting local production and consumption of nutritious and safe food as well as building resilient livelihoods for affected households. In the field, targeted activities focus on the distribution of small livestock, the construction of kitchen gardens and the provision of related inputs. Additionally, production of bio-fortified crops and mushroom growing through Farmer Field and Life Schools (FFLS) is emphasized, whereas capacity development of beneficiary households to increase ownership and sustainability is part of interventions.

About 649 households in the district of Nyamagabe and 2,120 households in the district of Rutsiro will be the direct beneficiaries of the collaborative effort. A need assessment at the households level was conducted to identify households that fall into category 1 and 2 of the socio-economic poverty index (*Ubudehe category 1&2*). As this project is at the first implementation phase, various types of small livestock were handed over to targeted beneficiaries, including 660 chicken, 229 rabbits, 643 pigs and kits of basic veterinary drugs.

Beneficiaries speak out on FAO's nutrition initiatives

NSHIMUMUKIZA JEAN MARIE VIANNEY

Nshimumukiza Jean Marie Vianney a farmer promoter, and voluntary community leader in Gatare village in Kitabi sector, Nyamagabe district, has been provided with training and resources to increase knowledge of agricultural best practices.

We have been trained to put emphasis on crops that promote good nutrition among vulnerable groups of children, elderly and pregnant women. I received training on a variety of topics, including use of compost and fertilizer, crop-specific planting techniques, harvest activities, and post-harvest storage and value addition.

The goal of FAO training Farmer Promoters like myself is to have Farmer Promoters serve as model farmers in each village, and to have us pass along the acquired technical knowledge to fellow farmers. Among other roles, I mobilize farmers who were initially practicing poor farming methods and their families were facing malnutrition for they did not have enough or did not know how to prepare a balanced diet. These trainings are done through the Farmer Field Schools (FFS) program which uses a participatory approach to train farmers on the holistic management of specific crops.

In an FFS, farmers form FFS groups and "learn by doing" as they conduct season long experimental trials on a single type of crop. As the level of technical knowledge in every village improves, crop yields and quality increase along with household incomes. So I believe even afterwards, I will remain with the experience and can always share it with others; my gratitude goes to FAO and World Relief.

HARIBYAYO JOHN

HARIBYAYO John, a resident of Kitari sector, Mukungu cell, Gatare village in Nyamagabe District, We have been taught of the importance of the 1000 days of a child's life and taught about the nutrient value of various foods and their use in our bodies. Today I have knowledge that if I feed my child on beans, he or she obtains proteins in the body which are important in growth.

We received livestock including; chicken, rabbits, pigs and some food supplements to households that had children who were malnourished; pregnant women and the elderly are now able to take eggs from the chicken, the animals also provide us with compost manure that we use in our kitchen gardens and on our farms. We grow vegetables, beans, fruits, potatoes among other crops, so we have enough food. In future we will have enough surplus to sell and improve our livelihoods. As a married man I can now produce enough to feed my family. Since I started working with FAO. I have acquired knowledge and skills to sustain my family and I now have hope to a bright future for my family.

I encourage residents of this district and elsewhere to embrace such initiatives because in the end, we are the beneficiaries of the acts of such organisations like FAO, continue practicing good farming methods, kitchen gardening and together we can say good bye to Malnutrition and other related diseases.



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FAO raises farmers' hope through developing agricultural value chains



The FAO project also ensured to increase the skills of the actors in these respective chains, by supporting study tours for sharing experience in similar businesses, various types of training in business planning, loan applications, management skills, market information and identification of opportunities among others.

Mapping results

Over 5,000 households from 19 cooperatives in the 3 districts are benefiting directly from this intervention. Assistance provided to maize cooperatives in Burera District has shown that average maize yield was increased from 1 to 3 metric tons per hectare and from 10 to 15 metric tons per hectare for potato. The milk production was also upped from 4,000 to 22,000 litres a day in Gicumbi.

Additionally, maize is processed into flour and grits "umuceriw'ibigori" by SAMAPROMI in Burera; potato into chips by IMBARAGA in Musanze; milk into cheese and yoghurt by BLESSED DIARIES and passion fruits into juices and jams in Gicumbi; and cassava into dried chips and pineapple fruits into juices and wines in Gisagara districts.

Production linkage contributing to better price

Market evidence indicates that maize cooperatives were linked to Mukamira and SAMAPROMI maize processing plants and potato producers were linked to the Kigali/Nyabugogo in bulk buyers. For cassava, it was sold to the Rusizi market, especially for export to Bukavu in DR Congo while pineapple fruits were sold to the fruits retailers in the Huye central market. Such linkages enabled commodity producers to fetch better prices. For example, for the FAO-assisted cooperatives, the price of their maize has increased from an average of 120 to 200 Rwf/kg; potato from 80 to 120 Rwf/kg; milk from 100 to 140 Rwf/litre; passion fruit from 250 to 450 Rwf/kg; and pineapple fruits from 60 to 200 Rwf/kg.

Farmers in Burera, Gicumbi and Gisagara Districts of Rwanda have now realized that agriculture and livestock products are becoming not only main sources of food security and household nutrition but also of cash in the years that FAO has been supporting them.

Since 2008, FAO is implementing a project on improvement of Food Security in cross-border Districts of Rwanda, Burundi, Eastern DR Congo and Uganda to support the modernization of agricultural sector, reflecting the commitment made under the New Partnership for Africa's Development (NEPAD) and Comprehensive Africa Agriculture Development Program (CAADP) frameworks. The project is funded by the Government of Italy.

In Rwanda, the project focuses on the development of the value chains of the most food secure and cash income commodities like Potato and Maize in Burera, Milk and Passion Fruit in Gicumbi and Cassava and Pineapple in Gisagara districts. Project participants are steadily seeing a substantial



increase in the quantity of food and the cash income to address other family needs, to mention a few like school fees for the children, medical insurance coverage, and improvement of the habitat.

Challenges turned into milestones

Before the project, participants in the value chains (farmers,

inputs suppliers, buyers and traders) in Burera and Gicumbi were complaining of limited access to agriculture and livestock inputs, especially quality seeds, fertilizers and animal feeds. They also faced constraints regarding storage facilities, value addition technologies, how to make their harvests a profitable investment.

To solve these concerns, the FAO project has facilitated demand



and supply linkages between pilot farming cooperatives and regional inputs suppliers; then organized establishment of harvest collection, storage and sale sites; before going ahead to facilitate business linkages between cooperatives and buyers; and finally supporting new value addition / processing technologies to help farmers improve the quality – and thus the prices – of their produces.



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Dairy Value Chain

Dairy farming and the elimination of malnutrition, poverty and hunger

IAKIB Milk Cooperative

IAKIB milk cooperative started as an association of farmers in 2004. Following the government policy to form cooperatives, the association was turned into the mighty IAKIB in 2006. It started with 300 members and a membership fee of Rwf3000 narrates Mr. Twiine Dacian, the cooperative president. "We started with a capital of Rwf1,800,000. The members became so active and hardworking that our cooperative grew steadily and today we are 684 members with 6 milk collection centers, a veterinary pharmacy, and a soon opening savings and credit SACCO, we are through with the preparations and are getting ready for its official launch. Currently, the membership fee is 300,000rwf and must be a farmer and compliant to terms and conditions of the cooperative. All this success can be attributed to FAO's interventions.

IAKIB has registered a number of milestones especially since the intervention by FAO

The project has facilitated farmers' easy access to quality feeds, IAKIB



milk cooperative built a feed plant in Kageyo Sector, Gicumbi District. Increased cow milk productivity, seeds of leguminous fodder of calliandra, mucuna, and desmodium grasses have been distributed to pilot farmers. The purpose is to multiply and propagate fodder among all cattle keepers in the District on a continuous pattern. We also have recently launched a facility for production and distribution of salt blocks for cattle which has greatly increased milk production and is affordable for our member farmers and non members in the district.



Improved commercialization system; primary milk collection sites have been established all over the district; and secondary sites all along the Katuna - Kigali tarmac road. Currently the number of liters of the Gicumbi milk sold to the Kigali markets every day has increased to 27,000 litres compared to last year which was between 13,000- 15,000 litres.

About the value addition, the project supported promotion of milk quality control and safety inspection before sale. Farmers and milk collectors were trained in milk quality control practices.

A total of 250 Lactodensimeter tools have been contributed by the FAO project for demonstration purpose.

For the preservation of the evening milk, a 3,000 liter cooling tank was donated by FAO to the IAKIB milk cooperative. Also, FAO is supporting the processing of yoghurt, butter and cheese. This is not only to save losses of unsold milk, but also to increase cash income from the value added products.

The "Blessed Dairy Limited" in Gicumbi is making yoghurt and the "Ndongozi Farm" in Burera district is making cheese that are both

certified by the Rwanda Bureau of Standards (RBS).

ANGEANA Fresh Dairy is one of the major buyers of milk from the farmers of Gicumbi District in the Northern Province. The proprietor of ANGEANA Fresh Dairy and BLESSED dairies LTD, Milton Ngirente is one of the pioneers of IAKIB and says at first farmers were making losses for lack of market. Being a highly perishable commodity, the buyers would lose milk in huge quantities. I realized there was an opportunity for me to be useful to the cooperative; I obtained a loan from Banque Populaires and established ANGEANA Fresh Dairy which started buying milk from farmers in the year 2005. Today he is still a member of the cooperative and buys up to 90% of the milk in the district.

IAKIB cooperative was trained in development and use of "Simplified Business Plans". Today, farmers are able not only to access markets and price information through physical visits to buyers and through the E-soko mobile phone network; but also to fix prices and calculate profits of their businesses.

Maize Value Chain- Burera District

Maize growing and processing: Sure win against hunger and poverty

Duhurize Hamwe Mugera Cooperative in Rusumo, Butaro in Burera district started as an association of subsistence maize farmers in 2011 with about 62 members and currently are 53; this is because some members developed and became independent farmers or diverted to other forms of income generating activities. Twahirwa Simon 43 years old and father of 8 children, the president of the cooperative narrates. "When FAO came in this area, they trained us on good farming methods, gave us material to build drying and storage facilities and our productivity tripled. FAO also connected us to profitable markets like DR of Congo traders. Today, our production has increased tremendously from 12 tonnes to 70 tonnes.

Our cell is the most developed in the area. We can feed our families, pay school fees, afford medical insurance and are connected to good markets which increases our income and improves our lives; thanks to FAO," enthuses Simon.



About World Food Day 2014 theme, of 'family farming', it is the most appropriate theme that can encourage agriculture development as well as improved livelihoods. When a husband and wife plus children come together to a common cause, nothing can hinder prosperity for such a family; firstly the combined effort often yields good results, there is also peace and security in the house hold, planning and budgeting together which is key to sustainable development. We have two families working together with us and if you compare their organized way of doing things,

with the rest of us, you would know that family farming is the way to go.

FAO has facilitated access to fertilizers: Three inputs stores are supported in Kirambo, Butaro and Kigeyo trading centers in Burera District. The 3 stores and some of the Farmer cooperatives (CODAB, KABONA and MUGERA for example) have been linked to inputs suppliers from Musanze town. Improved access to seeds: Eleven potato and maize seed multipliers in Burera have been trained in quality seed production through the FFS methodology.



Increased production yields/ha: Two cooperatives (Cooperative de Valorisation des Marais de Burera-COVMB- and Cooperative de Developpement Agricole de Burera-CODAB) are assisted by the Project to increase use of quality seeds and fertilizers through land use consolidation in Burera marshlands.

Improved commercialization systems: The project supported farmers to collect and collectively sell their potato and maize harvests at specific sites all along the Base - Butaro road. A small revolving fund (\$10,000) was given to the

cooperatives to rent Lorries and transport their harvests to the Kigali markets themselves.

Improved value addition practices/ technologies: In collaboration with the Farmers Federation IMBARAGA, the FAO project supported promotion of clean and packaged ware potato before sale at higher prices to first class restaurants and supermarkets.

For maize, the FAO project supports promotion of improved harvesting, drying, and threshing and processing practices at the household level in Burera District. In collaboration with the Farmer Federation IMBARAGA, locally made hand threshers were distributed to the 3 cooperatives (also for demonstration purpose). Such threshers are fast and reduce the workload of the women. They prevent breakages thus protecting the quality of the grains. It is worth noting that, based on the success of this project activity, many more similar drying structures are being built and more threshers are being contributed by other projects operating in Burera.



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World Food Day



United Nations
RWANDA
Unity in Diversity

Promoting family farming through adopting sustainable land management practices in Rwanda

Family farming has played a crucial role in raising food security and nutrition status to millions of households worldwide. FAO reports that family farming is the predominant form of agriculture in the food production sector in developed and developing nations and has a close link to national and global food security.

The UN General Assembly has designated 2014 "International Year of Family Farming." This highlights the international recognition on the important contribution of family farmers to world food security.

With FAO support, through the Global Environmental Facility (GEF) funded-Kagera Transboundary Agro-ecosystems Management Project (TAMP), farmers in six districts of Bugesera, Kirehe, Nyagatare, Kamonyi, Rulindo and Kayonzain Rwanda were organized in Farmer Field Schools (FFS) for learning good practices in soil and water management and conservation strategies, and crop diversification



within a watershed management framework. The Farmer Field Schools offer farmers to begin by identifying common problems and come up with locally adaptable solutions that suit them. The recommended practices are demonstrated in a validation plot at

group level before they are adapted by the farmers in their respective fields.

Common issues faced by communities in the targeted districts are soil erosion, loss of vegetation cover, poor soil fertility and poor crop husbandry.

Insufficiency of knowledge and skills in soil and water conservation and watershed management skills are also predominant in these communities. Around 1000 beneficiaries in total have been actively involved in sustainable land management practices and 60 percent of those are women, echoing a strong gender dimension of this intervention.

Land is the basis of production systems such as agriculture, forestry, fisheries and livestock; hence the need to sustainably manage this resource is important. The sustainable land management practices are embedded with the principles of sustained agricultural production while retaining or improving the agro ecosystems. It covers the management of soil physical, chemical and biological properties and production functions.

Achievements in action

11 micro-catchments were identified in Rwanda under this project. Beneficiary farmers received trainings in sustainable land management, techniques on integrating livestock with crop production and received agricultural inputs for their study plots and income generation activities. The project also established tree nurseries for the adoption of agroforestry practices and for the wider micro-catchments as well as constructed water retention dams for small scale irrigation of vegetable gardens during the dry season in Rulindo district.

Land Management Systems

RULINDO district benefits from FAO

BY GEOFFREY WAKIBI

The Food and Agriculture Organization has played a big role in ensuring food security by holding the mandate to raise the levels of nutrition and standard of living and improving agricultural productivity in Rwanda. The organization has left no stone un touched in its efforts to support the people of Rwanda to access means of developing the agricultural sector.

The people of Rulindo district had for a long time been faced with problems of food insecurity. So in line with vision 2020 objectives of transforming Rwanda into a middle -income country and to ensure sustainable economic growth, with the help of FAO, they have come together to form associations and cooperatives to address the problem of poor agricultural production in a bid to ensure food security in their district under their organization known as **Vi-Agro forestry**. Within this organization the Rulindo people have established other associations. The writer visited one association called DUHASHYISURI in Murambi and in a brief discussion, members had this to say:

Ruhumuriza DAVID,

35 year old Ruhumuliza and President of the association explained that the people of Rulindo needed to come together, join hands and improve their performance in agricultural production and implement better land management systems. "The people had always tried to practice agriculture but yields were very poor due to the indigenous methods that we used to apply," said David. The cooperative has unique programs which aim at improving agriculture and land management system in order to achieve better qualities of produce.

"Our association has established a research program called **Farmers Field School (FFS)**. This program undertakes to make various researches on modern techniques of farming and land management." He said. The people of Rulindo have maintained the system of terracing which helps to reduce soil erosion and maintain the fertility of the soil. Dams and garden trenches are constructed to ensure reduction of speed of water flow especially during wet seasons.

Kankindi AUGUSTINE

In his late fifties, he is the cooperative facilitator and is proud that the people of Rulindo have started achieving goals from the assistance rendered by FAO. "I and my family are happy since our welfare has greatly improved. We are able to grow crops like maize, potatoes, beans and bananas and at good yields we harvest enough for consumption and also sell off some and get income to buy other necessities," said Augustine.

We came into contact with FAO in 2011. The organization started with training people how to apply modern farming techniques. "We were very ignorant about these new ideas of agricultural production and land reclamation." He said. In 2012, farmers started applying these systems and today they are seeing differences.

In Rulindo, land is managed well and can produce better quality product. Land is reclaimed; dams and terraces are built to control water flow. Since the district has a problem of poor topography, farming using the terraces is of the one way of managing land. "This method is important in that it reduces soil erosion and maintains the fertility of soil.

The cooperative has gone far to set up money generating projects. The cooperative rears pigs jointly and as the number of pigs multiplies each member is given a pig to look after at home. Augustine said this system has helped to reduce poverty among families. "We have also established a fish project and we expect a lot from it. I thank FAO for funding and providing all necessary requirements to run these useful projects which are very vital for improving the welfare of Rwandans.

Nyiramisago FLOMINA

37 is a member of the cooperative. She expressed much gratitude towards the services rendered by FAO to the people of Rulindo. "At least today we have been sensitized enough and we can solve most of the problems that we encounter as we try to execute our activities," said Flomina, with a sigh of happiness. She explained to the writer that sensitization has helped Rwandans so much. By introducing modern farming techniques, Agricultural production has been improved and poverty reduced among Rwandan families. Food security is now assured. "It is not common finding a family that goes without food. Since we now know how to reclaim and manage land, we put it to use and produce for both commercial and home consumption." She said.



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FAO roots for sustainable bamboo management in Rwanda as a secured livelihood alternative

Securing community livelihoods through promotion and utilization of Bamboo resources in Rwanda is a project that FAO is currently supporting the Government of Rwanda to boost. The project, funded through FAO technical cooperation programme (TCP), is so far being implemented in two provinces in the districts of Nyaruguru and Kicukiro where demonstration plots have been established to show and teach farmers the benefit of bamboo nursery best practices, plantation management and market development.

This project aims to increase bamboo resources and improve capacity building and the technology in bamboo development and its utilization. It also seeks to increase economic opportunities through market development as well as develop and implement a coordinated national strategy for bamboo promotion. A plan is underway to introduce innovative approaches and assess different propagation methods in order to increase availability of high quality bamboo planting materials.

The expected impacts of the project will ensure that the livelihoods of rural poor in bamboo rich areas are improved by promoting sustainable bamboo management and development through the



transfer of technology, expertise and enabling environment in which bamboo production, processing and marketing can take place. The increased processing of activities by

local craftsmen will produce added values and increase the demand for raw materials, which benefits the farmers with access to bamboo.

Partners and communities have been engaged from the very beginning and interventions are conducted in a participatory way. The key project collaborators include ICRAF, Rwanda Agricultural Board (RAB), the Ministry of Natural Resources (through RNRA), some Farmers' Associations, the two selected districts and other partners in bamboo development in the country.

Bamboo resources and its potential

Rwanda is one of many African countries rich in bamboo resources with potential to produce 10-40 tons of wood per hectare.

In order to realize better value from bamboo and increase employment opportunities, the Government has initiated programs with partners to increase bamboo production as well as its utilization. With the support of China, several hundred artisans have been trained to produce furniture, handicraft items, toothpicks and barbecue sticks that have a better value and demand for local and adjacent foreign markets. The growing global market for bamboo

products is currently estimated at USD 2billion. These products have larger and more sustainable markets than traditional handicrafts or subsistence products, and their bamboo origins, particularly given their "Green" status as substitutes for timber-derived softwood, often adds to their attraction in the affluent markets of developed countries. Bamboo flooring, paneling and molding products have achieved significant new markets in developed countries, and in a wide range of bamboo boards such as mat-board, glue-laminated board and particle boards have growing national-use markets in producing countries. Local use and export of other bamboo products such as processed bamboo shoots and bamboo charcoal contribute significantly, benefiting rural and urban producers and processors alike.

Bamboo is regarded as a highly deemed agro-forestry crop that can not only help smallholders intensify crop productivity, but also provide them with a secured livelihood alternative that can generate important household revenue.

Ongoing bamboo initiative

The Government of Rwanda recognizes the importance of forests and its contribution to the country's economic, social and environmental wellbeing by putting in place measures for forest protection and maintenance to tackle challenges of overexploitation, forest conversions and degradation. Under the Flagship programs, Vision 2020 and the Economic Development and Poverty Reduction Strategy (EDPRS), the government is aiming to increase forestry's contribution by significantly increasing national forest surfaces to reach 30% of the national territory, in which 85% of cultivated space will be derived from bamboo plantations in agroforestry systems.

NSABIMANA THEOGENE

Bamboo growing gives hope to farmers

BY GEOFFREY WAKIBI

Nsabimana Theogene, 35, is one of the beneficiaries of FAO bamboo project. Nsabimana admits to having had little knowledge about growing bamboo. "I used to know the tree plant just like any other tree. Apart from knowing that the tree can be used as firewood and building, I didn't know about its outstanding importance until I was introduced to this project." He said with a glee.

When the Food and Agricultural Organization introduced this project, members of the public were invited to attend training sessions to acquire sufficient knowledge about the production

of bamboo in order to yield from its usefulness. "Many people don't know the advantages of bamboo. After the training I found out that bamboo is a fast growing tree specie which can be used to lessen land degradation and can be harvested without cutting the plant down such that the soil stitching effect of root system remains firm hence reducing soil erosion," he explained.

The beneficiary who lives in Masaka, Kicukiro district, took his training in Muganza, Nyaruguru district in the Southern Province. Many people responded and they went as a big team from Kicukiro district. "I was in the group that went to Nyaruguru for training while

another group went to Huye." He told the writer. The participants received skills in growing and maintaining bamboo. Among their findings they got to know the different uses of bamboo. "Bamboo is used to produce beer, building, making furniture, utensils, photo frames and many other artistic items" says Theogen.

Bamboo is commercial and can fetch good money. He compared the price for seedlings of other ordinary trees to those of bamboo. "A well grown bamboo seedling costs Rwf 500 compared to Rwf 50 for other trees."

Nsabimana has a group of people who attended the training and they have set up

seed beds. They also train other members who didn't get the chance of training.

"The community will benefit much from the project. Bamboo forests will reduce soil erosion and hence improve soil fertility. People will be able to do business out of selling bamboo products," he said.

He continues to call upon members of the public to enhance bamboo growing and he thanks initiators of the project for having come up with such great idea. "We have actually been missing a lot, for example, people in Ruhengeri who got introduced to it earlier have already realized tremendous benefits from bamboo planting."



IFAD's Strategy in Rwanda

From 1981 to date, IFAD has provided 15 concessional loans to Rwanda for a total amount of US\$239.4 million, which have contributed significantly to improving incomes and food security in rural areas, particularly through watershed development, increased production in irrigated marshland and hillsides, development of livestock, export crops and rural enterprise promotion.

IFAD's country programme has piloted a number of innovations including a rice intensification system (SRI), crop-livestock integration and intensification, support for water users associations, and development of farmers' managed veterinary pharmacies, which have now been mainstreamed into its on-going projects. In addition, new technologies such as the biogas flexi-low cost system is providing affordable energy to remote rural areas, while the apprenticeship programme is helping rural youth gain new skills.

So far, IFAD's programme has been effective in supporting the government's strategy to increase Rwanda's agricultural productivity, manage the limited natural resources base, develop potential of high-value export crops, and generate non-farm employment to promote economic mobility of young people out of primary agricultural production. The third generation of IFAD support (from 2016 onwards, when additional IFAD funds become available for Rwanda) is expected to take the form of programme support for PSTA III, which also would enable IFAD to ensure adequate attention on the rural poor and to scale-up some of the more successful innovations generated through its past and on-going investment projects.

IFAD's strategic objectives are three-fold and inter-connected:

- To sustainably increase agricultural productivity through management of the natural resource base and investments in physical and social capital – including scaled-up agricultural intensification – resulting in improved incomes and livelihood
- To develop climate-resilient export value chains, post-harvesting processes and agribusiness to increase market outlets, add value to agricultural produce and generate employment in rural areas
- To improve the nutritional status of poor rural people and vulnerable groups included in the process of economic transformation.

In implementing its newly reviewed strategy, IFAD has put in place tar-



getting mechanisms to target specific groups such as the poorest farmers or the women headed households, for specific objectives. The targeting mechanism are in line with the Country's vision 2020.

ONGOING OPERATIONS

CLIMATE RESILIENT POST-HARVEST AND AGRIBUSINESS SUPPORT PROJECT

Total cost: **US\$83.4 million** Directly benefiting: **32,400 households**

The goal of this project is to introduce pro-poor and climate-resilient approaches to post-harvest activities undertaken amidst increasing climatic uncertainty. It will include capacity development and business coaching for cooperatives, farmers' organizations and small and micro-enterprises as well as support for agribusiness investment in climate-resilient drying, processing, value addition, storage, logistics, distribution and other post-harvest activities that reduce product losses and increase incomes.

PROJECT FOR RURAL INCOME THROUGH EXPORTS (PRICE)

Total cost: **US\$56.1 million** Directly benefiting: **128,700 households**

The objective of the Project for Rural Income through Exports is to raise the income of smallholder farmers, and especially woman-headed households and households with little land, involved in the production of coffee, tea, sericulture and horticulture, which is estimated to amount to 128,700 households.

KIREHE COMMUNITY-BASED WATERSHED MANAGEMENT PROJECT (KWAMP)

Total cost: **US\$64.4 million** Directly benefiting: **60,000 households**

This project promotes the shift

from subsistence to intensified market-based agriculture in Kirehe District, a densely populated area threatened by severe soil erosion. The project supports the creation of sound local institutions for the sustainable management of local land and water resources in 18 watersheds. A principal goal of the project is to increase producers' incomes and food security by increasing the production of crops and livestock for markets. The project also supports the sustainable operation of affordable irrigation facilities by poor and landless farmers in the district, reducing dependence on erratic rains and allowing farmers to shift to crops of higher value in response to market demand. Another goal is the stabilization of natural resources in the project area as the base for agricultural production.

SOME KEY INNOVATIONS UNDER THE KIREHE COMMUNITY-BASED WATERSHED MANAGEMENT PROJECT (KWAMP)

INTRODUCING FLEXI-BIOGAS

An innovative biogas technology, known as Flexibiogas, is being piloted in the Kirehe District with IFAD's support. As a low-cost integrated system providing alternative energy as well as organic manure, biogas also provides an answer to reducing gas emissions and improving soil fertility. The new system includes a biodigester device made of industrial plastic sheets and pipes which are easy to install, use and maintain. The system is portable, which means that unlike the more conventional built-in system, farmers can take it to another house or even resell it should they need to. Its cost is relatively low at US\$500, representing half the price of the conventional system.

FLEXI-BIOGAS SYSTEM

It also has the added benefit of generating gas almost immediately compared to conventional biogas systems which take a couple of months to start and which include a fixed concrete digester with an underground piping system. With this system only one or two cows are needed to fuel the system. A total of 110 flexi-biogas systems have already been installed in the last couple of years, and another 100 are planned in the next year. As part of the package, farmers also have access to a solar panel which can power a couple of LED lights inside their house, as well as a radio and phone charger, so farmers have energy for their house as well as manure to improve soil fertility.

COMMUNITY NATURAL RESOURCES MANAGEMENT COMPETITIONS

Community competitions known as *Inteko y'Imihigo* are one of the innovative practices implemented by the CCI. When a village or a community express a specific need in terms of natural resources management, they can apply for funds through the annual competition the CCIs organise. They also provide support to help the village committee prepare a written work plan and present it at the

competition. The plan presented is reviewed by an elected committee who decides on the award.

The Isangano village, located on a steep hill in the Kirehe District, was one of the winners of such competition. Because of its location, it was affected by serious erosion problems caused mainly by the deforestation of the area. After each alluviation, waste residues were going down causing damage to crops and even houses. The village committee decided to react, and with the support of their CCI, presented a plan with their solution to solve the problem, which included planting terraced hedges. The plan was selected as the winner of the competition and the village was awarded a prize of 1.7 million Rwandan francs (US\$2,650).

COMMUNAL STABLES TO BETTER CARE FOR LIVESTOCK

The KWAMP project is currently experimenting with a new system of communal cowsheds to replace individual home stables. The aim is to make it easier for veterinarians to provide medical and technical services in remote areas and facilitate the daily collection of milk by the dairy centres. So far, five communal cow sheds have opened with 30 cows, each belonging to an individual family. Considering that one cow was given per family, it is serving 150 families.

This follows on the Girinka programme put in place by the Government in 2006 to provide selected families of poor farmers with one cow in gestation. They repaid the gift by giving the first female born to another selected family. IFAD is contributing to the Girinka programme through KWAMP and in partnership with Heifer International which has developed a long-time experience in livestock solidarity chains in Rwanda.



Girinka Week

Cows feed families out of poverty, malnutrition



BY JEAN D'AMOUR
MBONYINSHUTI

At total of 650 cows were distributed as Rwanda Agriculture Board (RAB) marked the Girinka week in the Northern Province early October in Burera District Kivuye sector, where recipients expressed enthusiasm that their lives were significantly improved.

The Minister for Agriculture and Animal Resources Dr. Geraldine Mukeshimana said during the launch in Musanze that the move will accelerate the government's programme of combating malnutrition, calling upon beneficiaries to pass on heifers to meet the distribution target of 350,000 cows by 2017.

This cow means a lot

For Boas Ndorimana, 39, one of the new beneficiaries, the cow has helped address poverty-related challenges. "I am happy to receive this heifer from my neighbour; it means a lot in Rwandan culture to be given a cow from a neighbor, he is now a close relative and our friendship will remain strong," mused Ndorimana.

"I and my family members' lives are bound to change; after some months we shall be drinking milk, my children will be free of malnutrition related diseases and



will grow up well both physically and mentally," he says.

Besides, Ndorimana is upbeat about improving his agriculture production through the use of cow dung manure and selling some of it to other farmers.

"Cow dung manure is very expensive these days; I will be selling the surplus to interested farmers. I am optimistic that the cow will support my journey from poverty."

Ndorimana thanked the government that initiated the Girinka programme that is changing people's lives, ending poverty, malnutrition and creating strong bonds and social cohesion among communities.



Children being fed milk during Girinka week in Burera. (Photo: Jean d'Amour Mbonyinshuti)

"I will also pass on the calf from my heifer to another eligible person," promises the hopeful Ndorimana.

In Musanze district, Dative Ikimanizanye, a mother of triplets said the cow she received was to help her raise her five children.

"I am happy to receive this cow which will help provide milk to our children. I was always afraid that my children would suffer from malnutrition but I was supported by neighbours who provided milk. It is better now that we have our own cow," she prides.

"I will get milk for my children and use the manure to fertilise my vegetable gardens and other crops. This is an important step towards ending malnutrition. I am thankful and I promise to pass on a calf to another needy family."

Beneficiaries of Girinka programme who passed on heifers to their neighbours said they understood why they should do so, having experienced how the cows have impacted their lives; feeding, farming and commitment, living with a purpose. Séraphine Mujuganje, a cow donor, says; "I feel happy because I have passed on the heifer to my neighbour. It would be unbecoming to be given a cow and fail to pass on the calf; I have witnessed change among the lives of my family and see no reason to why I can't help others have their lives changed for better."

She says since she received a cow in 2012, she has managed to sell milk and cow dung manure to buy materials and built a medium size house. The programme was launched in 2006, to fight malnutrition, increase household incomes



Dr Christine Kanyandekwe presiding over ceremonies of passing on heifers in Burera district last week. (Photo: Jean d'Amour Mbonyinshuti)

through sale of surplus milk and, increase agriculture productivity through the use of cow dung as manure.

Various activities took place during the Girinka Week including: giving out cows to needy families, construction of cowsheds for the most vulnerable, establishment of fodder gardens and milk feeding to children. It was also an opportunity to discuss the progress of the programme and how to increase the number of heifers to be distributed, according to RAB officials. Over 650 heifers were distributed in the Northern Province during Girinka week. 100 cows were distributed in Gicumbi district, 150 in Burera, 200 in Gakenke, 100 in Musanze and 100 in Rulindo.

Dr Christine Kanyandekwe, the Deputy Director General at Rwanda Agriculture Board in charge of Livestock urged farmers to make sure the cows they received change their lives and to emulate the culture of passing on once they calve down.

"You have to take care of the cows you have been given to make them productive and make sure you pass on the first female to other needy families," she appealed to the new beneficiaries.

Officials said the programme has so far seen the distribution of over 201,816 cows which accounts for 57.7 per cent of the target by 2017. Beneficiaries who passed on heifers were also awarded with certificates of appreciation.

Girinka week was launched under the theme; "Tworozanye, Twigire Twihesha Agaciro," (Let



Beneficiaries receive materials that will enable them raise their cows well. (Photo: Jean d'Amour Mbonyinshuti)

us pass on heifers towards self-reliance and dignity.)

Status

So far 198,500 cows have been distributed, which are equivalent to the number of families that have received the cows including those that have passed over.

Now that the production of dairy products has increased, some programs have been introduced to ensure harmony in production, distribution and consumption.

When there is an increased production of milk in a particular area farmers are linked up with local administrators who advocate to the Ministry of Agriculture, for establishment of a Milk Collection Centre equipped with cooling/refrigeration facilities, which lessens the risk of the milk getting spoilt.



Beneficiaries smiling as they receive heifers in Burera district. Jean d'Amour Mbonyinshuti (Photo: Jean d'Amour Mbonyinshuti)

The milk collection centers are normally established within farmers' reach where they can easily transport their milk on bicycles or even on foot.

Farmers' capacities

Before & after giving out cows, RAB carries out some elementary

training of the farmers, emphasizing the pillars of animal production whether one knows to read and write or not.

The important thing is one to have interest in the animal. Farmers are taught about appropriate nutrition for

productivity of the cows because if the cow doesn't feed well it will not be healthy and this will in turn affect its productivity potential. The feeding/nutrition regimes have to cater for its body maintenance, cater for foetus growing inside and also cater for milk production.

The animals must have appropriate shelter to enable proper production. Cowsheds should be clean with roofing materials to protect the animals from rain and sunshine. Rain can cause chilling and pneumonia to cows particularly the young ones and much exposure to a lot of sunshine compromises their productivity.

So RAB provides cowsheds that are favorable; not slippery or muddy to avoid breeding grounds for bacteria and infections, reduce disease incidences keep external parasites especially ticks away. Internal parasites are controlled by regular de-worming.

Even if you feed the animal well, if it is infested by worms all the useful nutrients extracted from the feeds that are important in the process of milk production will be reduced.

Girinka Program also educates farmers about reproduction, when the cow is supposed to reproduce or crossbred or serviced by artificial insemination, the right age, the right breed, the gestation period, who to consult if it exceeds the acceptable period and if the cow calves, how to look after the calf from day one until it's mature enough to be bred.

Other associated activities emphasized among farmers are; disease control, record keeping and the general management aspects for the animals from day one.

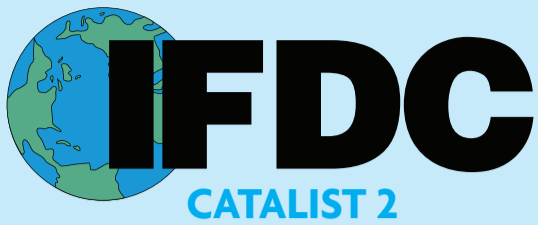
Farmers are advised when a cow calves to give it a period of two months before it conceives again which enables the uterus to gain physiological status to support the next Foetal regression growth.

All the activities that the farmers carry out must be recorded so that they would be able to establish either losses or profits for appropriate decisions.

Farmers are advised to take records of; milk yields and sales, home consumption, expenses, incomes earned from sales of manure and off-springs among others. Even those who irritate are performing well, since they can hire clerks.

Value addition

Some areas have no milk outlets hence make cheese.



COPRORIZIS Cooperative Supporting members to end famine and hunger



Transport facilities for copropriz



Copropriz guest canteen under final stages of construction

BY GEOFFREY WAKIBI

COPRORIZIS, a rice growing cooperative in Gatsibo district, Ntende sector started in 2003 in a marshland of 50 hectares, with 490 members. The cooperative brings farmers together to implement the idea set by the International Fertilizer Development Cooperation (IFDC)'s CATALIST 2. The cooperative operates basically on the theory of team work where farmers' needs and problems are solved collectively as a cooperative.

Sinzamuhara Jean, the Manager of the cooperative, says in the beginning the, the cooperative, which has today registered 4,360 members, started growing rice but with little training to the farmers; "the agricultural methods were mainly traditional and this always gave poor results in terms of harvest," he said.

Yields per unit area increase

"The years that followed were characterized by increased production as different Non-governmental organizations picked interest in us and stepped in to render a hand." The increase in production was attributed to the training that was frequently

offered to farmers in modern farming methods and use of quality seeds.

IFDC, a nonprofit organization, which was established way back in 1974, has been of great help to the cooperative by facilitating it with all requirements for improved modern farming, providing field demonstrations and trainings which have also assisted millions of farmers in Rwanda helping to fight food insecurity. IFDC has promoted Competitive Agricultural Systems and Enterprises (CASE). The outstanding projects of IFDC in partnership with Rwandan government, CATALIST 2, the Netherlands embassy and Swiss Development cooperation are doing a great job, says Sinzamuhara. Recently, IFDC introduced the new system of the pellet fertilizer (a tablet kind of fertilizer) to COPROPRIZ. This system is a fast and efficient means of fertilizing, the first of its kind in the country. "We were provided with the machine that processes the pellets and we feel proud to be the pioneers in the technology. We have of recent realized a 40% increment in production after we began using the fertilizer which is also obtained at a low cost," he explains.

"The cooperative has achieved much since the past years, good yields are

realized with increase from 3 tons per hectare to 5.5 tons for an average farmer while the best of our farmers are harvesting up to 7.5 tons per hectare." The manager said proudly. The cooperative has obtained a great deal of transport facilities which has made it possible to widen the market for their produce throughout the country. The Ministry of Agriculture has also been of much assistance by increasing on the land that COPROPRIZ owns today. In 2010, the ministry offered 500 more hectares to the cooperative and also built two irrigation dams. In 2013 more land of 350 hectares was given by the ministry to make it a

total of 900 hectares on which the cooperative operates today. Cooperative members are able to meet their basic needs as a result of earning income from farming actively. "Our rice brand is called Mwimerere rice. It is preferred and consumed countrywide and is simply the best." Said Sinzamuhara happily. The manager attributes their success to transparency, collective decision making, good administration, support from the Rwandan government and IFDC's CATALIST 2.

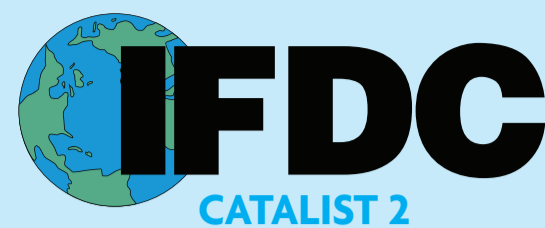
Future

COPRORIZ Ntende has future plans to increase yields up to 7.5 tons per hectare for average farmers and 12 tons per hectare for model farmers. It has future plans to create an insurance scheme for its member which is aimed at solving various problems that may occur like accidents, sickness, and business losses. "We also intend to create a farmers' shop where our members will be able to buy domestic supplies needs at fair costs."

"I salute IFDC's CATALIST 2 for the strategic role they play by collaborating with partners in the field, entrepreneurs, organizations, financial institutions and the government of Rwanda to increase agricultural production and create active and successful markets for agricultural products."



Sinzamuhara Jean, the Manager of the cooperative



What cooperative members say

Karinda Viateri

Karinda Viateri, 43, joined the cooperative in 2003 when it was just starting. He has seen the cooperative grow from its infant stage as a small association of farmers to its present state. Karinda, married with 5 children lives in kanyangese cell, Rugarama sector, Gatsibo district. In a brief interview with the writer, he expressed much gratitude to the cooperative saying it opened his way to fighting poverty in his home and finding better welfare.

I used to grow a few crops like beans, maize potatoes and many other types on subsistence level but there were always poor harvests at the end of every season. I used to find it so difficult to look after my family. Food was little due to poor yields, getting



school fees for the children was a tag of war," he recalls.

After joining the cooperative, he attended seminars and trainings on improved farming methods which he promptly put into

action. He then started growing rice for commercial purposes and he says this has helped change his life. "The cooperative has brought us together to improve our farming abilities. We are provided with all that it requires to practice the best farming techniques," he explains. Karinda today produces over 5.5 tons of rice per hectare in a given season. "I have so far managed to build a house of 40 iron sheets where I live comfortably with my family. My children go to school and finding school fees is no longer a problem," he said. The happy farmer managed to save some money from which he intends to start a livestock venture. "I have so far bought a cow which is now giving us milk to supplement our diet. I am proud of having joined this cooperative because I and my family are now secure with food" said Karinda.



Mukarubayiza MEDIATREACE

Mukarubayiza MEDIATREACE 43 is a widow and a single mother of 5 children, living in Matala cell Rugarama sector, Gatsibo district. She told the writer about her long plight of poverty and hardship to bring up her children singlehandedly. She spent many years toiling on people's farms as a casual labourer earning about Rfw 600 a day to support the family. "I only had a small piece of land which was too small to yield enough food to satisfy the family," she recalls. After losing her husband, the only way to go was to resort to hard labour of which memory send her feelings of pain. Today she feels good satisfaction following the prevailing economic step up which she proudly attributes to COPROPRIZ Ntende. "Today life has a new meaning for me. Gone are the days of wanting and never getting, of sleeping on an empty stomach with the children's hungry eyes staring at you and making you feel you have let them down," she recalls with a knowing scale.

At the establishment of the cooperative, Mediatreace responded positively and actively to the activities of the organization and since then she engaged herself in the production of rice on a commercial basis.

According to Mukarubayiza, it is evident that the cooperative has contributed much to the eradication of poverty among families in Rwanda.

"As a member of COPROPRIZ Ntende, I have all reason to praise the cooperative considering what I have achieved in a short spell of time," She says. Mukarubayiza is one of the best performing farmers in the cooperative and she produces 6.5 tons of rice per hectare. From the income that she gets (the cooperative sells off the produce) Mukarubayiza pays school fees for her children and meets all home necessities. "I am proud of my status today, my children are healthy, they have access to enough food, and nutrition security is assured because I can afford to buy what would seem to be rare items in my home like meat, sugar and milk and I can pay their school fees," she says with an endearing sense of pride.

Today Mukarubayiza has built a good house in which she lives with her children. What she doesn't understand is why some farmers have not joined cooperatives like COPROPRIZ Ntende that has helped many out of poverty. She is entirely grateful to IFDC partnering with the government of Rwanda to improve agribusiness and eradicating poverty in the country.



Kyomuzaza Mary Gorretti

Kyomuzaza Mary Gorretti, also a member of the cooperative, had a small hectare of land on which she used to grow Irish potatoes. She experienced poor yields because of poor farming systems and lack of sufficient farm inputs like fertilizers.

The 34 year old lady lives in Gihuta cell, Rugarama sector, Gatsibo district. She joined COPROPRIZ Ntende in 2003 and since then she has experienced a big difference in the standard of living and welfare of her family of seven. She became active in the cooperative and she later took administrative responsibility as an advisor in the same year. She has managed to get herself out of poverty and she is now able to look after her family. "Before the arrival of the cooperative in our sector, no one believed that agriculture could be a reality and profitable. In our area most of the people did not chose agriculture as an occupation; many of them thought that breeding cattle was the only economic activity that could lead to wealth. But now many have changed this way of thinking. We now cultivate crops using improved seeds and fertilizers given by the cooperative; production has increased significantly and we earn enough money from our crops to help us meet our daily needs.



Mukambire Feridine

Mukambire Feridine, 48, hails the cooperative, saying it has helped change his life. He is a father of 5 who joined the cooperative in 2004. He proudly says he has managed to build a house where his family lives today and also bought one in his village which he is renting out. "My children feed well and are all going to school.

Ruhumiriza Jean Batiste 45, a father of 5 lives in Rugarama sector, Gatsibo district. He joined the cooperative in 2003. He praises the cooperation for training members how to improve agriculture and fight poverty. He has built a house from selling rice that he personally produces. "Life today is very simple, I have bought and installed a solar system in my home and I produce biogas which my wife uses in the kitchen." He said proudly. Jean Batiste has used his income to invest in livestock. He has a kraal with three adult cows and two calves which he is rearing by zero grazing. The farmer has future prospects of doing bigger businesses and availing good education to his children. He calls upon other farmers out there to join the cooperative saying that there is nothing to lose but much gain.

Kigali Bus Services Ltd Committed to an efficient public transport system



developing and transitional countries to reduce vehicular air pollution through the promotion of cleaner fuels and vehicles. This regulatory toolkit is part of that ongoing campaign and is meant to introduce the need for systems approach to vehicle emission reduction in developing and transitional countries. Developed countries have used different tools to move to stricter fuel quality and vehicles emission standards.

Smart cards re-introduced

Kigali Bus Services will re-introduce the electronic fare billing system it had initiated in

2011 before the company started plying upcountry routes that saw the system put on hold.

With this system, it requires passengers to buy and own a smart card that can be loaded and passengers swipe it in the system, making the payments. On the card there is a time based system i.e. weekly pass, monthly pass or you have e-money stored to pay for your trip!

The Electronic payment system with the Smart Card has the following benefits for the passengers:

- Quicker transaction time
- Reduced cash handling
- Discounts, benefits and loyalty programs
- Increase in convenience
- Also in the near future passengers will be able to top up using their mobile money.
- No need to carry cash or have change

Promoting road safety

In partnership with RURA and City of Kigali, Kigali Bus Services plays a role in promoting road safety, done through the company's initiatives that mainly focus on ensuring that drivers respect traffic rules and regulations. To make this effective, the company has patrol officials who ensure good driving practices and recommended passenger handling; promoting discipline among the drivers on the roads and reducing road accidents. In the near future it is expected that an internationally recognized Driver Training & Safety program shall be introduced in cooperation with RURA and the bus operators.

The other factor that has also been effective in promoting road safety is the training and road tests drivers undergo before and during their time as employees of the company, also done in partnership with RURA.

BY GRACE MUGOYA

In 2006, one of Rwanda's leading public transport company, Kigali Bus Services, started its operations in the country with the aim of providing the best public transport services in Kigali City. Public transport in Kigali has come of age with many challenges, but given the measures the company is taking, city passengers are due to enjoy the best public transport services in the region.

Based on the evident commitment demonstrated by Kigali Bus Services in solving challenges the population meet in public transport, the company was last year among two other public transport providers awarded a five years contract by Rwanda Utility Regulatory Agency (RURA) and City of Kigali to offer quality public transport in the city.

KBS won the tender for zone 1 that has so far seen the company's commuter buses play routes to simplify city transport. The contract allows Kigali Bus Services to start work at 5 a.m. until 11p.m as a measure taken to address the change of lack of



public means for people leaving their work places beyond 10p.m.

"We are committed to transporting people the best way we can in respect to the contract we signed with RURA and City of Kigali and we shall ensure that we shall do all we can to ensure people can aboard the buses up to 11p.m as stipulated in the contract," says Charles Ngarambe, the chairman of Kigali Bus Services.

He explained that the issue of waiting for a commuter bus at a bus stop for a long time on routes his company plies is solved adding that after every 5 minutes during peak hours and 15 minutes during off peak

hours; there will be a commuter bus ready to transport people.

More buses

To build on its capacity and respond to the growing number of people in Kigali, the company has added a fleet of 55 new EURO III urban city buses with automatic gearboxes to the already existing fleet of 75 EURO II buses

The new Commuter buses which are of EURO III Standard are internationally recognized for being environment friendly as it emits less gases compared to other ordinary commuter buses.

"As transport people, we

bear in mind the importance of conserving the environment, which is why we opted for also play a role in preserving our environment; meaning that by going for these buses, it's also an initiative that will contribute to national efforts to keep and protect our environment," he says.

In the next three months, 40 more environmental friendly commuter buses will be delivered by the company on addition to the 55 new buses.

The Partnership for clean fuels and vehicles (PCFV), the leading global public-private partnership to promote cleaner fuels and vehicles, has been working with