



Republic of Rwanda

TWIGIRE MUHINZI

Farmer Field School approach (FFS) +
Farmer Promoter Approach (FP)



FFS

THE PLANT IS THE TEACHER



FP

SEEING IS BELIEVING

Twigire Muhinzi

Reflection Paper - June 2016

This paper reflects a summary of the two studies/reports commissioned by MINAGRI/SPAT-II/BTC Rwanda: (1) Capitalization of experiences with and results of the Twigire Muhinzi agricultural extension model in Rwanda - Twigire Muhinzi: how does it works and what are the results? (2016) Bertus Wennink and Remco Mur, Royal Tropical Institute of the Netherlands (2) Provision of Agricultural Advisory Services to Farmers in Rwanda - Results of a household survey (2016) Remco Mur, Juvenal Munyarugerero, Bertus Wennink. Royal Tropical Institute of the Netherlands. Both reports can be downloaded from www.twigire.com



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Key points

- **The Twigire Muhinzi agricultural extension model is a combination of two extension approaches:** the Farmer Field School (FFS) approach and the Farmer Promotor approach. Their operationalization contributed to strengthening the pluralistic character of the national agricultural extension system in Rwanda. In 2012, only 5% of all extension services were provided by Farmer Promoters. Nowadays, they are providing 21% while FFS Facilitators are responsible for 13% of all services.
- **FFS Facilitators organize farmers in FFS Groups around crop specific experimental plots and facilitate learning-by-doing for strengthening the farmers' decision-making capacity.** At the end of 2015, 2,300 FFS Facilitators supported 8,500 FFSs, in almost 50% of villages, in which approximately 200,000 agricultural households actively participate.
- **Farmer Promoters** mobilize farmers in Twigire Groups which serve as entry points for the dissemination of basic extension messages around village demonstration plots. At the end of 2015, 14,200 Farmer Promoters had created approximately 75,800 Twigire Groups (in 90% of all villages) which involve an estimated 1,100,000 agricultural households.
- The introduction of **farmer-to-farmer extension** at this scale is a critical success factor of the Twigire Muhinzi model. Because they are a member of grassroots communities, these extension agents easily reach farmers in their community. An additional advantage for FFS Facilitators is that they take into account farmers' knowledge. Last but not least, both Farmer Promoters and FFS Facilitators are farmers themselves, know what farming means and talk the farmers' language.
- **The mutually reinforcing roles of Farmer Promoters and FFS Facilitators also explain the performance of the model.** Innovative agricultural practices, which have proven their relevancy and effectiveness in FFS experimental plots, are being transferred to the Twigire Groups demonstration plots. This interaction allows for scaling out access to extension services and hence Good Agricultural Practices (GAP) by Farmer Promoters within in a relatively short time.
- **FFS Facilitators and Farmer Promoters, because of their distinctive roles, benefit each from very different specific capacity strengthening trajectories.** FFS Facilitators receive an intensive season long training provided by a certified FFS Master Trainer, including several weeks of residential training. Keeping up the standards of this intensive training of FFS facilitators is key for guaranteeing the quality of the extension services.
- **Farmers who have been trained by FFS Facilitators and Farmer Promoters more often apply GAP than farmers who have not been trained.** On average, about 70% of trained farmers apply GAP while only 38% of non-trained farmers apply these recommended technologies. Furthermore, the productivity (T/Ha) by of FFS participants is 45.3% compared to non-trained farmers while the productivity of farmers trained by Farmer Promoters is 9.2% higher than non-trained farmers.

- It would therefore be tempting to convert Farmer Promoters into FFS Facilitators in order to reach more farmers with in-depth knowledge and thus gaining time and money. One might assume that this could be done through training of Farmer Promoters by FFS Facilitators and RAB agronomists. However, **FFS Facilitators have received intensive season-long training provided by a specialized FFS Master Trainer**. It is not realistic to assume that they can pass on that training package to Farmer Promoters without serious loss of quality. It is therefore important to maintain the principle of certified Master Trainers for the training of FFS Facilitators.
- **The future success of the Twigire Muhinzi model depends very much on the successful continuation of both approaches in a parallel and complementary manner.** This means that farmers should be able to learn in both Twigire and FFS groups. FFS facilitators should continue their double function of: 1) working directly with farmers in FFS Groups to facilitate experimental learning, and; 2) train and provide technical backstopping to Farmer Promoters. Putting more resources into the training of Farmer Promoters by FFS Facilitators, and thus expecting greater results from Farmer Promoters, would compromise the creation of new FFS Groups.
- **Both Farmer Promoters and FFS Facilitators use grassroots groups** as an entry point for extension. Twigire Groups allow, in a short time and with relatively few resources, many farmers with the same basic extension messages to be reached. Twigire Groups provide future members of FFS Groups. Strengthening group dynamics and building social capital are essential elements of the FFS approach as the aim is that these groups will become grassroots institutions which empower farmers to become agents of change.
- **Two sector ministries play a key role** in the implementation of the Twigire Muhinzi model. The Ministry of Agriculture and Animal Resources (MINAGRI), through the Rwanda Agricultural Board (RAB), provides technical support by training FFS Facilitators and Farmer Promoters, linking research with extension and providing quality extension material. Districts and Sectors, under supervision of the Ministry of Local Government (MINALOC), also ensure that extension activities are in line with District development plans and coordinate the day-to-day implementation of extension activities.
- Both FFS Facilitators and Farmer Promoters initially operated on a voluntary basis. Nowadays **both are rewarded for their services**, either through result-based lump sum payments (FFS Facilitators) or in-kind incentives and commission (Farmer Promoters). In both cases incentives are mainly paid for by donors which presents a risk for the future sustainability of the Twigire Muhinzi model.



A Rwandan home grown solution to increase farm yield and foster solidarity

- ▶ Reach all farmers immediately through **Farmer Promoters (FP)** and **Demo plots**
- ▶ Reach all farmers gradually through **Farmer Field Schools (FFS)**

Farmer Promoter

14,200



FFS facilitators train Farmer Promoters in the establishment of DEMO plots, based on FFS best practices

FFS Facilitators

2,500



FFS Facilitator facilitate the learning process in the FFS groups

DEMO PLOT



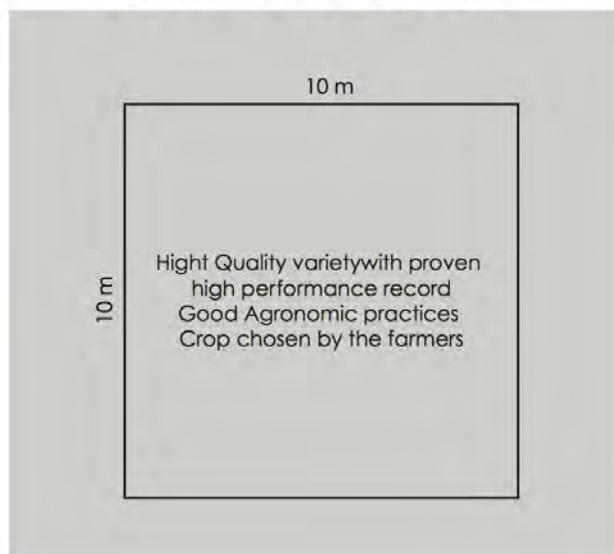
Farmer Promoters facilitate access to inputs and invite all farmers to visit the village demo plot 3 x per season to learn good agronomic practices

FFS PLOT

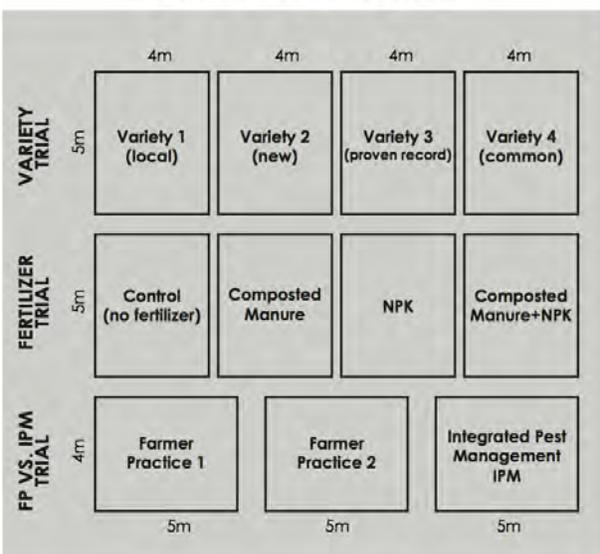


FFS group members work every week in the FFS plot and get deep understanding of crop production through observation & analysis

DEMO PLOT Twigire group:



FFS PLOT FFS group:



Note: This is a typical layout; each FFS group decides it's self which experiments to undertake

Introduction

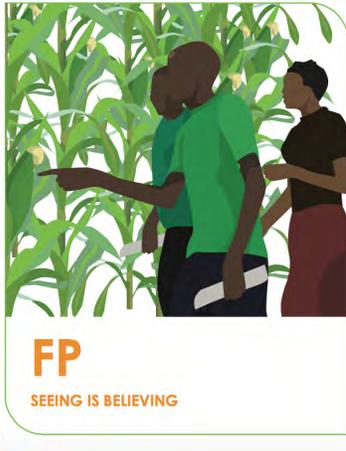
In Rwanda the majority of farmers are smallholders whose households rely on an average land size of 0,6 ha for food production and income for an average number of 5 household members. This denotes the high population pressure on arable land. It also points out the need for agricultural intensification in order to improve food security, increase surplus production and hence generate more income for farmers and local processors. Through the Strategic Plan for Agricultural Transformation (SPAT) the Government of Rwanda ambitions to improve the performance of the national agricultural extension system. It should ensure access of all smallholder farmers to agricultural inputs and innovative practices.

Stimulating the involvement of private service providers, including farmers and their organizations, is considered to be strategic for realizing this ambition. Since 2008 the Belgian Development Agency (BTC) supports the introduction of the Farmer Field School (FFS), facilitated by FFS Facilitators, in the national agricultural extension system. Over the last years, support aimed particularly for rolling out the approach and hence strengthen the decision-making capacities of more farmers. On the other hand, TUBURA (NGO, One Acre Fund) also worked closely with the extension system through equipping Farmer Promoters to reach, in a relatively short time, many farmers with basic extension messages. Since a few years, these support programs joined hands to coordinate the implementation of the two approaches under the Twigire Muhinzi model.

The resulting synergy at grassroots level led to a spectacular increase, between 2012 and 2015, of farmers reached by basic extension messages and those better skilled to manage their cropping systems. In order to capitalize on this success, the BTC SPAT-II support program organized a series of local and national workshops with farmers, farmer extension agents, extension officers and senior management from the extension service. Participants not only confirmed the success; they also identified those factors which explain the current success and are key in sustaining future progress. Furthermore, discussions revealed critical factors that need to be taken in account when scaling up the Twigire Muhinzi model in the near future. All these insights are valuable lessons learned for managers of agricultural extension systems which aim to go beyond farmers as 'beneficiaries' and make them full-fledged partners in agricultural development.

The Twigire Muhinzi agricultural extension model

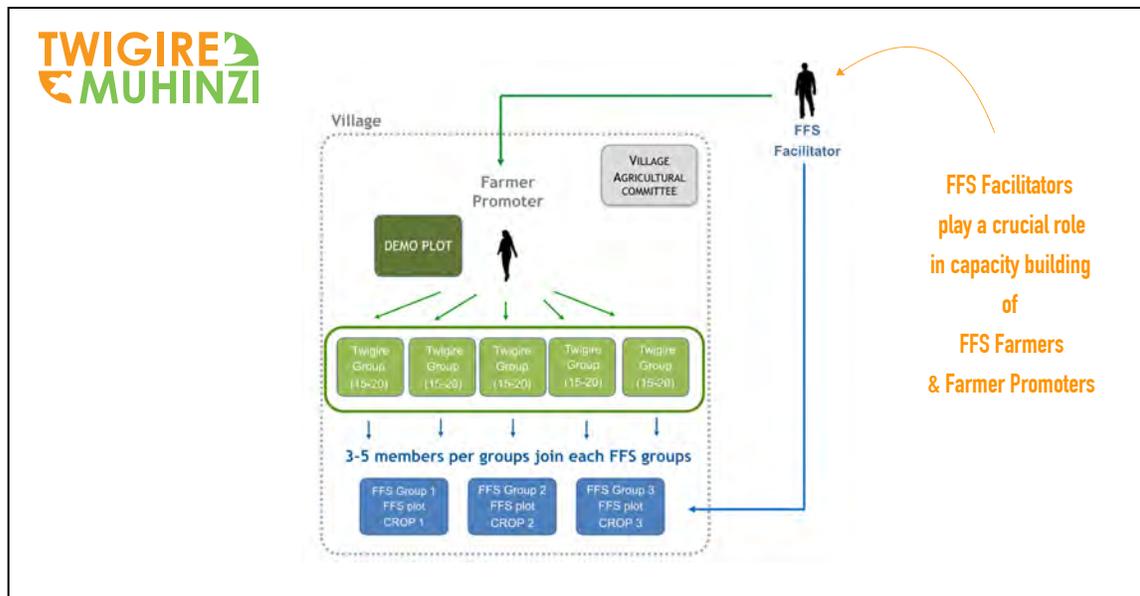
The Twigire Muhinzi model is a 'home-grown solution' that has been developed and implemented by Rwanda Agricultural Board (RAB), under the responsibility of the Ministry of Agriculture and Animal Resources (MINAGRI), in close collaboration with Districts and Sectors, which are under supervision of the Ministry of Local Government (MINALOC). It is a decentralized extension model which gives a key role to farmer extension agents: Farmer Field School (FFS) Facilitators and Farmer Promoters.



Farmer promoters quickly reach all farmers to provide access to inputs combined with basic extension messages through mobilization and demonstration plots. Each village has identified one farmer promoter through a participatory exercise. Farmer Promoters ensure that eligible farmers in the village are included in the input requirement lists of the subsidy program of MINAGRI (CIP). He/She collaborates with the agro dealers to ensure that the requested subsidized inputs are in line with the guidelines and specific situation of each farmer (land size, crop, etc). The farmer promoters mobilize the farmers to consolidate land, plant in time and use the inputs appropriately. They promote the use of both organic and inorganic fertilizer. An important tool to convince the farmers in the village is the demonstration plots in which the farmer promoter shows the potential of using good inputs combined with agronomic practices. To facilitate the work of the farmer promoters, farmers are organized in groups of about 20 farmers. The groups visit the demonstration plots at least 3 times during the season. A total of 14,200 farmer promoters are trained to disseminate basic extension messages to the farmer groups.



FFS Facilitators gradually reach all farmers with in depth knowledge by offering an experimental learning experience in the Farmer Field School (FFS) plot. Farmers are organized in FFS groups which are facilitated by 2350 FFS Facilitators. In FFS, the plant is the teacher and the FFS plot is the school. The FFS approach builds the skills and capacity of farmers to identify and analyze problems, to conduct experiments aiming at developing local solutions appropriate to local specific challenges. Based on the principle "Learning by doing" farmers truly develop their decision making skills which helps them to handle current and future challenges effectively and thus farmers become progressively managers of their own economic activities. Each FFS group needs a competent facilitator (with strong technical and facilitation skills) to lead FFS group members through the hands-on learning process. Each FFS group has its own experimental learning plot in which the groups gets together on a weekly basis.





A FFS Facilitator visits the demonstration plot established by a Farmer Promoter. This is part of the training and backstopping provided.



A group of FFS Farmers are learning in the field. The plant is their teacher. They identified that this plant is not rice but weed!

At the end of 2015 the Twigire Muhinzi model was implemented by 2,300 FFS Facilitators and 14,200 Farmer Promoters (Table 1).

TABLE 1: NUMBERS AND CHARACTERISTICS OF FFS FACILITATORS AND FARMER PROMOTERS

Characteristics	FFS Facilitators	Farmer Promoters
Total number	2,300	14,200
Gender	72% male and 28% female	80% male and 20% female
Age	68% are between 35-55 years old 17% are younger 15% are older	77% are between 35-55 years old 12% are younger 11% are older
Active	92% of trained facilitators is active	62% have been active since 2013 25% have been active since 2014 13% became active in 2015
Membership of cooperative	95% are members of a FFS Facilitators Cooperative	-

RAB staff build the capacity of Farmer Promoters to become frontline extension agents in their village while FFS Facilitators are trained under the guidance of FFS Master Trainers. FFS Facilitators are competent facilitators who lead FFS Group members through hands-on learning processes and provide training and backstopping to Farmer Promoters.

Sources of data presented in this document

- Quantitative data which are presented in this document are provided by three different sources:
- The **Household Survey** was carried out in December 2015 by a local consultancy firm with 480 agricultural households in all four provinces of Rwanda (16 sectors of eight districts). A similar survey had been organized in March 2012 in order to establish a baseline for the national agricultural extension system.
 - The **Harvest Survey** was organized in July and August 2015, in 80 randomly selected villages, to measure and compare crop productivity of individual farmers trained by FFS Facilitators, Farmer Promoters or by none of these agents. These 80 villages included 36 villages with FFS Groups created in 2015 and 44 villages with FFS Groups created between 2009 and 2014. In each village, 18 farmers were randomly selected: six farmers among the FFS Group members trained by an FFS Facilitator, six farmers trained by Farmer Promoters and six farmers who were not trained. The production of their plots was effectively measured.
 - The **Mid-Season Assessment** took place in agricultural seasons 2015B and 2016A in order to understand, through observation and discussion, how the Twigire Muhinzi model is being implemented at grassroots level (functioning of FFS Groups, performance of FFS Facilitators and Farmer Promoters, and the status of FFS plots and Twigire Group plots). The 2015B assessment took place in 2,957 villages: 1,177 randomly selected villages with FFS Groups created between 2009 and 2014; all 1,515 villages with FFS Groups created in 2015; and 265 randomly selected villages with no FFS groups. The 2016A assessment covered 3,116 villages: the 2,957 villages from the season 2015B assessment plus the villages with new FFS Groups that had been created since the 2015B season.

Increased access to extension services

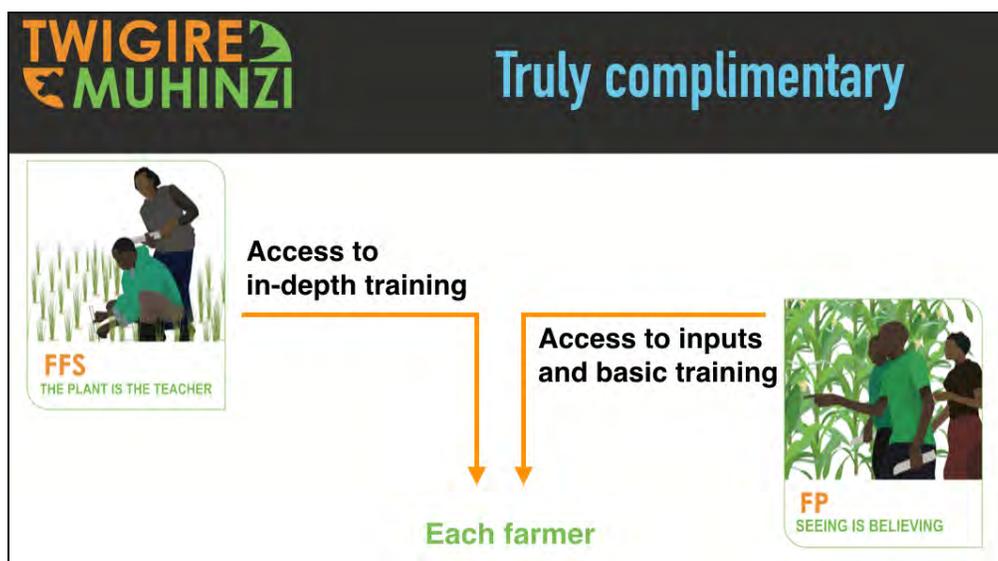
The Household Survey that took place at the end of 2015 shows a considerable increase in access to agricultural extension services. In 2012, 32% of surveyed households reported having received advice in the year prior to the survey. In 2015, this was 69%, and 54% of the beneficiaries of advisory services were female.

Among the surveyed households, 23% reported being a member of an FFS group and 37% of being a Twigire Group member. Almost all FFS and Twigire Group members declared having accessed extension services in 2015 while 56% of members of other types of organizations reported having received extension services. Only 33% of households that were not affiliated to any organization had received extension services. The average frequency that households accessed any form of extension service increased from 5.8 in 2012 to 8.4 in 2015. This frequency was significantly higher for FFS Group members.

Increased pluralism of extension services

In 2012, according to the Household Survey, more than 50% of all households reporting to have accessed services, received services from District and Sector Agronomists. Although in absolute terms they do not provide less services, in 2015 these agronomists provided 27% of all services.

Since 2012, Farmer Promoters and FFS Facilitators have become important service providers. In 2012, only 5% of services were provided by 'model farmers', the predecessors of Farmer Promoters, which was the only form of farmer-to-farmer extension. Nowadays, Farmer Promoters deliver 21% of all services provided and FFS Facilitators are responsible for 13% of all services.

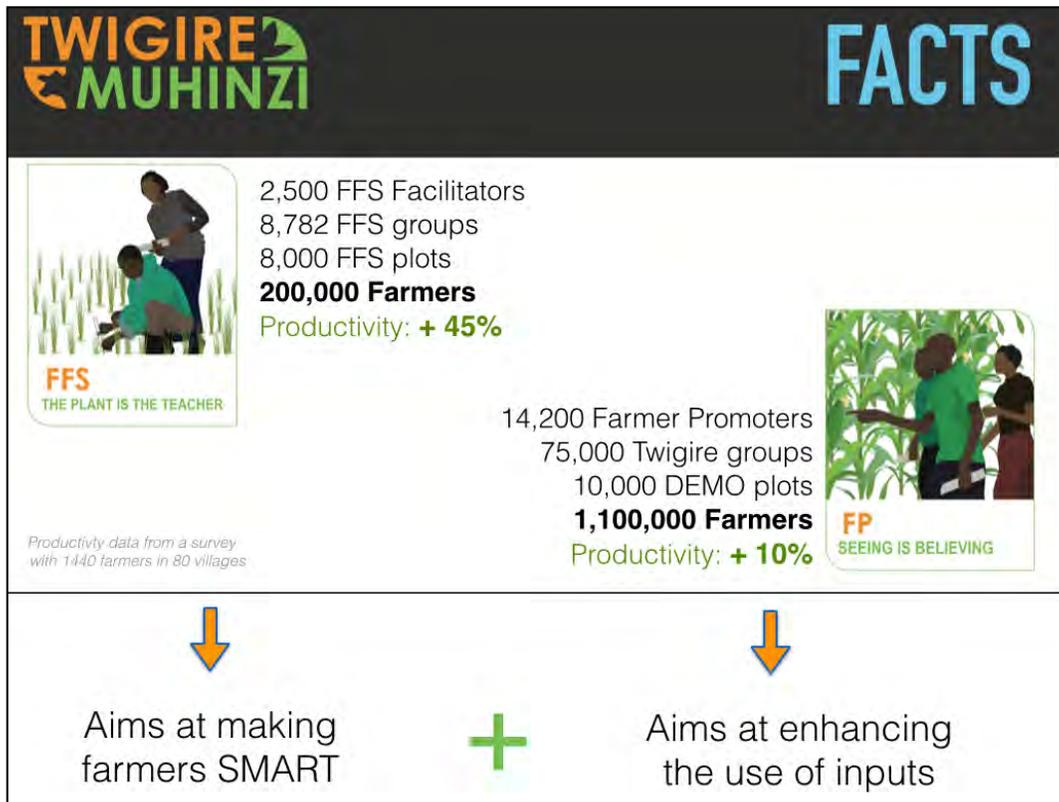


Performance of FFS Facilitators and Farmer Promoters

At the beginning of 2016 there were 2,500 trained FFS Facilitators out of which 2,300 were still active. They assisted 8,500 FFS Groups, with approximately 200,000 members, in establishing a FFS experimental plot. A group has 22 members on average, of which 52% are women. Currently, approximately 9.1% of all Rwandan rural households are affiliated to a FFS Group. At the beginning of 2015, this was still 5.7%, which implies a growth of 3.4% of FFS membership in just one season. Furthermore 86% of the FFS Groups that were created between 2009 and 2012, still had an experimental plot. In 96% of all FFS, farmers maintain the plots and can explain the experiments (Source: Mid-Season Assessments).

The 2016 Mid-Season Assessment shows that 50% of all agricultural households are members of a Twigire Group, which is approximately 1,100,000 households. In his season, there were 14,000 demonstration plots established by 14,200 trained Farmer Promoters: 93% of the plots demonstrate Good Agricultural Practices (GAP) and are well maintained, but only 66% were visited by village Twigire Groups in 2015. The actual percentage of farmer households represented in the groups visiting the demonstration plots was 28% in 2015 (Source: Mid-Season Assessments).

A key element in the Twigire Muhinzi model is that FFS facilitators train and provide backstopping to Farmer Promoters. At the beginning of 2016 96% of Farmer Promoters had received training from an FFS Facilitator and 87% of them had received backstopping (Source: Mid-Season Assessments).



Group dynamics and social capital

FFS participants mention two important reasons for joining a group: being part of a group and increasing knowledge on agricultural practices. Additional benefits mentioned include increased access to inputs (quality seeds and fertilizers) and improved crop production. Compared to other extension service models, the higher frequency of visits, season-long learning, and learning-by-doing were mentioned as the most important differences.

FFS participants also drew attention to other perceived changes, especially increased collective action that farmers attribute to their participation in FFS Groups. For them, participation means enhanced capabilities to analyze agro-eco systems, design and implement experiments, take decisions as a group and subsequently act. Collective action involves procuring agricultural inputs, marketing products and accessing agricultural credits. When FFS Groups grow older, the majority declare that the most important benefit from group work is being able to sell more agricultural produce at market. Older groups have more group income generating activities than younger groups and more often have become a formal cooperative.

Based on an average total number of households per village, it is estimated that at the beginning of 2016 about 50% of village households were represented in the Twigire Groups and 12% in FFS Groups (Table 2).

TABLE 2: CHARACTERISTICS OF FFS GROUPS AND TWIGIRE GROUPS

Dynamics	FFS Groups		Twigire Groups	
	Season 2015B	Season 2016A	Season 2015B	Season 2016A
Average number of groups per village	-	-	3.4 Twigire Groups	4.2 Twigire Groups
Average number of active groups per village	-	-	-	3.4 Twigire Groups
Average number of members per village	-	-	72 farmers	82 farmers
Average number of members per group	22 farmers per FFS Group	-	20 farmers/ Twigire Group	19.5 farmers/ Twigire Group
Average % of women membership	52%	-	-	-
% of village HHs per group*	12% of village households	-	44% of village households	50% of village households
Group activity: buying inputs	61% of FFS Groups	-	53% of Twigire Groups	-
Group activity: selling produce	26% of FFS Groups	-	20% of Twigire Groups	-

Dynamics	FFS Groups		Twigire Groups	
	Season 2015B	Season 2016A	Season 2015B	Season 2016A
Group activity: savings and credit	68% of FFS Groups	74% of FFS Groups	40% of Twigire Groups	-
Group activity: various income generating activities	20% of FFS Groups	21% of FFS Groups	-	-

* The average number of agricultural households (HHs) per village is estimated at 161.
Source: Mid-Season Assessments

According to the 2015 Household Survey, 74% of FFS Group members also participate in a Twigire Group while 45% of Twigire Groups visited FFS plots in 2015 and 66% had visited during the beginning of 2016.

Changes in farming practices

Through the Twigire Muhinzi extension model farmers receive advice on GAP, which are technologies that, when applied correctly, increase crop production. They include the use of agricultural inputs in order to achieve maximum increase in crop productivity.

Farmers who have been trained by FFS Facilitators and Farmer Promoters more often apply GAP than farmers who have not been trained. On average about 70% of trained farmers apply GAP while only 38% of non-trained farmers apply these recommended technologies (Table 3).

TABLE 3: FARMERS (%) APPLYING GOOD AGRICULTURAL PRACTICES

Crops	Non-trained farmers	FFS farmers	Farmer Promoter farmers
Beans	24	67	60
Cassava	35	61	48
Maize	42	90	88
Rice	71	88	87
Soybean	18	51	52
Wheat	34	70	54
Average	38	72	65

Source: Harvest Survey

Improved crop productivity and income

Farmers who had been trained by FFS Facilitators and Farmer Promoters on average obtained higher yields than farmers who did not receive training from these extension agents (Table 4).

TABLE 4: AVERAGE YIELDS (T/HA) FOR FFS FARMERS, FP FARMERS AND NON-TRAINED FARMERS

Crops	All farmers	Non-trained farmers	FFS farmers	Farmer Promoter farmers
Beans	1.39	1.36	1.52	1.27
Cassava	30.51	23.88	31.99	38.82
Maize	2.45	1.92	3.06	2.34
Rice	4.36	4.09	4.78	4.11
Soya	0.87	0.73	1.14	0.71
Wheat	2.06	1.84	2.28	2.06

Source: Harvest Survey

FFS participants achieve higher yields than farmers who have been trained by Farmer Promoters. On average, FFS farmers produce 45.3% more than non-trained farmers while farmers trained by Farmer Promoters produce 9.2% more than non-trained farmers.

According to farmers the increased crop productivity for both FFS Group members and farmers trained by Farmer Promoters contributed to additional household revenue. However, these are gross revenues that don't integrate the costs for applying improved technologies. On the other hand, it seems plausible that the application of GAP as promoted under Twigire Muhinzi contribute to a higher return on investment in agricultural inputs. It is therefore very likely that the participation in an FFS or Twigire Group contributes to an increase in household income.

Success factors

The power of peer trainers: farmer-to-farmer extension

The introduction of farmer-to-farmer extension is a critical success factor of the Twigire Muhinzi. Involving smallholder farmers as FFS Facilitators and Farmer Promoters in the national agricultural extension system at this scale is unique. Each of these extension agents has a specific role and received training on the required skills. Because they are a member of grassroots communities, they easily reach farmers in their community. An additional advantage for FFS Facilitators is that they take into account farmers' knowledge. Last but not least, both Farmer Promoters and FFS Facilitators are farmers themselves, know what farming means and talk the farmers' language.

The farmer-to-farmer extension approach is also, to some extent, the operationalization of Rwandan national agricultural policy which aims to improve service provision by involving private service providers. FFS Facilitators can be considered to be private service providers, as they are paid a fee for their services, which is an important incentive.

Distinctive but complementary roles of FFS Facilitators and Farmer Promoters

Farmer Promoters mobilize farmers in Twigire Groups which serve as entry points for the dissemination of information on GAP (demonstration plots), the effective and efficient uptake of agricultural inputs and the planning of land consolidation. FFS Facilitators organize farmers in FFS Groups around crop-specific experimental plots and facilitate learning-by-doing to strengthen farmers' decision-making capacity, through observing and analyzing crop production and conducting experiments to identify local solutions.

While Farmer Promoters and FFS Facilitators do have distinctive roles, their mutually reinforcing roles also explain the performance of the Twigire Muhinzi model. Innovative agricultural practices, which have proven their relevancy and effectiveness in FFS experimental plots, are being transferred to the Twigire Groups demonstration plots. This interaction allows for scaling out access to extension services and hence GAP by Farmer Promoters within in a relatively short time.

On the other hand, Farmer Promoters assist FFS Facilitators in establishing FFS Groups. They identify farmers who are interested in, and committed to, joint learning-by-doing on improving agricultural production. They thus contribute to extending the pool of farmers who are capable of deciding how to act when facing crop production problems, either through changing practices or seeking advice from resource persons (FFS Facilitators, and District or Sector Agronomists).

The power of groups: group formation

Both Farmer Promoters and FFS Facilitators use grassroots groups as an entry point for extension. Twigire Groups allow, in a short time and with relatively few resources, many farmers with the same basic extension messages to be reached.

Farmer Promoters make an inventory of the needs of smallholder farmers for agricultural inputs according to the crops they plan to grow and the acreage foreseen. These needs are communicated to agro-dealers. Twigire Group collaborate with agro-dealers during the distribution of the inputs and visit demonstration plots, which are installed in the village (one plot per village) by Farmer Promoters to demonstrate the application and effects of GAP.

Twigire Groups provide future members of FFS Groups which help farmers to strengthen their decision-making capacity in crop production. Strengthening group dynamics and building social capital are essential elements of the FFS approach as the aim is that these groups will become grassroots institutions which empower farmers to become agents of change. As such, so-called special topics (e.g. AIDS/HIV, gender equality, nutrition, family planning, etc.) are part of the training curriculum of FFS Groups.

Field plots

Although obvious on first sight, field plots, for both the Twigire Groups and FFS Groups, are another success factor. Field plots provide real-life cases of applying innovative technologies. In the eyes of often illiterate, smallholder farmers, the plots talk for themselves – they don't need further explanation – and they arouse debate among farmers. FFS plots involve the major crops that are grown for both subsistence and income by smallholder farmers (e.g. beans, banana, Irish potato, cassava, wheat and soya bean).

Coordinated support and planning at various levels

Two sector ministries are involved in the implementation of the Twigire Muhinzi model: MINAGRI, through RAB, and MINALOC, through the Districts and Sectors. The ownership by and support from these Ministries and decentralized government structures are vital for the success of the model.

The FFS and Farmer Promoter approaches have been developed and implemented with support from the SPAT-II support program of the Belgian Development Agency (BTC) and TUBURA (NGO, One Acre Fund). Both provide financial and technical support to the implementation of the Twigire Muhinzi model but somehow limit this to either the FFS (BTC) or Farmer Promoter approach (TUBURA) on a project-base. They both also actively work on the integration of the two approaches in one extension model (alignment with national policy). Innovating and harmonizing both approaches is considered decisive for the actual and future performance of the model. Such coordination may still be needed in the coming years in order to facilitate the scaling-up and institutionalization of the Twigire Muhinzi model.

Critical issues

Losing the distinctive functions of FFS Facilitators and Farmer Promoters

From 2008-2013 RAB, with support from BTC, introduced the FFS approach through training of FFS Facilitators by international Master Trainers. Parallel to this, the project supported the training of Rwandan Master Trainers. Most of them are RAB staff. The Rwandan FFS Master Trainers graduated in September 2014. These Master Trainers now take over the training of new FFS Facilitators.

Training FFS Facilitators takes a full planting season during which the trainees form their first FFS group, install experimental plots for specific crops, facilitate group discussions and train group members. These experiences are an input for classroom sessions during the same season whereby FFS Facilitators exchange experiences and learn from each other. The training emphasizes three sets of skills: technical (i.e. crop specific), facilitation (experimenting and learning-by-doing) and group formation skills. This training trajectory is long and requires considerable funding which till now has been fully provided by donors.

In 2013, the Farmer Promoters approach, with support from TUBURA, became a fully-fledged extension approach combining the facilitation of access to and distribution of agricultural inputs with demonstration of GAP. Farmer Promoters, selected by their communities for their mobilization capacities, receive general training on GAP by the Sector Agronomist, who has

been trained by RAB staff, and specific training on the installation of demonstration plots by FFS Facilitators.

It would be tempting to convert Farmer Promoters into FFS Facilitators in order to reach more farmers with in-depth knowledge and thus gain time and money. One might assume that this could be done through training of Farmer Promoters by FFS Facilitators and RAB agronomists. But FFS Facilitators and Farmer Promoters, because of their distinctive roles, each benefit from specific capacity strengthening trajectories. This explains their mutually reinforcing roles within the Twigire Muhinzi extension model. Particularly, FFS Facilitators have received an intensive season-long training provided by a specialized FFS Master Trainer. It is not realistic to assume that they could pass on that training package to Farmer Promoters without serious loss of quality. It is therefore important to maintain the principle of certified Master Trainers for the training of FFS Facilitators, which is a guarantee for quality service provision to FFS Groups.

Sustainable financial incentives and business models

Both FFS Facilitators and Farmer Promoters were initially identified and trained on a voluntary basis. However, FFS Facilitators particularly dedicate considerable time to facilitating FFS sessions and participating in training by Master Trainers. Therefore they were rewarded for facilitating FFS sessions. This was replaced by a result-based lump sum for a well-executed season-long facilitation per FFS group. These rewards are now paid after a field assessment and, when possible, through the FFS Facilitators Cooperative. Farmer Promoters receive in-kind incentives (e.g. caps, t-shirts) and participate in a competition to motivate them to achieve their targets. In both cases incentives are fully paid for by donor funds, which may compromise the sustainability of the incentive mechanisms and thus the extension service model.

At present a new incentive mechanism for Farmer Promoters is being experimented with in several Districts. Promoters receive a commission on the volume of agricultural inputs that is being distributed through the Twigire Groups. However, agricultural inputs are still subsidized by the government which provides MINAGRI with leverage over Farmer Promoters to fulfill public extension services, i.e. demonstrating GAP. Once the government subsidies end and input distribution is transferred to the private sector, Farmer Promoters might lose the commission. This would imply that MINAGRI should define another incentive mechanism in order to motivate Farmer Promoters to fulfill their public extension role.

Currently the BTC SPAT-II support program funds tripartite contracts between Districts, FFS Facilitator Cooperatives and RAB for creating and facilitating new FFS Groups and providing training and backup to Farmer Promoters. This model assumes that such specific services will be demanded and can only be delivered by certified facilitators. In addition, it is foreseen that FFS Facilitator Cooperatives will be trained to enhance their business skills, which are considered vital if they are to operate as entrepreneurs in a service market.

However, sustainability highly depends on the availability of public (government and/or donor) funds for extension services, especially if these funds will be used to pay private service providers (i.e. FFS Facilitators Cooperatives) for fulfilling public extension functions in the Twigire Muhinzi model.

Citation: Ministry of Agriculture and Animal Resources of the Republic of Rwanda & The Belgian Development Agency(2016) *Twigire Muhinzi Reflection Paper*