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Towards sustainable agriculture

Assessing farmers' role in the promotion of sustainable agriculture and food security in Rwanda

SUMMARY

This policy brief assesses the extent to which farmers who grow crops are included in the process of determining which crops to grow, their level of participation in setting agricultural performance contracts, and the relationship between the two.

Introduction

Rwanda has introduced a number of homegrown initiatives that seek to ensure citizen participation in various aspects as well as inclusive growth. These include *Imihigo* (performance contracts),¹ *Umuganda* (community work), *Umugoroba w'Ababyeyi* (parents' evening forum), *Inteko z'Abaturage* (village councils) and *Inama y'Igihugu y'Umushyikirano* (national dialogue).²

Imihigo specifically describes the pre-colonial cultural practice in Rwanda whereby an individual sets targets or goals to be achieved within a specific period of time. The introduction of decentralisation in Rwanda in 2000 led to a shift in responsibilities at all levels of government and created a need for a system of monitoring and evaluation. *Imihigo* were introduced in 2006 to address this need. All levels of government – including national, provincial and district – are required to plan and implement their own *Imihigo* commitments and targets (such as infrastructure development, job creation).³

In the process of identifying *Imihigo* targets, priority areas are supposed to be selected from the grassroots to the national level. Feedback from the community as well as the central level is required to ensure that citizens are aware of the targets that have been selected and those that have not. According to a government concept paper on planning and evaluating *Imihigo*, some of the agriculture-related activities covered in this regard include: coverage and production of prioritised crops, land use consolidation, soil erosion control, development of terraces, use of agricultural inputs, one cow per poor family (*Girinka* programme), animal vaccination and genetic improvement, and milk collection.⁴ *Imihigo* seek to provide a mechanism through which information and service delivery can be fed upwards through the levels of decentralised government (household, village, cell, sector, district, province and national levels). The process of setting *Imihigo* targets is meant to be participatory. However, there is scepticism about farmers' level of participation, particularly regarding decision-making. This policy brief examines whether existing mechanisms for participation have been effective in channelling farmers' views and feedback regarding performance contracts, and in the selection of priority crops to cultivate.

Composition of farmers' *Imihigo*

Generally, at village level, farmers operate their farming activities individually or through community-based

organisations such as farmers' cooperatives, associations and groups known as *Twigire Muhinzi*. In these groups, farmers provide information using forms to outline their *Imihigo* targets both in terms of priority crops and areas to be cultivated, as well as the quantity of fertilisers and seeds needed through the Nkunganire programme.⁵ At village level, these forms are gathered by farmer promoters and leaders, while Farmers' Field School (FFS) facilitators and Social Economic Development Officers (SEDOs) gather them at cell level before they are channelled to sector level.

Information from focus group discussions (FGDs) and key informant interviews (KIIs) shows that agricultural *Imihigo* targets are a result of three steps of the *Imihigo* planning process: the first step involves *Imihigo* targets being issued by the Ministry of Agriculture to districts through its implementing agencies (Rwanda Agricultural Board and National Agricultural Export Board); the second step involves *Imihigo* targets being relayed from village level to districts through sector level; the final step comprises compilation, harmonisation and final selection of *Imihigo* targets at district level.

The setting of agricultural *Imihigo* targets at sector level is carried out through a meeting of representatives from cells (including executive secretaries, SEDOs and FFS facilitators) and chaired by the sector agronomist. Typically, the decisions made at these meetings include: agreement on agricultural sites on consolidated lands, depending on the number and types of priority crops to be cultivated per season; and quantity of inputs (fertilisers and seeds) to be distributed through the Nkunganire programme.

Participation in *Imihigo*

Some *Imihigo* targets, such as different crops coverage, are supposed to be set at household level based on what each household plans to grow on a given surface. They also need to be documented on forms signed by the household head. Households are also required to have *Imihigo* booklets in which they indicate their planned *Imihigo* targets in agriculture areas or other sectors, such as health and development. However, our research indicated that household agricultural *Imihigo* are only set for household planning purposes and are not directly connected to *Imihigo* targets of villages, sectors or districts. In fact, household *Imihigo* targets are generally set after *Imihigo* targets have been set at district, sector or village level.

Of the sample households, 66% and 26.6% had *Imihigo* booklets for the years 2016/17 and 2017/18, respectively.⁶



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A community dialogue in Nyamagabe, Southern province, Rwanda.

The difference in booklet ownership is explained by the fact that citizens were still receiving booklets, or they attached low importance to owning them as their individual *Imihigo* are disconnected from villages and other higher levels of administration. In the same two periods, 55.8% and 29.7% of the sample households indicated that they set agricultural *Imihigo*. For those who were able to set their agricultural *Imihigo* targets, 61.6% and 32% of them said they had communicated them at village level in 2016/17 and 2017/18, respectively – but through collective meetings and not through exchange of booklets. It was also found that the overall mechanism used to set targets and share feedback are the meetings at village level, which do not focus solely on agriculture-related issues but on other diverse topics.⁷

Farmers' perception of agriculture-related *Imihigo* targets

Of the farmers sampled, 84.3% agreed that there is little citizen participation in meetings to discuss agriculture-related *Imihigo* targets.⁸ Among the reasons provided is the structure of the meetings, which tend to involve leaders' speeches more frequently than discussions, thus denying farmers the opportunity to express their concerns and needs. Furthermore, the study found no adequate mechanism for compiling individual *Imihigo* targets at village level. Farmers recommended that the planning process be revised to

meet their individual opinions (97.6%). They also advised that every household should plan for and communicate agricultural *Imihigo* targets at village level (96.4%), and that a system for compilation should be established for informing district *Imihigo*. In general, farmers are not satisfied with the current process of setting agricultural *Imihigo*, and the findings suggest a need to improve the process to ensure that farmers' views are considered – that is, through more focused village meetings and through promoting dialogue between farmers and authorities.

Farmers' participation in selecting priority crops

Currently, farmers do not participate in selecting priority crops, although they do participate in selecting agricultural sites on which priority crops may be grown. Selection of priority crops is carried out at two levels: at central level and at village level. At the central level, selection is done by experts from the Ministry of Agriculture and implementing agencies, with priority given to six crops – namely, maize, rice, 'Irish potatoes' (as most potatoes are known locally), beans, wheat and soya beans.

At the village level, through village councils, farmers are allowed to choose agricultural sites as well as which crops to grow among prioritised crops. Information from KIIs shows that while crops that are not prioritised can still be

grown, they can only be grown on unconsolidated land. Among the sampled farmers, 24.5% said they planted unselected crops in 2017, while 16.5% said they did so in the first quarter of 2018. Whereas farmers preferred to grow maize, beans and sorghum on farmlands where they were not supposed to be grown, sweet potatoes and sorghum are the most common crops to be grown in cases where farmers deviate from growing selected priority crops.

In most cases, farmers grow unselected crops because they do not participate in meetings at village level. For some, this is related to the location of their plots. Other farmers indicated that they may not grow selected crops due to rain shortages and delays in the supply of agricultural inputs. Farmers also stated that there are crops which they would like to grow but are unable to because they are not part of priority crops at district level. These crops include sweet potatoes and sorghum. The farmers said they grow these crops for different reasons, mainly to improve household food security. Other reasons include crop suitability, marketability, location of main plots and limited access to inputs such as seeds or seedlings.

Determinants of crop selection

A number of factors explain why farmers are choosing some crops over others, even if they have not been marked as priority. They include the following issues.

- **Land size:** One of the main factors is that per capita land size is continuously reducing in Rwanda. More than 65% of respondents had less than 0.3 hectare and only 16.4% had more than 0.5 hectare. This has implications in terms of crop selection and the entire farming system (mono cropping versus intercropping), which are constrained by the available land size and inefficient use of existing land.⁹
- **Location of main plots:** Our study found that the main plots of the majority of households (91.5%) are located on the hillside. This is attributed to the fact that marshlands are state owned and are mainly exploited by farmers' associations/cooperatives. In reality, most farmers are limited in what they can do regarding farming systems, irrigation, mechanisation or crop choices.
- **Expected agricultural income:** The study found that farmers choose to cultivate crops with high income potential, which in turn varies between the two main

seasons (A and B) for priority crops. Generally, farmers generate good agricultural production in season A due to the assumption that there are favourable climatic conditions for agricultural production in this season.

- **Access to agricultural inputs and extension services:** Farmers reported growing crops that are not prioritised in their villages in cases of recurrent and/or unaddressed delays in the supply of agricultural inputs. For example, fertilisers and seeds were still being distributed in the Mbazi sector of Huye district during this survey (9–11 October 2017), and many farmers stated that it was too late for them to grow maize. In one KII from the Nyabisindu cell, farmers complained of not being frequently visited by extension agents due to their cell's remote location.
- **Perceived importance of food crops in terms of food security:** Respondents revealed that farmers choose some of the food crops based on their importance for improving food security and increasing household income. For example, maize is grown for both household income and food security, while sweet potatoes, sorghum and vegetables are mainly grown for improved household access to food. In Huye, a respondent remarked: "We feel secured when our small children have sweet potatoes taken together with porridge in the morning, because they do not eat too much at lunch." This suggests that, in most cases, the deviation from priority crops may be a food security issue.
- **Type and suitability of crops:** The research also found that, as per crop regionalisation policy, crops were selected based on the soil characteristics of the regions. While it is currently the case that farmers are allowed to select agricultural sites through the village assemblies, they should also be allowed to select which crops to grow – not because they have been prioritised but because the soil is suitable for their cultivation.
- **Market access and prices:** In Bugesera and Huye, where maize and Irish potatoes are highly preferred among priority crops, respectively, farmers said they find it difficult to grow other selected crops given these two crops' high revenue potential. "Farmers are aware of crops with high revenues," explained an interviewee in Bugesera. "Therefore, it is difficult to influence them in the selection of crops."
- **Previous seasonal experience:** Farmers and various officials at all levels stated that it is difficult to promote the selection of some crops after extreme events such as drought or incidences of pest and diseases. This was

also true in the case of low prices during the previous agricultural seasons.

- **Link between agricultural *Imihigo* and selection of priority crops:** The research also found a link between *Imihigo* and crop selection. Selection of priority crops is part of the land use consolidation programme, which is a big component of districts' annual performance contracts. As such, selecting priority crops partly means planning agricultural *Imihigo*, while growing them equates to achieving district targets. The implication is that if farmers do not select crops to grow in line with the village/cell/sector's *Imihigo* targets, agricultural *Imihigo* cannot be achieved. Given the centrality of crop selection in agricultural *Imihigo*, there is a danger that farmers are being pushed into signing up without adequate consultation or due recourse to specific needs.

Farmers' perceptions of current farming systems

Mono-cropping – Farmers reported, among other things, improved agricultural production and productivity (90.5%), and optimised agricultural operations on farmed land (35.2%). This made it easier to cultivate one kind of crop (32.8%), also facilitating the use of agricultural inputs (21.9%). However, farmers also mentioned that monocropping has led to the following issues: limited food options for farmers (61.8%); high yield losses in severe circumstances, such as floods, droughts, pests and diseases (59.9%); the fast spread of diseases and pests (8.8%); and extensive use of fertilisers (8.8%), which cost a lot of money.

Inter-cropping – Farmers highlighted three main advantages of the inter-cropping system. Firstly, with inter-cropping, some crops serve as insurance against losses or failures of other crops (81.7%). Secondly, crops give additional yields per unit area over mono-cropping (62.2%). Thirdly, they provide shade and support to other crops (10.9%). However, farmers pointed to disadvantages of the system including: reduced yield for the main crop (74.4%); high competition among inter-cropped crops for light, soil nutrients and water (52.3%); limited use of agricultural inputs (24.7%); and difficulty in harvesting (18.1%).

The adoption of farming systems depends on a number of factors, but generally farmers with smaller plots prefer inter-cropping while those with bigger plots prefer mono-cropping.



Neil Palmer (CIAT) (Creative Commons BY-SA 2.0)

A farmer who is trialling climbing beans developed by CIAT and its partners, near Ruhengeri, northwestern Rwanda.

Farmers' perceptions of their participation in agricultural *Imihigo* and crop selection

Overall, farmers' participation in annual agricultural *Imihigo* targets is still limited. The biggest challenge concerns the structure of the meetings. Respondents stated that the meetings are one-sided, with authorities taking up most of the time to make speeches instead of allowing for dialogue and discussion. Farmers also complained about the limited citizen consultation during the planning of *Imihigo* at district level, as well as the lack of a connection between household and district *Imihigo* targets. In addition, they pointed to farmers' lack of capacity in the planning of individual *Imihigo* targets, recurrent delays in the supply of agricultural inputs (seeds and fertilisers), as well as a tendency among some farmers to stick to priority crops.

Consequently, farmers said that they would like to see more efficient consultations (81%), feedback on adopted agricultural-related *Imihigo* (42%) and the strengthening of seasonal agricultural preparation meetings (29.7%). Farmers also highlighted that timely provision of fertilisers and improved seeds would reduce farmers' deviation from growing selected crops.

Recommendations

Based on the findings of this research, the following measures are recommended. They are addressed to Rwandan authorities, farmers' associations, civil society organisations and other relevant policymakers.

Local leaders and policymakers

- Ensure there are more and effective consultations of farmers in setting *Imihigo* related to agriculture and allow for feedback.
- Promote dialogue with farmers during community meetings and create an enabling environment that allows farmers to express their needs and concerns – this will enable more discussion.
- Encourage farmers to have *Imihigo* booklets prior to the beginning of the fiscal year. Also, set up a strong mechanism for compiling individual household targets, which are crucial in informing district targets (i.e. crop coverage).
- Ensure that farmers' participation in agriculture *Imihigo* at village level considers other issues other than the selection of sites and types of crops. These should include planning of Soil and Water Conservation (SWC) measures, radical terraces, irrigation and agroforestry.
- Provide more capacity in the planning and implementation of agriculture-related *Imihigo* both at household and village levels, with more emphasis on women's empowerment.
- Consider including sorghum and sweet potatoes among priority crops, where appropriate, as the most favoured crops.
- Acknowledge a need for state–citizen dialogue in order to address factors that lead to farmers' reluctance to grow selected crops.

Endnotes

- 1 *Imihigo* is the plural Kinyarwanda word for *Umuhigo*, which means to vow to deliver.
- 2 Rwandan Constitution, Section 140.
- 3 *Imihigo* are informed by broader medium and long-term planning and budgeting processes, such as Rwanda's Vision 2020, the Economic Development and Poverty Reduction Strategy (EDPRS), sector-specific strategic plans, annual action plans and the five-year District Development Plans.
- 4 Government of Rwanda (GoR), Concept paper on *Imihigo* planning and evaluation, Kigali, February 2010.
- 5 Nkunganire is a programme aimed at supporting farmers' transition from traditional agriculture methods to modern techniques to ensure optimum land use. It includes training on use of fertilisers to ensure food safety.
- 6 See: International Alert, Towards sustainable agriculture: An analysis of farmers' participation in agriculture programmes in Rwanda, May 2018.
- 7 Ibid.
- 8 Ibid.
- 9 A. Bizozo, Population growth and land scarcity in Rwanda: The other side of the 'coin', University of Rwanda, Kigali, Rwanda, 2014; see also Annual *Imihigo* evaluation report for the year 2016/2017, Institute of Policy Analysis Research, available here: http://www.ipar-rwanda.org/index.php?option=com_content&view=article&id=77&Itemid=256&lang=en

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- Ensure greater empowerment of FFS facilitators and farmer promoters to enable improved participation of farmers at village and cell level.
- Improve the agenda setting of village councils. While they still provide great opportunities to enhance citizen participation, the councils deal with a lot of topics at once, which does not ensure effectiveness.

Farmers, farmer promoters and FFS facilitators

- Ensure that farmers register on time for easy implementation of agricultural *Imihigo*.
- Strengthen mobilisation campaigns and ensure that farmers register for the Nkunganire programme.

Civil society organisations, including International Alert

- Strengthen advocacy to promote increased participation by farmers in the planning of *Imihigo*.
- Support and build the capacity of farmers' organisations and cooperatives in government engagement, as well as their active participation in agriculture-related planning.
- Design programmes that empower women farmers and raise awareness of the need for women to actively participate in agriculture-related planning, particularly *Imihigo*.

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