R

eforms of the extension system in the Democratic Republic of the Congo (DRC) are being developed by the ministry of agriculture and rural development as part of the country agricultural development strategy and economic recovery. DRC is recovering from more than 15 years of civil war and has been embarked in a series of institutional reforms and capacity development programs to revamp agricultural sector in order to achieve food security. The DRC productivity growth has remained relatively low because of a myriad of problems including diseases, pests, weeds mismanagement and declining soil fertility. Additional challenges brought in by extreme weather events and increasing competition from agricultural imports require a more diverse and urgent role for the extension system to deliver much-needed technical advice to the rural farmers.

As part of the reform and restructuring of the Ministry of Agriculture, the government of DRC plans to reform national agricultural extension system to make it more community-based and demand-driven, involving NGOs, private sector, and rural producer organizations as service providers of extension services. Many donor-funded programs operated in the 1970s and 1980s and supported agricultural technology transfer and advice to small producers, including World-Bank-funded projects based on the Training and Visit (T&V) method. In 1988 the National Extension Service (SNV) was created to coordinate various extension activities, but it ceased to operate in the end of the 1990s due to lack of funding support from government and the withdrawal of donors’ fund in 1997. Due to the absence of an active public agricultural extension system, churches and NGOs have been active in providing agricultural services to rural farmers. However, their coverage has been limited. The result is a large proportion of rural farmers under-provided with extension and advisory services.

The big challenge faced by the decisionmakers today is how to turn around the defunct extension system to support Ministry of Agriculture plan to transform agriculture in DRC. *Is the issue just about funding? Is inefficient institutional set-up the problem? And, how can the system be made cost effective and sustainable?*

This paper provides an in-depth review of the agricultural extension system of DRC to identify strategies and practical actions to transform the system to better respond to the knowledge needs in a rapidly-changing agriculture and food sector. This review includes analyses of its policies and legal framework, organization and management, links to critical institutions, and capacity and incentive of different actors in the system. This review involved document analyses, key informants’ interviews, and surveys of 107 extension organizations and 162 extension agents in randomly-selected 156 villages in western DRC designed and implemented by the International Food Policy Research Institute (IFPRI) team on August to October 2011.

EXTENSION POLICY, MANDATE AND STRUCTURE

There is no existing national agricultural extension policy and strategy in DRC. The extension system in the relevant decrees in 1988 and 1993 point to three systems involved in the provision of extension services in DRC: (1) SNV for coordination with national headquarter and a coordinating team in each province; (2) technical support structures including researchers, subject-matter specialists and trainers from both public and private organizations for training and technical backstopping as well as other providers of other complementary services including INERA (National Institute for Research), SENAMA (National Institute for Mechanization), SENASEM (National Seed Institute), and SENAFIC (National Fertilizer Institute); and (3) agricultural inspection system within the MINAGRI, with an estimated 11,245 field staff, and extension agents from non-government-based organizations for implementation and service provision. The number of field staff in the system is still in the payroll but operations have ceased after the donors’ financial support ended in 1997.

**Figure 1—agricultural EXTENSION SYSTEM in DRC**

**SNV**

**(121 national staff; 81 provincial coordinators)**

**Technical Support Structure**

**(Researchers, trainers, providers of other services)**

**MINAGRI inspection system**

**(11,245 staff)**

**Other extension providers (NGO, private sector, church)**

**Farmers’ Groups**

Source: Authors; 1988 and 1993 decrees on SNV creation.

The current extension system in DRC is characterized by a defunct public extension system, with an extensive field staff still in the payroll, and numerous NGOs, church-based organizations or producer organizations that are trying to fill in the gaps mostly from ad-hoc and project-based funding. Government extension agents and supervisors are often directly hired by these NGOs, church-based organizations or producer organizations for their extension work.

A recent IFPRI survey reports that 59 percent of the surveyed extension organizations are government agencies (different locations of MINAGRI or MINRD) against 41 percent non-government-based organizations (one third are NGOs; private sector and producer association represent about 6 percent each; church-based organizations account for about 3 percent) (Table 1). This indicates that coverage of non-government organizations is still limited and the government’s agents are still the dominant source of extension services in the rural areas in various territories and sectors in western DRC.

**Table 1. Distribution of sample organizations and agents interviewed.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type of organization | Agri. extension organizations (AEO) | | Agri. extension agents (AEA) | | |
| N | *%* |  | N | *%* |
| Government (different locations) 1 | 59 | *55* |  | 114 | *70* |
| Non-governmental organization (NGO) 2 | 33 | *31* |  | 25 | *15* |
| Private sector 2 | 6 | *6* |  | 9 | *6* |
| Church-based org. 2 | 3 | *3* |  | 6 | *4* |
| Farmer-based org. (FBO) 2 | 6 | *6* |  | 8 | *5* |
| Total | 107 | *100* |  | 162 | *100* |

Source: IFPRI survey (August-October 2011). Note: 1 Different locations (territories or sectors) of MINAGRI or MINRD. 2 There is an unclear distinction between NGO, church-based organizations, private sector, and rural producer organizations. The classification retained here is what the respondents reported but it is likely that respondents belong to the other types of organizations.

HUMAN RESOURCES

Estimates suggest about 6 million farming households, around 15 million farmers, and 39 million agricultural population in DRC (FAOSTAT 2010). Thus, DRC has about 535 farmers per agent or 3,400 agricultural population per agent (Table 2). These 2 ratios for DRC are better than in India, Tanzania, Kenya, and Nigeria. Moreover, one of the two ratios is higher in DRC than in China and Indonesia. Anderson and Feder (2004) show that farmers-to-agent ratio in most developing countries is more than 1,000:1. This signifies that the number of agents may not be the major problem, rather how to manage available human resources while providing them with a clear vision, incentives, and funds.

**Table 2. Farmer-agent ratio in DRC and OTHER selected countries.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | DRC\* | Ethiopia | China | Kenya \*\* | Indonesia | Tanzania | Nigeria | India |
| Total number of agents (000) | 11 | 60 | 800 | 6 | 30 | 7 | 5 | 60 |
| Farmers per agent (000) | 0.54 | 0.48 | 0.62 | .95 | 1.67 | 2.50 | 3.33 | 5.00 |
| Agri. population-to-agent ratio\* (000) | 3.4 | 1.1 | 1.0 | 4.8 | 2.9 | 4.7 | 7.8 | 9.8 |

Source: Davis et al. (2010); \* Authors’ calculations based on agricultural population data from FAOSTAT 2010; \*\*Kamau 2012

With respect to the profile of field staff, 78 percent have at least secondary or high school degree (Table 3). A large majority (57 percent) of field staff from government have vocational training or for a 3-year agricultural college degree. In contrasts, most of field staff from NGOs have university degree. Across all organization types, a substantive proportion of field staff (22 percent) have only primary or secondary degree.

**Table 3. Distribution of agents by type of organization and level of education (%)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Organization type | Primary | Secon-dary | Vocational/ College | Univ. |
| All respondents (N=162) | **4** | **18** | **48** | **31** |
| Government (N=114) | 2 | 17 | 57 | 25 |
| NGO (N=25) | 8 | 16 | 20 | 56 |
| Church (N=6) | 17 | 17 | 33 | 33 |
| Private sector (N=9) | 11 | 33 | 11 | 44 |
| Farmer-based organizations (FBO) (N=8) | 0 | 25 | 50 | 25 |

Source: IFPRI survey (August-October 2011).

Sixty-one percent of agents received other professional training besides formal education (Table 4). There are more trained extension agents (more than 80 percent) in NGOs and church-based organizations have received training than in the government, private sector, or producer organizations. Across all respondents, a greater proportion of agents with lower formal education (primary or high school) did not received on-job or skills development training than those with higher education level; this reinforces the serious challenge of weak skill sets of a good proportion of agents due to lack of formal education and technical training. For those who received on-the-job training, most of these training sessions were in areas of crop production, education and communication in general, monitoring and evaluation, and general management.

**Table 4. Distribution of agents by training received and organization type (%)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Organization type/ education level | Primary | Secondary/ high school | Vocational/ technical | University | All respondents |
| All respondents | **33** | **59** | **52** | **80** | **61** |
| Government | 0 | 53 | 51 | 79 | 57 |
| NGO | 50 | 100 | 100 | 86 | 88 |
| Church-based | 100 | 100 | 50 | 100 | 83 |
| Private sector | 0 | 67 | 0 | 50 | 44 |
| FBO | NA | 0 | 25 | 100 | 38 |

Source: IFPRI survey (August-October 2011).

An overwhelming majority of extension agents and managers/supervisors in extension organizations are trained and specialized in crop production (Table 5). About 13 percent of agents specialize in livestock and veterinary services, and three percent specialize in fisheries and aquaculture. No agent reported specialization or training on postharvest or marketing extension. Field staff should also be trained on marketing skills so that they can provide marketing extension among farmers. Also, skill set should include food preparation, nutrition and health advice in order to prepare mothers and adults on how best to utilize their existing food production and resource to maximize nutrient intake of their children. Overall, extension agents should be trained on diverse set of skills so that they can respond to the widely varying challenges and bottlenecks faced by farmers.

**Table 5. Distribution of agents and SUPERVISORS by FIEld of specialization (%)**

|  |  |  |
| --- | --- | --- |
| Technical skills | Agents (N=160) | Supervisors (N=107) |
| Crop production | 66 | 59 |
| Livestock/veterinary | 12 | 8 |
| Education and communication | 11 | 19 |
| Fisheries/aquaculture | 2 | 0 |
| Crop protection/disease control | 2 | 1 |
| General management | 2 | 5 |
| Monitoring & evaluation (M&E) | 1 | 0 |
| Apiculture | 1 | 0 |
| Soil fertility or water management | 2 | 2 |
| Others | 0 | 5 |

Source: IFPRI survey (August-October 2011).

Numerous organizations have been providing ad-hoc short-term training to agricultural extension agents and rural development workers. Of all trainings attended by the extension agents interviewed, more than half are offered by donors or international organizations; around 21 percent are given by government agencies such as MINAGRI, SNV, MINRD, and MINHEALTH, and another 21 percent are from national NGOs and other local organizations (Table 6). Only five percent of the trainings are from the education system, including ISDR/ISEA and less than one percent are provided by the agricultural research stations (INERA). The issue with these trainings is that they have been provided in an ad-hoc basis and uncoordinated manner, leaving the capacity of the agricultural training and education institutes largely weak and underfunded.

**Table 6. Distribution of training courses received (%)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Type of providers/sponsors | Govt. | NGO | Church-  Based | Private  Sector | | FBO | | All | |
| Education and training institutes | 6 | 2 | 0 | 17 | 0 | | 5 | |
| Research stations (INERA) | 1 | 0 | 0 | 0 | | 0 | | 1 | |
| Local NGO, church-based organization, input dealers | 12 | 50 | 11 | 17 | | 11 | | 21 | |
| International organization | 54 | 39 | 78 | 67 | | 67 | | 53 | |
| Govt. agency | 27 | 9 | 11 | 0 | | 22 | | 21 | |

Source: IFPRI survey (August-October 2011).

The average age of extension agents in our sample is 52 years. About 60 percent of the extension agents are more than 50 years old; 44 percent are more than 55 years old (Table 7). The agents in the government are relatively older while agents from NGOs and FBOs are relatively younger. About 51 percent of agents in government are more than 55 years old compared to only 16 percent in NGOs and 13 percent in FBOs. About 29 percent of agents from government are more than 60 years old while there are only 12 percent in NGOs and 13 percent in FBOs.

**Table 7. Distribution of agents by age group (%)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type of organization | Age | | | | |
| **25-35** | **36-45** | **46-55** | **56-60** | **More than 60** |
| Total | **9** | **25** | **23** | **19** | **25** |
| Government | 8 | 15 | 24 | 25 | 29 |
| NGO | 8 | 60 | 16 | 4 | 12 |
| Church-based organization | 0 | 33 | 33 | 17 | 17 |
| Private sector | 22 | 22 | 33 | 0 | 22 |
| Farmer-based organization | 13 | 63 | 13 | 0 | 13 |

Source of raw data: IFPRI survey (August-October 2011).

Only 5 percent of our random selection of extension agents is made of women (Table 8). Of all the extension supervisors/heads interviewed, only 7 percent are women. There was no female supervisor or head from the public sector agencies.

There is a limited dataset on female and male farmers’ differentiated access to extension services, but evidence from the literature in many different countries suggests a strong correlation between the sex of the agent and the gender differential in access to extension services. For example, the World Bank and IFPRI (2009) find that female extension workers serve a higher proportion of female farmers than do male agents (the average ratio of women to men farmers is 1.3 for female agents and 0.53 for male agents). This may suggest that extension services from female extension agents are better targeted to female farmers. Gender-based constraints such as social norms that limit women’s school attendance or mobility also limit their opportunities and willingness to work as agricultural extension agents. It may be difficult at a practical level for a married woman to work in a rural area away from her husband and family or to find appropriate housing and schooling for her children.

**Table 8. Distribution of sample extension agents and supervisors by organization type.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Organization type | Extension Agent | |  | Supervisor/Head | |
| N | Female (%) |  | N | Female (%) |
| Overall | 154 | 5 |  | 107 | 7 |
| Government | 114 | 5 |  | 59 | 0 |
| NGO | 25 | 4 |  | 33 | 15 |
| Private sector | 9 | 11 |  | 6 | 17 |
| Church-based organization | 6 | 0 |  | 3 | 33 |
| FBO | 8 | 0 |  | 6 | 17 |

Source: IFPRI survey (August-October 2011).

FINANCIAL RESOURCES

Due to irregularity of funds release in the government, more than half (54 percent) of government-based AEOs reported no funding at all in 2009 or 2010 from government (Table 9). Only two percent of government-based AEOs got operating funds from government in 2009 or 2010. Only seven percent of AEOs got capital funds from government in 2009 or 2010. More than half (51 percent) of government-based AEOs did not receive any funds from any source in 2009 or 2010.

Only 23 percent of AEOs (all organization types) have received external funding (international NGOs, donors, private sector, or foundations) (Table 9). The greatest proportion of AEOs that received external funding are NGOs. Among government-based AEOs, only 5 percent got external funding. None of the FBOs got external funding. Still, a large proportion of NGOs, church-based organizations, private sector and FBOs do not get funding to do extension. For government-based AEOs, more than half do not get funds from government and only 5 percent get funds from other sources. This still leaves about half of the government-based AEOs without any type of funding to do their operations and any extension work in 2009 or 2010. Respondents also said that this has been the case for several years now.

**Table 9. Distribution of AEOs by external funds received**

|  |  |  |
| --- | --- | --- |
| Organization type | Received external funds | Did not receive external funds |
| Total | 23 | 77 |
| Government (different locations) | 5 | 95 |
| NGO | 61 | 39 |
| Church-based | 33 | 67 |
| Private sector | 17 | 83 |
| FBO | 0 | 100 |

Source: IFPRI survey (August-October 2011).

PHYSICAL RESOURCES

The dismal state of transportation infrastructure is also hindering the performance of extension services. While 81 percent of AEAs believe that the workload is adequate, only 40 percent feel that travel time to farms is manageable; while 47 percent report that mobility to their operational area is difficult (Table 10). Supervisors estimate that on average, per month, 55 percent of AEA time is spent for getting to the field. While this discrepancy is likely due to poor road conditions, the way in which AEAs obtain travel allowance and bikes or vehicles provided for mobility could also be part of this issue, as many agents claim to receive insufficient funds. While motorbike is common for extension agents in many African countries, the survey results indicate that 91 percent do not have access to a bike, motorbike or vehicle for work.

**Table 10. Distribution of AEAs by transportation challenges (N=162 agents)**

|  |  |
| --- | --- |
| Statement | % agree or strongly agree |
| Workload is adequate. | 81 |
| Farm distances from where you stay are manageable. | 40 |
| Mobility to your operational area is difficult. | 47 |
| Do not have access to a motorbike or vehicle for work. | 91 |
|  | **CF** |
| Amount spent per month on mobility for job (in CF) | 21,600 |
| Amount received in travel and transport per month (in CF) | 18,545 |
|  | **%** |
| Estimation of AEAs time spent for getting to the field (in a month) | 55 |

Source: IFPRI survey (August-October 2011).

ORGANIZATION & MANAGEMENT

About 59 percent of extension agents claim to have operational targets for workplan; unfortunately, multiple actors are involved in setting up these targets (Table 11). About 25 percent of extension agents set the targets themselves. Only about 24 percent of AEAs are reporting any target set by supervisors or heads or clients.

**Table 11. Distribution of AEAs based on who sets targets**

|  |  |
| --- | --- |
| With or without target | % |
| No target | **41** |
| With target | **59** |
| Self | 25 |
| Direct supervisor/inspector | 11 |
| MINAGRI (different levels) | 5 |
| Farmers' groups | 1 |
| NGO | 6 |
| Other (not specified) | 9 |

Source: IFPRI survey (August-October 2011).

AEAs were asked which targeting criteria they use to distribute inputs to the farmers in their operational area. About 48 percent of the 52 AEAs who have ever distributed inputs to farmers claimed that they target a particular type of farmer (Table 12). FBOs, gender, and location are mentioned as targeting criteria for input-related activities. The top targeting criterion used by most AEAs is membership of an FBO. Gender of the farmer is also often used as a criterion. When AEAs were asked about the extent to which these criteria are followed, AEAs interviewed that 65 percent of the beneficiaries or farmers they serve follow the FBO criterion, while only 30 percent follow the gender criterion. This indicates the lax implementation of the targeting approach, which also mirrors lax implementation and monitoring of the extension and input projects.

Table 12. Distribution of agents by target criteria for input distribution (N=25 agents)

|  |  |  |
| --- | --- | --- |
| Target for inputs | % of AEAs | Reported fulfillment of the criteria (% of farmer-beneficiary) |
| FBO | 76 | 64 |
| Gender | 12 | 29 |
| Location | 8 | 38 |
| Other | 4 | 60 |

Source: IFPRI survey (August-October 2011).

LINKAGES AND COORDINATION

Overall, linkages between extension organization and their agents and other stakeholders are rather limited. Absence of interactions with any rural bank and financial institution was reported by the AEAs , organization heads and supervisors. Almost all of the sample AEAs have not interacted in the previous year with any central MINAGRI staff, any financial institutions, other extension agents, and input suppliers (Figure 2).

**Figure 2. Distribution of AEAs based on the frequency of their interaction with other actors (%)**

Source: IFPRI survey (August-October 2011).

Similarly, only 7-8 percent of supervisors of extension organizations have met with agro-processors or financial institutions few times a year. About 80 percent of surveyed extension organizations have never interacted in the previous year with input suppliers, traders or buyers, colleges and universities, and research institutes. The only set of actors that a majority of sample extension agents met in the previous year are other extension agents (36 percent of sample extension organizations). Given that extension agents are the brokers of information and bridging institution between users and sources of innovation, their lack of interaction or linkage with other organizations and stakeholders pose a serious issue in fulfilling their role in strengthening farmers’ capacity and achieving agricultural growth.

ORGANIZATIONAL PERFORMANCE

While performance of extension organizations is hard to measure, this study aims to provide some indications of performance namely: (1) activeness in technology transfer; and (2) visits made to the villages as reported by the village representatives.

Approximately half of the 107 extension organizations included in the survey reported that they had not disseminated or promoted any agricultural technology in the previous two years. An even greater proportion of government agencies had not promoted or disseminated technologies to farmers in the previous two years. This mirrors limited activity by a good proportion of extension organizations.

Only 17 percent of the sampled villages reported having had visits from any extension agent or development worker (Table 13) in the previous two years (2009-2010). A large majority (83 percent) of villages reported not receiving any extension visits. Of those receiving extension visits, about 70 percent of the villages reported a single agent who visited and provided extension 19 percent of the villages reported being visited by two extension agents, and the remaining 11 percent reported being visited by three to five extension agents. These agents come mostly from MINAGRI and from NGOs. Of the 43 extension agents who visited the sample villages, only 9 percent were women.

**Table 13. Distribution of sample villages and extension visits by number of visits**

|  |  |  |
| --- | --- | --- |
| Category | Number of villages | % of total villages |
| No visit by extension agent | 129 | 83 |
| Visited by at least 1 extension agent | 27 | 17 |
| Number of agents who visited |  |  |
| 1 | 19 | 70 |
| 2 | 5 | 19 |
| 3 | 1 | 4 |
| 4 | 1 | 4 |
| 5 | 1 | 4 |

Source: Village-level survey implemented by IFPRI in 2011.

SUMMARY OF CONSTRAINTS

The descriptive analysis above presents a number of constraints that the western DRC extension system faces including:

* **No funding**: There is no sustainable funding for extension provision in DRC. After the completion of the World Bank project in the 1990s, the extension system has collapsed. There is no reform that will work without commitment from government and sustainable funding for extension. Ad-hoc projects from donors or NGOs may happen, but without a sustained funding from the government, the system as a whole cannot perform as expected.
* **Unclear vision and mandates**: There is no clear strategy or policy in the country. While there is about 11,000+ cadre of field staff at the MINAGRI, it is not clear to them whether they should be doing extension work in addition to their data collection activities. If they could be utilized, it will be a good starting point to revitalizing the agricultural extension system and to reaching farmers with valuable information and new technologies.
* **Aging extension agents**: In the public extension service, the personnel are aging and a majority of the organizations are inactive. About 60 percent of the 154 extension agents surveyed are over 50 years of age.
* **Limited women agents**: Only 5 percent of the 154 extension agents surveyed were women. Of the 107 extension supervisors and organization heads interviewed, only 7 percent were women. This limited number of female extension agents and extension supervisors can limit the ability of the extension system to reach out to women producers, especially in the most remote areas. Studies worldwide have shown that women extension agents can reach out more to women farmers, especially in societies restrict female-male social interactions.
* **No operational targets and monitoring**: There are no targets set among agents and organizations for their extension work as reported by a large majority of AEAs interviewed and more than half of organizations heads and supervisors in our sample. As a result, there is no monitoring and evaluation system to assess the quality and performance of extension services.
* **Lack of communication about reforms**: The majority of extension agents and heads interviewed are aware of the decentralization reforms, but many have never heard of CARGs and the overwhelming majority of respondents have never attended a CARG meeting. There is much skepticism among extension agents and heads about the decentralization process that most viewed as severely constrained by lack of staff and management capacity at the decentralized level.
* **Weak education and training institutes:** Agricultural education and training institutes in DRC are in the form of ISEA and ISDR but interviews and visits to these institutes reveal serious weaknesses in their capacity and operation. Among the challenges are: (1) lack of sustained funding; (2) no vision, strategic planning, and forward-looking mentality for ISDR/ISEA in particular and education system in DRC more generally; (3) outdated curriculum; (4) problems of quality of education starting in primary level; (5) lack of up-to-date training and skills development for staff; and (6) lack of linkages with the rest of the agricultural support system
* **Limited education and training**: About 22 percent of field staff have only primary or secondary degree. While 61 percent of agents received other professional training besides formal education, a greater proportion of agents with lower formal education (primary or high school) did not received professional training. This reinforces the serious challenge of weak skill sets of a high proportion of agents due to lack of formal education or technical training. Without extensive training and re-training, there could be serious limited technical capacity to provide extension and advisory services to farmers.
* **Limited linkages**: Overall, linkages between extension organization and their agents and other stakeholders are seriously limited. To be effective in their role of brokers of information, agents should be able connect different stakeholders together. Extension agents who have no interaction, formal and informal, with stakeholders poses serious limitation to their ability to perform their work.
* **Weak policy and investments in complementary inputs and services**: Access to credit, inputs, markets, land, and equipment/tools are the most common and most consistently mentioned constraints among farmers based on perspectives of agents, organization heads, and farmers themselves. Training and extension services are mentioned as part of the problem and part of the solution. The results warrant complementary review and reform in the policies and investments governing these inputs and services.

**SUMMARY OF OPPORTUNITIES**

* **Extensive field staffing:** The huge number of extension agents and technicians with the agricultural inspection system within MINAGRI (estimated to be about 11,245) is an opportunity and asset to be utilized for extension delivery. To date, their mandate covers mainly data collection and “monitoring” farmers’ activities and production. With clear mandate and clear definition and communication of roles and responsibilities and corresponding performance assessment and incentive system, this inactive and defunct inspection system can just be transformed to support knowledge dissemination and technology transfer in rural areas.
* **Strong farmer-based organizations**: There are various organizations and associations in DRC, and many of them are strong and effective at least in providing or facilitating rural services to their members. These organizations can be good opportunities to utilize for technology transfer, facilitation and demand articulation among rural population.
* **Building on NGOs operation**: There are various activities and service provision being done by both international and national NGOs. While coverage is still limited, they can be strengthened to complement the operations of the public sector.
* **CARG**: There is still limited awareness and presence of CARGs in the territories covered in the survey. However, with funding and support, CARGs can play a major role as platform for information sharing and technology transfer. Strategies aimed at balancing representation in the CARG leadership and power between CARG stakeholders coupled with capacity strengthening and self-financing policies can improve the CARG effectiveness.

**IMPLICATIONS FOR DRC**

* Human resource or civil service reform is a priority. Downsizing will be the strategy involving retiring those who are above 60, retraining those with good qualification, and hiring new well-qualified staff. This will involve a reform in salary and benefits to encourage good performance and delivery.
* There is a need for complementary investment in reforming the agricultural education and training institutes, such as the ISDR and ISEA, as they are the critical institutions that train and breed the new wave of agricultural extension agents and officers. This will require updating their curriculum and promoting greater linkages among extension, research and universities.
* Institutional coordination of extension services is needed and this can be the role for MINAGRI.
* Complementary investments and policy reforms are needed in input and output markets to transform the agriculture sector.
* Funding should be more stable rather than relying on ad hoc projects. Government must invest in extension system in order to transform the agriculture sector. No amount and degree of institutional reforms or approaches will work without the sustained funding and commitment from government.

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