

TOWARDS A FARMER-GOVERNED APPROACH TO AGRICULTURAL RESEARCH FOR DEVELOPMENT: LESSONS FROM INTERNATIONAL EXPERIENCES WITH LOCAL INNOVATION SUPPORT FUNDS

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Abstract

Novel mechanisms for funding agricultural research for development (ARD) are emerging which strive to give smallholders a central role in deciding what types of innovation they want to explore and develop and how to do this. This paper reports on international experiences with one such mechanism, the Local Innovation Support Fund (LISF), which is being piloted in eight countries across Asia and Africa under the umbrella of the PROLINNOVA international partnership programme. The ways of setting up the LISFs vary greatly between countries, in response to country-specific conditions, experiences, and opportunities, but all share structural elements. These include: ensuring farmers' effective control over fund governance; making calls for proposals that farmers can easily understand and respond to; developing and applying effective screening criteria; and monitoring and evaluating systematically how the funds are being used, the outcomes of the proposals and the impacts on farmers' lives, including their ability to influence ARD decision-making. After presenting the general rationale for the LISF program, the paper examines the diverse results obtained across countries in terms of structure and process of grant administration; number, size and types of grants; thematic foci; M&E and impact assessment. Some critical issues are discussed: the importance of understanding concepts and its implications for LISF implementation, the purposes for which farmers use the funds, the pros and cons of supporting farmers' own experimentation versus farmer-led joint experimentation, and the perspectives for sustainability and scaling-up of the LISF approach within and beyond the eight countries in which it has been piloted.

Key words: Innovation, farmer-led, funding, governance, scaling-up, monitoring and evaluation, Africa, Asia

Résumé:

Vers une approche de la recherche agricole pour le développement pilotée par les agriculteurs/ leçons d'expériences internationales avec les fonds d'appui à l'innovation locale. De nouveaux dispositifs pour financer la recherche agricole pour le développement émergent graduellement, s'efforçant de donner aux petits agriculteurs un rôle central pour décider des innovations que les intéressés et de comment les développer. Cet article rend compte d'expériences avec un tel type de mécanismes, les Fonds d'appui à l'innovation locale, ou LISF (Local innovation Support Funds), expérimenté dans 8 pays en Asie et en Afrique sous l'égide du réseau PROLINNOVA. Les dispositifs LISF varient beaucoup d'un pays à l'autre en fonction des conditions, expériences, et opportunités spécifiques à chaque pays. Ils partagent cependant certains éléments structurels, tels que permettre aux agriculteurs d'exercer la gouvernance des fonds, faciliter l'accès aux appels à propositions par les agriculteurs, développer et appliquer des critères efficaces de sélection des projets, proposer un suivi et une évaluation rapprochés de la mise en oeuvre des fonds. Après avoir présenté la structure générale du programme LISF, ce papier examine la diversité des résultats obtenus en termes de nombre, taille et types de projets soumis, de thématiques abordées, et de modalités de suivi-évaluation. Quelques points critiques sont ensuite abordés: le rôle et l'importance d'une bonne compréhension des concepts, une analyse de ce à quoi les agriculteurs utilisent effectivement les LISFs, les avantages et inconvénients de financer via les LISF l'innovation locale vs. l'expérimentation conjointe agriculteurs-chercheurs, et enfin, les perspectives émergentes en termes de durabilité et d'institutionnalisation de l'approche LISF dans et au-delà des pays concernés par ce projet pilote.

Mots clés: Innovation, financement, gouvernance, institutionnalisation, suivi-évaluation, Afrique, Asie

INTRODUCTION

The Agricultural Research for Development (ARD) arena has witnessed significant changes in the way it tackles agricultural innovation development in developing countries. Linear, top-down approaches based on the transfer-of-technology paradigm dominated the decades following independence, typified by the “Green Revolution” (Ruttan, 1977) and Training-and-Visit (Benor *et al* 1977). It gradually became clear from the 1980s onwards that small-scale farmers and communities had been largely left out of the corresponding developments (Chambers *et al.*, 1989). In parallel, there has been a growing awareness about the increasing threat to natural resources and the persistent poverty among small-scale farmers, which have been exacerbated over the last few decades by population growth and climate change, and by the effects of economic globalisation (McIntyre *et al.*, 2009).

In response to such challenges, alternative approaches began to emerge in the 1980s, and have gained momentum since, with the aim of achieving sustainable agriculture in collaboration with small holders. These include various types of farmer participatory research, participatory technology/innovation development (PTD/PID), action research and co-design, to name but a few (Veldhuizen *et al* 1997, Reij & Waters-Bayer 2001, Béguin and Cerf, 2008, Almekinders *et al* 2009, Faure *et al* 2010.). While each approach has its own specificities, common among them is the realisation that innovation follows a non-linear, quite unpredictable process and entails no sharp division of labour between generators of knowledge and designers of technology on one hand and beneficiaries of such knowledge and technologies on the other hand (Röling, 2008). The recent emergence of the innovation system perspective (World Bank 2006) reflects a growing agreement that innovation processes and pathways are highly complex and diverse.

Nowadays, many government agencies, NGOs and ARD projects are applying such multi-stakeholder participatory approaches to innovation with small-scale farmers and other land-users, although these approaches are still far from constituting a dominant paradigm. The processes involve a variable mix of actors, including farmers and their organisations, researchers, local government, extension agents, development practitioners and the private sector, who jointly identify local problems and opportunities and develop locally appropriate innovations.

In most of these past or ongoing initiatives, control over funding for implementing the activities has remained in the hands of the formal institutional actors involved, such as a research organisation or NGOs. These actors thus exert an overwhelming influence over the main decisions as to how the innovation process is organised, what types of activities are implemented, and by whom. Conversely, the farmers involved rarely have direct access to funding for implementing their own ideas about what innovations to explore and how to go about it. In most cases, they receive some small financial support to pay for their participation in project activities (e.g. working on experiments or making exchange visits), but have little to say about what they can or cannot do with these funds. Although efforts have been made to open up ARD funds to a diversity of stakeholders through competitive bidding processes (Gill and Carney, 1999), such funds go primarily to research institutions, partly as a result of the high administrative and technical requirements for accessing the funds.

There is evidence, however, that small amounts of money made available to local innovators can help accelerate innovation and make the process locally sustainable (Ashby *et al* 2001). Also Sanginga *et al* (2008), Veldhuizen *et al* (1997), Critchley *et al.* (1999) and Wettasinha *et al* (2008) clearly show that small-scale farmers are innovators in their own right. They possess and keep developing invaluable knowledge about their own environment and can identify, develop and fine-tune innovations suitable to their needs.

A pilot programme was initiated to explore how such innovative farmers can be identified and supported by giving them direct access to means to develop innovations of their own

choosing, and how to ensure that such innovations benefit their communities. Called Local Innovation Support Funds (LISFs), and operating under the umbrella of the PROLINNOVA¹ network, it has been operating in several countries in Africa and Asia over the past five years. This paper outlines the general structure and modalities of the LISF pilot, and the specific experiences in the various countries where it has been implemented. It gives a snapshot of results achieved to date in some of the countries involved and then discusses some of the lessons from and challenges of the LISFs.

1. LOCAL INNOVATION SUPPORT FUNDS

The PROLINNOVA network started in 2002 based on a shared recognition among many NGOs and other stakeholders in several countries of the need to build on and to strengthen the capacity of farmers to play a central role in ARD. Currently, PROLINNOVA includes 130 partners and operates across 16 countries in Africa, Asia, Latin America and the Pacific. In each country, PROLINNOVA operates as a multi-stakeholder network comprising a variable mix of NGOs, farmer organisations, universities, extension services, research, development projects, coordinated by a National Steering Committee (NSC), responsible for making all strategic decisions.

PROLINNOVA believes that a fundamental shift in mechanisms for allocating funding for ARD is required to give more power to local farmers which would then contribute to creating a longer-term institutional basis for truly farmer-led participatory approaches (Waters-Bayer *et al* 2005). Therefore, PROLINNOVA addressed the key questions of whether alternative, farmer-governed funding mechanisms for local ARD could be developed that are cost-effective and sustainable. Building on an individual initiative taken by Nepal in 2004, four other country networks in Cambodia, Ethiopia, South Africa and Uganda joined in a pilot programme in 2005 to test ways to set up financing mechanisms that allow local land-users to access funds for improving and accelerating their innovative activities. This pilot study was expanded in 2008 to country networks in Ghana, Kenya and Tanzania.

The concept of “Local Innovation Support Fund” (LISF) refers to a funding mechanism that is easily accessible to land-users to enhance promising local initiatives, gives them a prominent role in fund governance and has a light administrative structure. The fund can be used for various purposes, including farmer experimentation without outside help, farmer-led joint experimentation including other actors, sharing of experiences and innovations (e.g. cross-visits between communities), and other forms of support to farmer experimentation, etc.

Setting up a “typical” LISF usually starts with establishing a multiple stakeholder committee of some sort at a local or regional level to coordinate the LISF process. This committee oversees the establishment of easily understandable LISF proposal formats and guidelines, screening criteria for approving grants, and funding modalities (grant, co-funding, loan with or without interest rate, etc.). The committee then identifies a community or area where it creates awareness about the forthcoming call for proposals, and is often also involved initially in supporting proposal writing by individual farmers or groups. The LISF committee then screens all submitted proposals, decides on approval and informs the applicants. The grant is then disbursed, either directly to farmers or through their community-based organisations (CBOs), in cash or in kind. Supporting organisations monitor the implementation of the funded activity. In some cases, field days or other events are organised to share the results obtained by farmers in their LISF-supported activities, increase awareness about the LISF and contribute to motivate more farmers to apply for the next cycle of funding. Capacity building also takes place: it is directed to farmers and CBO representatives who are handling the LISF at local level as well as to representatives of organisations supporting farmers’ experimentation and innovation.

¹ PROMoting Local INNOVation in ecologically oriented agriculture and natural resource management (www.prolinnova.net)

In addition to setting up operational LISF modalities at farmer level, the pilot programme also seeks to establish an enabling environment for LISFs, their careful monitoring and evaluation (M&E) and effective learning and sharing within and beyond the national and international PROLINNOVA networks with relevant ARD institutions and policymakers, with the aim of creating awareness and support, and eventually ensuring longer-term sustainability (financially and institutionally) of the LISF approach.

M&E and IA form an integral part of the LISF pilot. They serve as a basis for learning, sharing and adapting, an important goal given that the LISF is a pilot exploring fairly new ground in funding innovation. The programme's M&E / IA framework focuses on three closely interlinked levels:

1) Assessing the actual functioning of LISFs

The central question here is: *To what extent is this funding mechanism feasible, effective and efficient?* An MS Access© database, called the "register", was developed for this purpose, in which partners record basic information about grant applications, topics, amounts approved, progress in implementation etc. The register enables a country-based and international comparison of time and money spent on managing the LISFs, disbursements to experimenters, rates of approval for proposals, and purposes for which the funds have been used.

2) Impact assessment per se

IA assesses the relevance and effect of LISF by looking at four inter-linked aspects:

- The extent to which LISF support has led to development of improved practices related to food production and natural resource management;
- The extent to which these practices and systems have spread among farmers, and their impact on local livelihoods;
- The change in capacities of land-users to access relevant information and to develop technical and socio-organisation innovations;
- The change in openness and interest of ARD agencies to support and work with local innovators and their groups using an LISF-type approach.

To gather such information, fairly simple, practitioner-oriented guidelines were developed (Triomphe *et al* 2010), inspired by an approach proposed by Catley *et al* (2009). Closely articulated with M&E, it involves two main steps. (1) semi-structured interviews with the various stakeholders involved in LISF, foremost the farmer innovators themselves. Open-ended questions explore the meaning of farmer-led research, results achieved, advantages and difficulties of the LISF process and mechanisms; (2) multi-stakeholder workshops, in which the trends, challenges and perspectives of LISFs emerging from the semi-structured interviews are discussed. Each LISF team can easily adapt the guidelines to the specific features of the LISF experience and set-up in their country.

3) M&E for project implementation

At this level, M&E focuses on the main strategies used to achieve its overall objectives. It is based on half-yearly progress reports of the country programmes, annual face-to-face international meetings with LISF coordinators, telephone conferences, bilateral reviews and backstopping missions.

2. A DIVERSITY OF EXPERIENCES AND RESULTS ACROSS COUNTRIES

2.1 Diverse structures for decision-making and governance

The eight countries involved in the LISF pilot have developed very different decision-making and operational structures for their LISFs. This is a consequence of each country conducting its own feasibility study for deciding how best to apply the generic LISF concept to its specific context and conditions, and to the experience and strength of local actors. In some cases, e.g. Ethiopia, different structures were chosen in different regions in the same country. In all

countries, LISF is a multi-partner, multi-stakeholder initiative, overseen by PROLINNOVA, with several network partners involved in LISF implementation on the ground.

Cambodia illustrates the dynamics of how LISF structures in a given country typically evolve over time, in response to lessons and challenges identified (Vitou, 2008). An initial structure was designed based on the feasibility study carried out in 2005–06. From the start, it was decided to operate the LISF as a revolving fund: farmers could apply to the LISF for a loan, on which interest was charged, rather than a grant. This was seen as the best way of making farmers feel more responsible for carrying out the activities they proposed, and also of replenishing and expanding the initial fund, linking it to existing community-based savings and credit schemes and associations. From 2005 to 2008, LISF pilots were established in three provinces, each with a different organisation playing the leading role, overseen by an LISF National Steering Committee coordinated by CEDAC (Cambodian Centre for Study and Development in Agriculture), who also coordinates PROLINNOVA–Cambodia. While LISF operations were highly decentralised in operational terms, the three provinces followed a common procedure: fund requests by individual farmers were first sent to a farmer association, which compiled and forwarded them to the lead LISF partner in the province. After a preliminary review of the proposals, this partner forwarded them to the LISF National Steering Committee, which took the final decision about the individual proposals.

In 2008, the LISF scheme was expanded to 11 provinces involving a total of 20 NGO members of PROLINNOVA–Cambodia. However, it proved to be too difficult to ensure the necessary capacity-building and the quality of the proposals and of the ensuing experimentation, and to handle the varying degree of ownership by farmers and local support institutions as well as the challenges in monitoring the results. Such multiple, decentralised, small-scale, NGO-led initiatives also made it difficult to attract funding from the national government and international donors.

In response, a new structure was designed in 2010: implementing the LISF through a farmer-governed, centralised national fund under an existing farmer organisation at national level, Farmer and Nature Net (FNN), with CEDAC and others playing now an advisory role to the FNN for LISF.

In other countries, the LISF structures usually lie somewhere between full control by a leading national Prolinnova network partner and committee and full control by local communities, with varying degrees of farmer-led governance. In Uganda, CBOs are directly responsible for selecting applications and distributing funds, and receive only occasional outside advice. However, difficulties in monitoring and ensuring quality led to establish a common quality-control mechanism operating at national level. In Kenya, proposals are selected both at community level and by a district LISF steering committee, complemented by a final vetting by the Prolinnova NSC. In the Ambo region of Ethiopia, Farmer Management Committees at sub-district (kebele) level have been set up to help with application preparation. They then send the improved applications to a district-level Farmer Management Committee, which makes the final decision, with advice provided by the facilitating NGO and government extension staff in the area.

Over time and across all countries, LISF pilots have generally been moving toward more farmer-led governance mechanisms and structures, while supporting organisations (mostly NGOs) have built the capacity of these farmer groups and play an increasingly important role in ensuring the quality of proposals and integrity of fund use, rather than in managing the LISF directly.

2.2 Number, size and types of grants

The number, size and type of grants (individual vs group) vary greatly across countries (Table 1). This reflects differing starting dates, the number of LISF cycles and the geographic scale at which LISFs have been set up in the different countries. It also reflects different

choices made in LISF structure and whether the focus was more on encouraging individual innovators or group innovation. It also reflects the diversity of contexts and needs of farmers when applying for funds: some merely request support for buying inputs for experiments, others involve significant transportation costs for visiting far-away places.

Table 1: Key characteristics of LISF grants made in 8 countries, 2005–09

Country	Data for period	Applications	Approved	% of applications approved	Range of size of award (US\$)	Observations: individuals vs groups
Cambodia	2005-2009	193	134	69%	9 – 105	Individual applications filtered by group
Ethiopia	2005-2009	109	47	43%	75 – 310	Individuals in the north, groups of 4–5 persons in the south
Ghana	2008-2009	80	34	43%	n.a.*	Mostly individual applications
Kenya	2008-2009	103	23	22%	n.a.	Mixed/ unisex groups and individuals
Nepal	2004-2009	24	29	121%	48 – 730	Mostly individuals
South Africa	2005-2009	51	15	29%	728 – 2334	Mixed/ unisex groups and individuals
Tanzania	2008-2009	25	16	64%	n.a.	Group applications only
Uganda	2005-2008	98	67	68%	23 – 118	Initially groups, later also to individuals
TOTAL		274	160	58%	9–2334	

*data not available

The number of applications has been small in some countries (e.g. Nepal, for lack of funds) and very high in others (e.g. Cambodia, due mostly to the attempt made in 2008–09 to scale out LISF rapidly). In some areas and countries, application numbers have stalled after the first cycle (e.g. in two regions in Ethiopia, due in part to a lack of sufficient understanding of LISF by farmers and support institutions alike), while in others, it is increasing from one LISF cycle to the next, reflecting a vibrant appropriation process by farmers who have seen the value of LISF for carrying out their projects.

The rate of application approval varies from a low of 22–23% in Kenya and South Africa (because initial misunderstanding about the purpose of the LISF generated a flurry of requests for loans to buy inputs) to a high of more than 65% in Cambodia, Uganda and Tanzania. In general, applications made during the first LISF cycle were not always of the desired quality or nature, whereas subsequent cycles have seen an increased relevance and quality of the proposals made. This reflects a growing capacity by farmers and support institutions to understand and implement the LISF concept and process.

The fact that some LISFs cater to individuals while others support group proposals reflects the varying trust in collective action by farmers across countries (Cambodia, in view of its recent history, preferring individual initiatives whenever possible), and also the varying strengths and mode of operation of pre-existing farmer organisations in the communities where the LISF operates.

2.3 Thematic focus

Most LISF proposals approved so far have focused on crop and animal husbandry. Typical proposals involved experimenting on animal diets (replacing expensive externally-bought feeds by locally available ones), treating animal diseases with local plants, selecting better adapted germplasm and waterharvesting, among others. Some proposals were more ambitious, such as testing a series of treatments for *enset* bacterial wilt in Southern Ethiopia. In a few cases, global challenges related to biodiversity and deforestation were tackled, e.g.

through the regeneration of an endangered tree species (Ethiopia). Innovators in some countries have also addressed social innovation in ways of organising the community for production or marketing. Overall, the variety of topics addressed in each site (Table 2) is highly related to local people's imagination, needs and desires, as well as to the interest and understanding that support organisations have invested in LISF.

Table 2: Distribution of topics for LISF proposals in two countries

Country	Theme (% of approved applications)					Type of funding
	Animal husbandry	Crop husbandry	Soil fertility	Socio-institutional innovation, including marketing	Other	
Cambodia	60	35	5			Local revolving fund
South Africa	18	29	18	24	12	Complete grant

2.4 M&E and IA set-ups in the LISF pilots

The M&E framework detailed above has been operationalised in all the eight countries, with varying degrees of success. Some countries have opted for letting NGOs involved in LISF to implement M&E, while others (such as Kenya, Tanzania and Ethiopia) have opted to put it in the hands of researchers, more experienced and skilled with data collection and systematization. Some (e.g Uganda) are now considering whether farmers' organisations and CBOs could play a more active role in M&E.

A particular challenge in monitoring and assessing LISF is to deal with highly decentralised mechanisms of implementation which move the centre of decision-making closer to the grassroots. For field-based CBOs, which in many cases collect applications and take key decisions on their approval or rejection, a computer-based tool such as the register is almost inaccessible. For the LISF coordinator, going to all the villages included in LISFs and ensuring formats are correctly filled in and all the experiments are documented is an equally difficult, time-consuming and expensive task.. Only in countries where the LISF was piloted on a very small scale (such as in South Africa, where it operates through one community association in a geographically limited area) can problems of local-level monitoring be more easily solved.

Also, LISF impact assessment is still at an early stage: most LISF country programmes are only starting to implement it in 2010, further testing and locally adapting the genetic IA guidelines prepared in 2009. This step requires a careful rephrasing of some of the interview guidelines, to make sure that the questions are relevant in the local context. This is not easy, because understanding of the LISF purpose and process seems to differ greatly among farmers, local authorities and also among staff in support institutions. A particular challenge for IA is that the LISFs are still in a pilot phase, i.e. at most sites, only one or two cycles of calls for proposals have been completed, and the actual LISF structure and process are still being adapted and new arrangements are emerging. Moreover, because the LISF is meant to be one component of a multi-pronged approach to strengthening farmer innovation capacity and contributing to their livelihoods, looking at the impact of the LISF on its own is not sufficient.

Early indications are that the LISF impact varies greatly within and between countries. At those sites where less than 2 cycles of calls for proposals have taken place, many farmers have not had enough time yet to test and adapt their innovations thoroughly, or to get a sense for the wider applicability of their results. This would require that applications for longer-term grants be made possible, which is not yet the case. The extent to which results are shared also differs greatly within and between countries: when extension services are well linked with the LISF activities, a large number of farmers may hear about the results. Finally, there is some evidence that supporting institutions (extension, NGOs etc) involved in

LISF and other farmer-led activities are showing an increasing interest in supporting farmers' ideas and leadership.

3. DISCUSSION

While results are still preliminary and additional evidence is being collected about how LISFs are being implemented and with what effect, some issues and challenges already emerge.

3.1 Do concepts matter?

LISF is not merely a political goal related to revamping how the ARD system works. It is also a novel concept. Understanding it properly has much to do with implementing it adequately. As LISF is, by design, a multi-stakeholder process, shared understanding would seem essential. Yet early indications are of wide differences in understanding of LISFs by different stakeholders. Many farmers seem to grasp the concept fairly well, and relate it to their search for new information and solutions to their problems. But some farmers also have difficulty distinguishing between the process behind LISF (e.g. conducting experimentation) and the outcome of this process (a concrete innovation). Others become confused between the LISF as a source of funding for investing in agriculture and as a source of funding for seeking new ways of doing things. Others still do not perceive the generic nature of the underlying LISF process: they tend to relate the LISF only to a given type of experiment (e.g. developing new local medicine for curing cattle disease).

For their part, support institutions do not always see the link between the LISF as a way to strengthen farmer-led experimentation and innovation, and other efforts they pursue to support joint experimentation under the umbrella of PROLINNOVA. Some also tend to implement LISF as one more component of their already crowded overall agenda, for which they have to show quick results, but fail to perceive and engage in the longer-term process and goal of increasing farmers' control over development, which underlies LISF. Finally, researchers themselves, when they are aware of LISF, have their own perceptions and doubts about its actual ability to provide reliable generic solutions, and hence about its potential contribution to the overall goal and process of producing appropriate innovations.

Behind such differing interpretations lie real difficulties in formulating equivalent concepts in different languages and for different types of stakeholders. Ultimately, the question remains whether and how understanding the LISF in one way or another impacts on how the LISF is implemented and what goals it may help to achieve. This needs to be further explored.

3.2 For what are farmers actually using the LISF?

Across LISF countries, a number of farmers tend to use LISF to cover inputs costs for normal production. Unsurprisingly, this trend was especially pronounced for the first round of calls for applications. This pattern is seemingly more pronounced in countries where aid has had a longer and more pronounced presence (e.g. Kenya). But with concerted efforts by LISF partners, it has usually been possible to achieve a better understanding of the purpose of the funds, so that applications for subsequent calls are more focused around supporting innovation. Also, the trend towards supporting acquisition of inputs is less of an issue for pilots having opted for working with stronger support organisations, when communication is systematic and clear, and when selection procedures are well managed.

Other fund diversions do manifest themselves in few cases. In Cambodia for example, where a loan system has been adopted for LISF, funds are not always being repaid, or alternatively if repaid, they may be treated as loan capital for normal production rather than for innovation. Finally there are probably also isolated cases involving leakage of funds into other activities, such as consumption. This would be expected in financial transactions involving the poor, but has not yet been formally identified in the LISF pilots.

Overall, good management, strong CBO involvement and effective selection of proposals according to clear criteria does seem to result in the use of funds for experimentation and innovation, as demonstrated by the initial results obtained in the Ambo region of Ethiopia and in South Africa (Ngubane and Mudhara, 2008).

3.3 Supporting local innovation vs joint experimentation: does it make a difference?

Taken as whole, there are definite differences between localised efforts with minimal outside support, and more structured and systematic experimentation supported by researchers.

While the potential of groundbreaking innovation by individual farmers and farmer groups cannot be discounted and should be encouraged, in general it is not yet evident that these have occurred. Indeed, many ideas for innovation for which proposals have been submitted to LISF tend to be of an adaptive nature, involving fine-tuning technologies which are already well-established elsewhere, or by repackaging well-established local knowledge (such as is the case for developing treatments for curing cattle disease using traditional medicinal plants). In such cases, the typical risk of engaging in a novel, potentially risky enterprise is reduced. However engaging in such processes contributes to strengthening farmers' capacities to engage in discussion and decision-making about ARD processes

By contrast, joint experimentation is more costly, more risky and invariably takes time to assemble the right team and ensure it is adequately resourced. This may result in delayed implementation of activities which may affect the motivation of the farmer(s). But there are several advantages to joint experimentation as – if the multi-stakeholder teams are properly constituted with the right mix of skills - synergies come into play. Farmers learn, researchers learn, and they all improvise together. This is the full expression of participatory innovation development. Joint experimentation also usually implies improved experimental design, more rigour in implementation and better documentation of results. This increases the prospects of more widely applicable innovation and wider sharing of the results. It may be that in the future, more LISF grants will support joint experimentation rather than purely local innovation: this depends on farmers perceiving the value of doing so, and also on grants becoming larger to accommodate the inherently higher costs related to sustaining a multiple stakeholder process.

3.4 Sustainability and scaling up of LISF: advances and challenges

The LISF pilots aim to develop a longer-term sustainable system for farmers to access innovation resources co-managed by farmers. The evidence from the current pilots suggests that considerable progress has been made in achieving this at community level, by decentralising fund management to existing CBOs or farmer groups. Many CBOs showed interest in handling a community-based LISF, but had to be initially trained and mentored by support organisations. In financial terms, sustainability can be enhanced by putting in place payback arrangements within the CBOs, as in Cambodia or Uganda. Such arrangements contribute to periodic replenishment of funds. However, not all LISF stakeholders are keen on this mechanism, and it remains to be seen whether what could be easily equated with a micro-credit scheme is indeed achieving the stated objective of an LISF. After all, formal researchers are not obliged to repay the funds they receive for their research; why should this be required from farmers engaging in developing innovations as public goods?

At a higher level, experiences with institutionalising the concept within the country's ARD systems are incipient. In Tanzania, the local government has agreed to help replenish the LISF at district level. In some other countries, some government agencies have been actively participating of programme implementation. In most countries, however, LISF is still very much managed as a short-term, relatively local externally supported project. It is not yet seen and planned as a longer-term, nation-wide initiative. However, Cambodia is witnessing an interesting development, which could yield important lessons to other pilots regarding sustainability: there are encouraging signs of interest from the government and donors in

supporting over the long term the recently set-up centrally-based institution running the LISF. A related issue is farmer governance. There is consensus among LISF coordinating agencies that farmer participation should be taken beyond the field level to decision-making and fund management. This is reality in some countries (Ethiopia, Uganda, Cambodia) and, whereas it is not without problems, it does justice to the principles and ideals on which the pilots are based, providing an important tool for empowerment and ARD transformation.

An additional issue related to effectiveness and sustainability of the LISF is its integration into a wider framework, LISF being one of several complementary activities contributing to farmer empowerment and capacity-strengthening. When such integration has been achieved, the scope and opportunities for an effective LISF are greatly expanded, at least in contexts where poverty and serious social and economic problems prevail. However, some institutions involved with LISFs are still struggling to comprehend and implement it that way and hence tend to implement LISF as an isolated activity, leading to limited effectiveness.

CONCLUSIONS AND PERSPECTIVES

LISF as a mechanism for promoting farmer-led innovation is still in its infancy. Guidelines and lessons to allow good implementation of the LISF concept and process are still emerging. Also, increasing the awareness, capacities and skills of key stakeholders remains a major priority in all countries. However, advances made so far in the various LISF pilots are significant: the number of grants made has increased steadily, the diversity of topics farmers are tackling with the support of LISF is widening, farmer governance of the LISF is increasing and, in some cases, progress is being made toward institutionalising the LISF.

If introducing LISFs is challenging, what are the concrete benefits? As intimated above, LISFs serve mainly to focus attention on local innovation and the potential of local innovators. The opportunity of securing resources to experiment and the involvement of other actors in support of joint experimentation herald a new way of doing things. The new farmer-led ARD paradigm thus slowly becomes a reality, a tangible process that all actors can engage with and relate to. In this process, intense learning among all stakeholders involved takes place, yielding invaluable lessons and indicating pathways for implementing such approaches and for providing the support needed to make it happen. In the process, the respective roles and relationships of farmers, farmer organisations, extension workers, and researchers are redefined, with the farmer gradually coming closer to the driver's seat.

The PROLINNOVA pilot LISF programme is grappling with many issues: results, lessons and challenges keep emerging in terms of effective mechanisms for processing applications, for ensuring quality and relevance of farmers' proposals, for disseminating results, for institutionalising LISF-type mechanisms within the ARD sector and much more. These lessons pave the way for more comprehensive LISF initiatives.

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