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Towards a framework to assess quality of innovation support services in AKIS: match and mismatch between farmers and providers' perceptions in Madagascar

Sarah Audouin, Salomé Valisoa Ranaivomanana, Narilala Randrianarison, Mandranto Nantenaina Andriamanantsoa, Hycenth Tim Ndah, Harilala Andriamaniraka, Syndhia Mathe

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ESEE  2023

26th European Seminar on Extension & Education

Sustainability transitions of agriculture and the
transformation of education and advisory services:
convergence or divergence?

Toulouse, 10-13 July 2023



BOOK OF ABSTRACTS

26th European Seminar on Extension & Education

“Sustainability transitions of agriculture and the transformation of education and advisory services: convergence or divergence?”

The conference was organised in Toulouse (France), 10-13 July 2023.

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Session 4B – Integration of innovation support service in the AKIS

Towards a framework to assess quality of innovation support services in AKIS: match and mismatch between farmers and providers' perceptions in Madagascar

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Short abstract

It is now widely recognized that innovators in rural areas (farmers, rural entrepreneurs, farmers' organisations) need diversified, efficient, phased and timely support services to help them during their innovation journey. We build on the recent concept of innovation support services (ISS) to cover the diversified nature of ISS. However, the quality of ISS has been poorly explored, apart from usual evaluation criteria commonly used for R&D project evaluation. To make sure ISS meet innovators and practitioners' expectations, we state that the diversity and matching of quality criteria formulated by these 2 types of actors should be better acknowledged and aligned. We used 6 innovation case studies in Madagascar to screen the ISS provided and quality criteria expressed by farmers and ISS providers. Our results show that farmers have a multifaceted perception about the quality of ISS. We highlight areas of mismatching about the quality of services, which most of the time reveals spaces of negotiation between them. Finally, we propose a new framework to assess the quality of ISS provision. Such comprehensive assessment advocates for more professionalized services provision toward innovation and to better connect ISS providers in order to address possible gaps in ISS provision at AKIS level.

Extended abstract
Purpose

In the EU, as well as in the Global South, strengthening agricultural innovation has become one of the main directions explicitly assigned to national agricultural policies. However, referring to the AKIS (Agricultural Knowledge and Innovation Systems) concept, as a way to identifying actors and institutions able to produce new knowledge and to support agricultural innovations, is not equally mobilized among Southern countries, and even within EU where CAP (Common Agricultural Policy 2023-2027) has been recently developed. For instance, in Madagascar no specific strategy has been drawn so far towards agricultural innovation. However, a reform of the national strategy for extension and advisory services is underway and will set up new policy instruments called "guichets agricoles" (farming desks) where a diversity of services will be delivered to farmers "on demand" and positioned in each communal area (provision of inputs, technical or soft skills trainings, technical advices, land certifications, etc.). While not focusing exclusively on supporting agricultural innovation, those "guichets agricoles" will indeed include activities to support farmers in their innovative journey. However, there is little knowledge about how to monitor and assess a set of innovations support services (ISS), and make sure their quality meet innovators' needs and also meet service providers' capacity to deliver services.

Our communication investigates how innovators and service providers perceived the quality of ISS in Madagascar, where AKIS actors and their role are not well identified yet and where governance among them is still under construction. Our communication also highlights several gaps within ISS provision from a qualitative and multi-actors perception, and how it should be included into the future AKIS strategy.

Design/Methodology/Approach

Our study makes use of the ISS concept, defined as a set of “on-demand” activities provided to innovation communities, under a service relationship, in order to help them in their innovation project (Faure et al., 2019; Kilelu et al., 2013; Mathé et al., 2019; Proietti and Cristiano, 2022). The concept is rooted into the AIS and AKIS literature (Knierim et al., 2015) and the economy of services applied to extension services (Labarthe and Laurent, 2011). Faure et al (2019) demonstrate that along an innovation process, innovators benefit from a diversity of ISS, according to the phases of the innovation process. Scholars elaborated and discussed (Proietti and Cristiano, 2022) several typologies of ISS, and we will make use of the one developed and discussed with our project partners: i. knowledge diffusion and dissemination, ii. advisory, consultancy and backstopping, iii. demand articulation, iv. networking, facilitation and brokerage, v. capacity building, vii. enhancing access to resource, and vii. institutional support for niche innovation and scaling mechanisms (Faure et al., 2019; Mathé et al., 2019; Ndah et al., 2021).

Respect to the service evaluation, there is abundant literature about service evaluation particularly applied to health, marketing, educational and e-administrative sectors, but little is devoted to innovation services applied to the agricultural sector. The latter mostly deals with the assessment of rural advisory services (Dhiab et al., 2020; Landini, 2020; Sulaiman et al., 2022), and even here, there is often a strong bias on economic rationality as basis for farmers and providers behavioural processes. Besides, indicators of assessment commonly used referred to the effectiveness, economic efficiency, accuracy, or profitability, but limited coverage of the multidimensional nature of service provision (Coombs and Miles, 2000). We thus opted for a more subjective and qualitative assessment of the quality of ISS provided within innovation case studies. Within these situations, we revealed a set of criteria mentioned by farmers mainly linked with their expected quality of an ideal service and a set of criteria mentioned by ISS providers mainly linked to the quality of service delivered. According to the literature (Lien et al., 2017), two levels of quality are observed: a) the structural quality, related to the inputs and resources used to provide the service such as staff or facilities, and b) the process quality, related to the fluency of the operations leading to the service's delivery. Based on the literature, we pre-identified 6 quality domains: 2 structural ones: characteristics of the service, the accessibility of the service; and 4 process ones: the provider's attitude and behaviour, the providers' expertise, the comprehensiveness of the supply of service, the relevance of the service.

Our methodology is based on a multi-case study design. We selected 6 innovations cases located in the Central Highlands of Madagascar (tableau 1) that fulfilled most of the following criteria: illustrative nature of the case to explore ISS provision (at least 3 different ISS mobilized, innovation trajectory long enough to screen ISS, diversity of types of innovation and of sub-systems (staple food, cash crop, organic farming, digital farming and animal health)), data accessibility and interest shown by the service providers to get new insight on their activities in order to improve them.

For each case study we followed a process analysis, by building the innovation trajectory in a participatory manner (several interviews with innovation stakeholders, then a focus group to validate the trajectory). An average number of 30 farmers and 10 service providers per case study were interviewed. We identified the set of ISS effectively provided (214 in total) and asked participants to select the 3 to 4 ISS per site that they considered as most important in their innovation journey (49 ISS in total, see table 1).

Table 1 : Distribution of ISS per innovation case studies

Innovation supported	Type and number of ISS provided selected for quality assessment						
	KNOW	ADV	DEM	NET	CAP	RES	INST
Organic pineapple and papaya certification		2	2			1	1
Multi-actor organic pink berries		5	1	1	1	2	
Chicken farmer-led vaccination		3	1			2	
Collective potatoes post-harvest and seeds storage		4	2		1	5	
Digital market information system for vegetable		2	2	1	3		
Multi-actor platform of bean production and transformation		3	2			2	

Caption: KNOW. knowledge diffusion and dissemination ADV. advisory, consultancy and backstopping DEM. demand articulation NET. networking, facilitation and brokerage CAP. capacity building RES. enhancing access to resource INST. institutional support for niche innovation and scaling mechanisms.

Then we conducted individual interviews with farmers and with ISS providers to screen the set of quality descriptors for each ISS that we reformulated as quality criteria during back-office sessions. The questions targeted particular service situations in order to get farmers or ISS provider's perception regarding a specific service delivery. A second focus group was then held with farmers to validate and select collectively the 5 quality criteria that were considered as most important for each ISS, along with detailed justifications collected. Farmers and ISS providers were interviewed separately in order to reduce bias in data collection.

Findings

The multidimensional nature of quality criteria applied to innovation support services

A total number of 529 criteria were described through all case studies, that we gathered under 37 quality criteria, each of them classified under 10 domains of quality criteria (fig 1).

Our results show that both structural and process quality domains are mentioned as most important for beneficiaries and for ISS providers, with process domain under provider's expertise considered as the most important.

Respect to structural quality criteria, ISS characteristics is positioned as the second quality domain and accessibility domain arrives on 3rd rank.

Respect to procedural quality domains, provider's expertise (pedagogical and technical competencies) is the most prominent one, the relevance of the service arrives at 5th rank, the comprehensiveness of the supply arrives at 6th rank. The latter includes a prominent quality criteria which is the existence of a follow-up after the service provision, the other criteria encompass concerns about including additional activities to the service (transportation, marketing, administrative support, even financial support). The provider's attitude and behaviour quality domain encompasses criteria such as confidence and reliability, social proximity and the provider's attitude (mindset, willingness to exchange with farmers in a comprehensive posture, reliability).

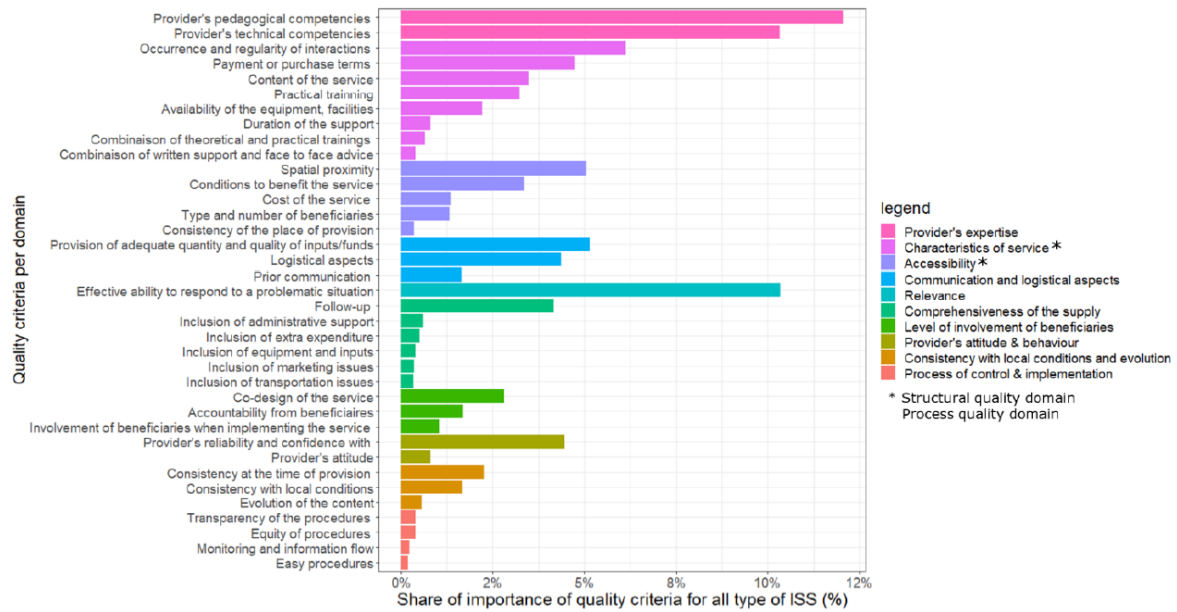
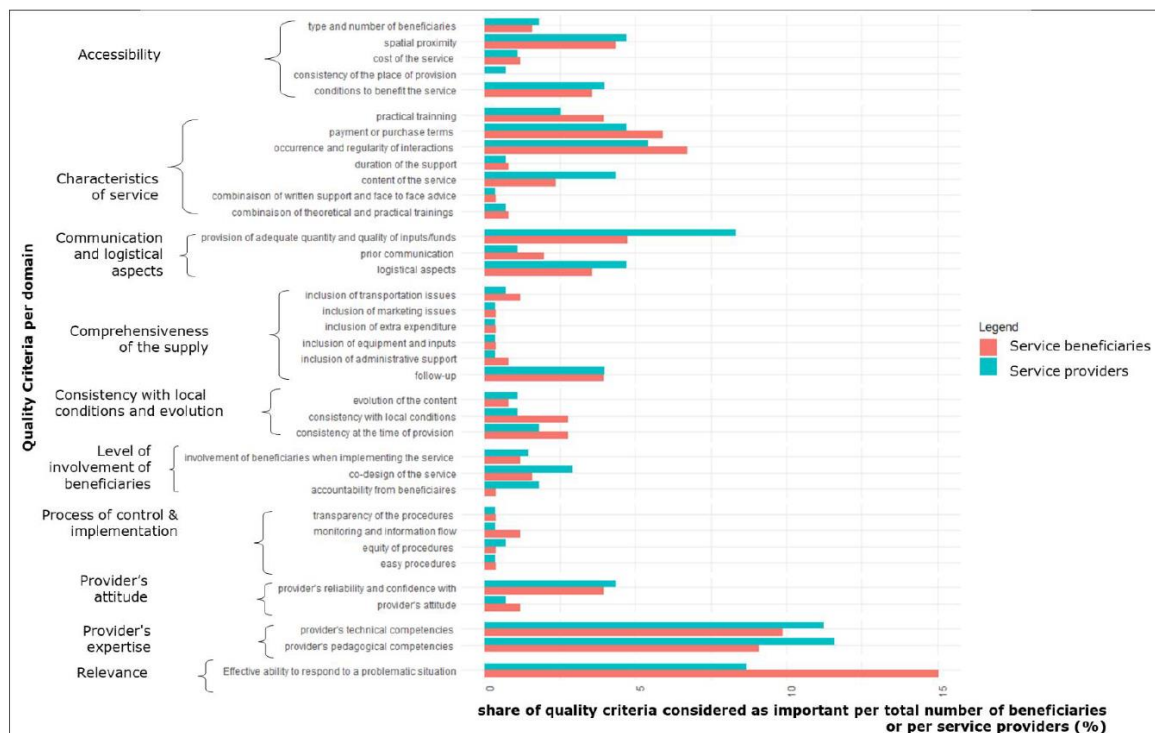


Figure 1: Importance of quality criteria mentioned by ISS beneficiaries and by ISS providers, for all type of ISS, according to their domain of quality

We also noted that 4 additional quality domain emerged which are well positioned: (i) the communication and logistical aspects of the service provision (like the communication with beneficiaries prior to the service supply, the provision of adequate, quantity and of quality inputs and the way the service is organized and prepared), (ii) the level of involvement of beneficiaries which encompasses different type and intensity of beneficiaries' participation: when co-designing the service, or when implementing the service (share of tasks and responsibilities for the monitoring, communication among beneficiaries, etc.). It also encompasses the requested counterparts expected from beneficiaries (committing to sell the production to a specific buyer, respecting organic regulations, disseminating new technical knowledge to surroundings farmers, etc.); (iii) the consistency with local conditions and the evolution of the service includes criteria such as consistency at the time of provision (ei. according to the cropping seasons), with local conditions (adequate inputs, or advices), the usefulness of the information provided with regard to local conditions, and the evolution of the content of the service (like adaptive advice according to climate conditions, or according to the maturity and strategy pursued by individuals or by the farmer's groups supported), (iv). the process of control and implementation set up to ensure that the service is well managed appeared as important, respect to the transparency and equity of the procedures (all beneficiaries are well informed about the conditions to benefit the service and rules), the way information is monitored and evolve, and the easiness of the procedures.

Match and mismatch among ISS providers and beneficiaries



With respect to ISS providers and beneficiaries' perception of the quality of ISS (fig 2.), we observed some common interest (like provider's expertise and the relevance of the service), but also mismatch about what they considered as important to ensure ISS quality. For instance, beneficiaries are much more concerned about the direct effects of the services to solve their problem, as well as about several characteristics of the service such as the service regularity, the terms for payment or purchase of inputs or products, and the practical trainings. They also request strong consistency with local conditions and at the time of provision, and also prior communication to ensure that they will be ready and available to receive the service. These mismatch reveals spaces of negotiation between farmers and ISS providers to broaden the scope or the content of ISS (raise the frequency of the service delivery, add more practical trainings, include insurance and transportation issues, etc.). Respect to the providers, they are more concerned about logistical aspects to ensure that they can deliver the adequate quantity and quality of inputs, the consistency with the place of provision, and that the service is well prepared and managed. Surprisingly, providers are more concerned about the level of involvement of beneficiaries to co-design the service, during the implementation and relying also on counterparts from beneficiaries, possibly because they know how much important it is to match with beneficiaries' expectations and raise their motivation.

Practical Implications

Our results bring out practical insights on the service relationship between farmers and service providers, based on their perception and expectation about the quality of the service provision. The set of quality criteria show the multidimensional perception of service quality. It also demonstrates that both front and back-office activities are perceived not only by ISS providers but also by farmers (ei. communication and logistical aspects, pedagogical skills of the ISS provider), which complement previous study carried out in Europe (Labarthe and Laurent, 2013) and in Africa (Faure et al., 2013). Respect to ISS providers, it advocates for a comprehensive design of ISS, in order to collect prior expectations of all type of future beneficiaries, including phases of co-design of the services; and involve beneficiaries into the monitoring of the services. Our result also demonstrates that farmers expect more integrated services, such as packages of services able to cover different issues farmers are facing (marketing issues, transportation, technical, soft skills capacity building and organisational issues). This raises the question of the capacity of ISS providers to provide generic but performant innovation services. As showed about advisory services to support innovation in Madagascar (Audouin et al., 2021a), specialization can be held at the level of a given organisation (deploying advisors with complementary skills and postures) or at the level of an innovation ecosystem where organisations support innovation in a coordinated and complementary way.

With respect to Madagascar' AKIS agenda, our results provide useful insight to inform the future “guichets agricoles” design in Madagascar: complementarities between the services will be mostly expected by farmers through integrated service provision: from advisory service to the facilitation to access new market and institutional support. It also addresses the need for more professionalization towards supporting agricultural innovations and reflect on organisational capacities to support innovation (Audouin et al., 2021b).

Theoretical Implications

With respect to methodological perspective, our results explore a more comprehensive assessment of ISS quality. It enriches the set of indicators commonly used when evaluating services, and paves the way for a new framework to assess ISS applied to agricultural sector and for supporting innovation. It underlines the need to consider 4 additional domains of quality criteria: the communication and logistical aspects of the service provision, the level of involvement of beneficiaries, the consistency with local conditions and the evolution of the service, and to a lesser extend the process of control and implementation of the services.

At the AKIS level, our results provide new insights on the way ISS might be connected to each other, especially when farmers rely on low diversity of ISS. In line with Dhiab et al (2020), our results call for a better understanding of the ISS provision at national and regional scale, in line with the rational each ISS provider elaborate. This would avoid spatial gaps and service fragmentation and foster integrated services, relying on collaboration among ISS providers and their capacity to work based on networking and partnership (Klerkx and Proctor, 2013). Such results call for drawing on evidence-based AKIS policies, based on ISS organisational mapping and their quality assessment in order to strengthen AKIS governance and counterbalance any blind-spot or antagonist private ISS provision strategy (Dhiab et al., 2020) and finally ensure that ISS are of good quality.

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