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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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AGIR (Agroecology, Innovation, Territories)

and **LEREPS** (Economics, Policies and Social Systems)



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Table des matières

Introduction.....	12
The ESEE community.....	13
International Scientific Committee.....	13
Local organising committee.....	13
Conference Topics	14
TOPIC 1 – Transitions towards agroecology & circular economy	14
TOPIC 2 – Digitalisation of advisory services and education.....	14
TOPIC 3 – Learning for innovation and resilience: theory and practice developments	15
TOPIC 4 – Public policies for innovation and the governance of AKIS	15
TOPIC 5 – Inclusion and the social dimension of sustainability.....	16
Overview of the conference program	17
Keynotes and Roundtables	18
Opening Plenary	18
Roundtable 1	18
Roundtable 2	18
Detailed program.....	19
TOPIC 1 - Transitions towards agroecology & circular economy:	19
TOPIC 2 - Digitalisation of advisory services and education:.....	22
TOPIC 3 - Learning for innovation and resilience:.....	24
TOPIC 4 - Public policies for innovation and the governance of AKIS: how to embed advice & education into strategies of AKIS.....	29
TOPIC 5 - Inclusion and the social dimension of sustainability.....	32
Overview of parallel sessions	33
Abstracts	34
The Signpost Programme: Farmers for Climate Action	34
Tom O'Dwyer	
TOPIC 1 - Transitions towards agroecology & circular economy.....	38
Session 1A - AKIS Policy assessment on Agroecology.....	38
Implications of Global Biodiversity Framework on communication and extension systems	38
<i>Esmail Karamidehkordi</i>	
Innovating to enable extension and advisory services to promote agriculture and other nature-based approaches.....	42
<i>Zofia Krystyna Mroczek, Nevena Alexandrova Stefanova</i>	
The greening of agricultural policies in France: a look from within	47
<i>Floriane Clément, Pierre Labarthe, Gaël Plumecocq</i>	
Transitions and disturbances in action: a discursive method of analysis to characterize the impact of change on farmers and their advisors	52
<i>Catherine Milou</i>	
The attitude of technical advisors towards professional continuous learning: the case of Italian organic agriculture system.....	56
<i>Roberta Milardo, Aldo Bertazzoli</i>	

Session 1B - Customising advice for sustainable transition (1)	61
Are plantain-based production systems, Agricultural Innovation System in Guadeloupe?	61
<i>Marie Bezzard, Carla Barlagne, Valérie Angeon, Maud Capera, Harry Ozier Lafontaine, Jean-Louis Diman, Nadine Andrieu</i>	
Agroecological transitions and farmers microAKIS: Case studies from the Global North compared to Global South	67
<i>Ana Fonseca, José Rosário, Carlos P. Marques, Carlos Marques, Livia Madureira</i>	
Customising advice: an attempt to evaluate customer satisfaction of Farm Advisory Services and improve agroecological transition.....	72
<i>Giuseppina Olivieri, Marcello De Rosa, Concetta Menna, Imma Cigliano, Ferdinando Gandolfi, Maria Passari, Teresa Del Giudice</i>	
Mapping knowledge circulation in the olive and viticulture sectors in Central Spain: a comparative study.....	80
<i>Jose-Luis Cruz, A. Barrutieta, A. García, B. Sastre, O. Antón, JP Zamorano</i>	
Engaging with Monitor Farmers on Farmland Biodiversity Management	85
<i>Aoife Leader, Richard O'Brien, James Kinsella</i>	
Session 1C - Customising advice for sustainable transition (2)	89
Deliberative processes for co-constructing sustainability transitions using science, society, policy interfaces	89
<i>David Miller, Jorieke Potters, Ellen Bulten, Gerald Schwartz</i>	
Participatory workshops' impacts on farmers' intention to adopt climate mitigation farming practices: A randomized controlled trial in Slovenia	94
<i>Živa Alif, Ana Novak, Tanja Šumrada</i>	
Visioning as a methodological approach for change in farming and food systems – participants' perceived enablers and barriers for initiating action	98
<i>Vebjørn Egner Stafseng, Geir Lieblein, Anna Marie Nicolaysen, Edvin Østergaard</i>	
Assessing capabilities of the hub organisations of Innovation Support Services Ecosystems: an evaluation grid for researchers and practitioners.....	101
<i>Claire Orbell, Aurélie Toillier, Sophie Mignon</i>	
Session 1D - The stakes of the transmission of knowledge for the agroecological transition.....	107
The role of formation and social relationships into the traditional knowledge access: comparison between France and Benin	107
<i>Lorine Maretz, Rachel Lévy</i>	
Agricultural education and its audiences facing the challenge of climate change. A socio-economic analysis of the contribution of this training device to the implementation of Nature-Based Solutions.....	111
<i>Nina Asloun, Nicola Gallai, Jean-Pierre Del Corso</i>	
Agricultural education students as “intermediaries” in the fight against climate change.....	115
<i>Rachel Lévy, Jean-Pierre Del Corso</i>	
Training young teachers in teaching agroecology: challenges and opportunities	119
<i>Anne-Emmanuelle Fiamor, Agnès Terrieux</i>	
Training of trainers in agroecology based on the teaching of endogenous knowledge	123
<i>Jean-Pierre del Corso, François Fall, Nicola Gallai, Guillaume Guillet, Micheline Marie-Sainte</i>	123

TOPIC 2 - Digitalisation of advisory services and education.....	127
Session 2A- Critical perspective on digitalisation and advisory networks	127
Making use of system concepts for the analysis of digitalisation in agriculture: Synergies, Clashes or Voids?	127
<i>Knierim A., Herrera B., Paulus M., Brunori G., Hortigüela R., Vergamini D., Giagnocavo C.</i>	
How does misinformation influence the virtual agri-food advisory service? Multiactor's Perspectives from Sri Lanka	136
<i>Ataharul Chowdhury, Khondokar H. Kabir, Kasuni Sachithra Illesinghe Kankanamge</i>	
Action-oriented approach to assess digitalization-related risks and trade-offs by advisors	141
<i>Nevena Alexandrova Stefanova, Zofia Krystyna Mroczek</i>	
Can agricultural knowledge and innovation systems guide the digital transition of short food supply chains? A study in Greece and Italy	147
<i>Chrysanthi Charatsari, Anastasios Michailidis, Marcello De Rosa, Evangelos D. Lioutas, Dimitrios Aidonis, Luca Bartoli, Martina Francescone, Giuseppe La Rocca, Luca Camanzi</i>	
Session 2B – Designing & Selecting the right digital tool for advisors.....	151
Working with farmer organizations to co-design more user-relevant and responsible digital advisory services? An analysis of motivations and blocking factors.....	151
<i>Chloé Alexandre, Teatske Bakker</i>	
Digitalisation of advisory services and education: The case of remote consulting to overcome the challenge of on farm meeting restrictions for farm advisors, by choosing appropriate digital tools.	155
<i>Evi Arachoviti, Laura Palczynski</i>	
Transitioning to Agriculture 4.0: the role of the agricultural advisor	160
<i>Karen McGrath, Áine Regan, Tomás Russell</i>	
Designing with Farmers: A multi-actor framework to include Human-Centred Design in the digitization of farming services and collaboration practices.	164
<i>David Hearne, Daniel Wolferts, Gráinne Dilleen</i>	
Managing digital cognitive load for farmers and advisory networks in a digital agriculture future	168
<i>Callum Eastwood, Paul Edwards, Brian Dela Rue</i>	
How can Blockchain impact the Food Traceability Supply Chain? Costs and benefits for the digitalization of the agri-food system.	171
Session 2C – Adoption and use of tools	174
Factors influencing the use of digital advisory tools and services: insights from user cases across Europe.....	174
<i>Lies Debruyne, Charlotte Lybaert, Rani Van Gompel, Tom Kelly</i>	
The Potentials of the use of mobile phone to access agricultural information: Which Factors Matter.....	180
<i>Martin Bosompem, Pious Ainoo Cudjoe</i>	
Can SMS, IVR and apps enhance organic farming practices in Africa?.....	181
<i>Selina Ulman, Benjamin Gräub, Faith Maiyo, Lise Dusabe, Dieudonne Sindikubwabo</i>	
The digitalization of agriculture and the advisors' support. An analysis through the Multilevel Perspective	186
<i>Taiana Homobono, Fabíola Polita, Livia Madureira</i>	

Investigating stakeholder perception of virtual fencing technology to promote sustainable grazing management	192
<i>Juliette Schillings</i>	
Requirements for Adopting Drones by Farmers in Paddy Fields in the Haraz Plain Watershed, Iran.....	196
<i>Jamileh Aliloo, Enayat Abbasi, Esmail Karamidehkordi, Ebadat Ghanbari Parmehr, Maurizio Canavari</i>	
TOPIC 3 - Learning for innovation and resilience.....	200
Session 3A - Extension Tools (A).....	200
Development of an Agricultural Extension Support Tool to Increase Farmer Engagement in Conversations about Climate Change.....	200
<i>Niamh Dunphy, Sinéad Flannery, Seamus Kearney</i>	
A reflective practice framework to support social learning in the context of a multi-actor project setting.....	205
<i>Sangeun Bae, Andrea Knierim</i>	
A sustainable game changer? Systematic review of serious games using for agriculture	209
<i>Sylvain Derrat, Myriam Grillot, Gilles Martel</i>	
Combining serious games contributes to changes of farmers' practices	214
<i>Rébecca Etienne, Stéphane Ingrand, Cyrille Rigolot, Sylvain Derrat</i>	
Micro-AKIS of new entrants in agriculture	221
<i>Sara Mikolić</i>	
Session 3B – Extension Tools (B).....	225
The role of boundary objects as a multi-actor and value connector in agricultural programmes	225
<i>Jorie Knook, R. Knopp, G. Beck, K. Mitchelmore, L. Beehre, C. Eastwood</i>	
The role of boundary objects and shared governance in the social learning of innovation networks: the case of NEFERTITI.....	229
<i>Laure Triste, Rebekka Frick, Annie McKee</i>	
Supporting collaborative and participative learning through cross-cases quali-quantitative analysis. The case of the European project DiverIMPACTS.....	234
<i>Margot Leclerc, L. Gorissen, Y. Cuijpers, L. Colombo, M. Schoonhoven-Speijer, W.A.H. Rossing</i>	
The Eco Analysis: a tool for facilitating co-creative processes	239
<i>Bowine Wijffels and Eelke Wielinga</i>	
Art and Agriculture; inspiring learning for sustainability transitions	244
<i>Jorieke Potters</i>	
Session 3C – Education.....	248
Strengthening the future advisors' capacity to support innovation through interactive training	248
<i>Eleni Zarokosta, Alex Koutsouris</i>	
Developing the self-positioning Master students' capacity through a collaborative learning on a scientific analysis of the glyphosate controversy	253
<i>Simon Giuliano, Adeline Bouvard, Philippe Cousinié, Alain Rodriguez</i>	
What farmers learn for sustainable development through participatory farming system inquiry: a case study of student–farmer action learning projects	260
<i>Ásmund Steiro</i>	

Responsible training for responsible agricultural digitalization: Some preliminary remarks	265
<i>Chrysanthi Charatsari, Evangelos D. Lioutas, Anastasios Michailidis</i>	
Developing competences for modern rural advisors: Nature connectedness, ethos and professional ethics.....	269
<i>Ioanna G. Skaltsa, Alex Koutsouris, Katerina Kasimatis</i>	
Session 3D – Supporting farmers.....	274
A social cognitive framework for learning processes in communities of practice on integrated pest management	274
<i>Simon Lox</i>	
Inquiry, a framework to support the transformation of farmers’ activity in agroecological transition	280
<i>Celina Slimi, Marianne Cerf, Lorène Prost, Magali Prost</i>	
Exploring the role of knowledge sources in innovation adoption through a farmer typology	285
<i>Mertijn Moeyersons</i>	
Focussing on mindset to engage the elite	290
<i>Amy Hughes, Arron Nerbas</i>	
How can we support farmers in the management of complex systems? A case study on multi-trophic rice-fish farming systems in Guinea.....	300
<i>Lucas Fertin, Teatske Bakker</i>	
Session 3E – Advisors’ competences and training	305
Competencies for the innovation advisor in practice.....	305
<i>Charlotte Lybaert, Lies Debruyne, Eva Kyndt, Fleur Marchand</i>	
How Extension Educators’ Leadership Competencies Affect the Support for Organizational Change	306
<i>Suzanna Windon</i>	
How do rural extension agents really learn? Evidence and proposals from Latin America	310
<i>Fernando Landini</i>	
Integrating lifelong learning in practice for advisors in Australia's national extension strategy for the vegetable sector: literature review and research design.....	314
<i>Elizabeth Koech</i>	
Seeing the forest through the trees: A systematic review approach to the compilation of relevant and useful tools and learning materials in support of multi-actor project development	320
<i>Evelien Cronin, Hanne Cooreman and Elke Rogge</i>	
Session 3F – Extension/Advisory Issues.....	325
Learning good practices from the experiences of interactive innovation cases	325
<i>Tom Kelly, Liga Cimermane, Linda Sarke, Geoffrey Hagelaar, Dora Lakner, Jos Verstegen, Alex Koutsouris, Patrizia Proietti, Simona Cristiano, Andrés Vér, Sylvain Sturel</i>	
The value of actors’ topical insights in a transition to a culture of interactive innovation support in advisory services	329
<i>Tom Kelly, J. Kavanagh, R. Clancy, F. Birke, I. Hrovatic, L. Debruyne, S. Sturel</i>	
The life-long learning challenge in the context of multi-actor innovation: diversity across community-based approaches to sustainability	334
<i>Áine Macken-Walsh</i>	

Organisational Capacity Assessment for Innovation Support: approach and results from tool applications in Cameroon and Madagascar	337
<i>Hycenht Tim Ndah, Andrea Knierim, Sarah Audouin, Nestor Ngouambe, Sarah Crestin-Billet, Narilala Randrianarison, Aurélie Toillier, Ousmane Traoré, Guillaume Fongang, Syndhia Mathé</i>	
Improving farm advisory services to stimulate transitions for sustainable agriculture: towards a farmer-centric advice paradigm	345
<i>Ellen Bulten, Boelie Elzen, Jaroslav Prazan</i>	
Learning from the world: Using a global review of innovative extension approaches to support the red-meat knowledge and innovation system in Australia	349
<i>Ruth Nettle, Nicole Reichelt, Jana-Axinja Paschen, Helen McGregor, Basil Doonan, Ashley Evans and Leanne Sherriff</i>	
Session 3G – Innovation related issues	354
Leverage points in farmer, advisor and researcher interactions	354
<i>Lisa Blix Germundsson, Magnus Ljung</i>	
Tailoring technical options: case studies of intangible and tangible supports in advisory approaches in West Africa	359
<i>T. Bakker, T. Cheriére, A. Ganeme, H. Sawadogo, M. Adam, K. Descheemaeker</i>	
From practice-based evidence to evidence-based practice: how to close the loop?	363
<i>Nicolas Giraud, Hélène Brives, Laurent Hazard</i>	
Understanding anchoring processes in crop diversification initiatives: A middle-range conceptual model	368
<i>Lenn Gorissen, Margot Leclère, Mirjam Schoonhoven-Speijer, Walter A.H. Rossing</i>	
Evaluating co-innovation as complexity-aware project governance: creating space for agricultural transformation within Horizon 2020 project DiverIMPACTS	372
<i>Mirjam Schoonhoven-Speijer, Walter A.H. Rossing, Elizabeth Hoffecker, Julie Ingram, Boru Douthwaite, Antoine Messéan, Margot Leclère</i>	
Implementing the Knowledge and Innovation System for Bioeconomy (KISB): a new vision from the BIObec project.....	377
<i>Giacomo Maria Rinaldi</i>	
TOPIC 4 - Public policies for innovation and the governance of AKIS: how to embed advice & education into strategies of AKIS	384
Session 4A – New perspectives on AKIS	384
AKIS as a concept: from history to future	384
<i>Eelke Wielinga, Sylvia Burssen</i>	
Strengthen the AKIS through the Transformative AKIS Journeys	389
<i>Patrizia Proietti, Simona Cristiano</i>	
Climate change and innovation: the role of public policies in a multi-stakeholder approach. ...	395
<i>Jose Luis Cruz, A. Barrutieta, I. González, V. Bermejo, JP. Zamorano</i>	
Towards a Capacity Development framework for the EIP-AGRI concept	399
<i>Susanne von Münchhausen, Mark Redman, Mikelis Grivins, Lisa van Dijk</i>	
Evaluation of Italian Food Districts: preliminary data	402
<i>Francesco del Puente Concetta Menna Marcello De Rosa Giuseppina Olivieri, Piermichele La Sala Ferdinando Gandolfi; Irene Paola Borrelli, Teresa del Giudice, Alessandro Sapio</i>	
A Global Foresight Framework for the transformation of national agricultural extension systems: contribution for renewing AKIS.....	408

<i>P. Djamen, S. Audouin, N. Alexandrova, P. Van Doren, Z. Mroczek</i>	
Session 4B – Integration of innovation support service in the AKIS.....	416
Towards a framework to assess quality of innovation support services in AKIS: match and mismatch between farmers and providers' perceptions in Madagascar.....	416
<i>Sarah Audouin, Salomé Valisoa Ranaivomanana, Narilala Randrianarison, Mandranto Nantenaina Andriamanantsoa, Hycenth Tim Ndah, Harilala Andriamaniraka, Syndhia Mathé</i>	
What are the specificities of agricultural innovation systems in the South: an approach based on innovation support services	423
<i>Mathé Syndhia, Audouin Sarah, Toillier Aurélie, Temple Ludovic, Ndah H. Tim, Knierim Andrea, Randrianarison Narilala, Traoré Ousmane, Ngouambe Nestor, Guillaume Fongang</i>	
Mapping ISS functions as a tool for national policymakers across EU countries	430
<i>Livia Kránitz, S. Aboelnaga, S. Vágó, Patrizia Proietti, Simona Cristiano</i>	
Ecosystem of actors and sectoral governance strategies for agricultural innovation in Cameroon	436
<i>Temple L., Talla SMB., Kamga R., Awah MLA., Mathé S.</i>	
Worthy ISS provider functions case as a guide for the national policymakers, through mapping ISS across EU countries.....	444
<i>Peter Páree, Somaya Aboelnaga, Livia Kránitz, Patrizia Proietti, Simona Cristiano</i>	
Session 4C – Methods and tools to support policies	450
Assessing performances of advisory services based on their quality: a user-centred evaluation model	450
<i>Simona Cristiano, Patrizia Proietti, Alberto Sturla, Valentina Carta</i>	
Measuring the effectiveness of CAP's agri-environmental knowledge transfer: An evaluation framework	460
<i>Ana Novak, Tanja Šumrada</i>	
Taking stock of farmers' knowledge and skills needs in Rhineland-Palatinate on light of sustainability transitions. Entry points for the systematic evaluation of AKISs performance.....	465
<i>Oliver Müller</i>	
New directions in changing farmer behaviour: extension lessons from the HerdAdvance project (Welsh Government/AHDB).....	471
<i>David Rose, Juliette Schillings, James Breen, Rosie Morrison</i>	
The needs of extension and education and governance of AKIS for the revival of chestnut growing in Italy	474
<i>Tatiana Castellotti</i>	
Session 4D – The role of public and private advice actors in changes	476
The trusted advisor: a farmer-centric case study in North-West Greece.....	477
<i>Eleni Pappa, Alex Koutsouris</i>	
From farm advisory regimes to KIBS market menageries. Effects of privatisation on technological change in the agricultural sectors of seven European countries.	482
<i>Pierre Labarthe</i>	
Local Action Groups and Leader approach in innovation transfer and governance policies: The case of Turkey	487
<i>Mücahit Paksoy, Orhan Özçatalbaş</i>	

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, refereeing 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).

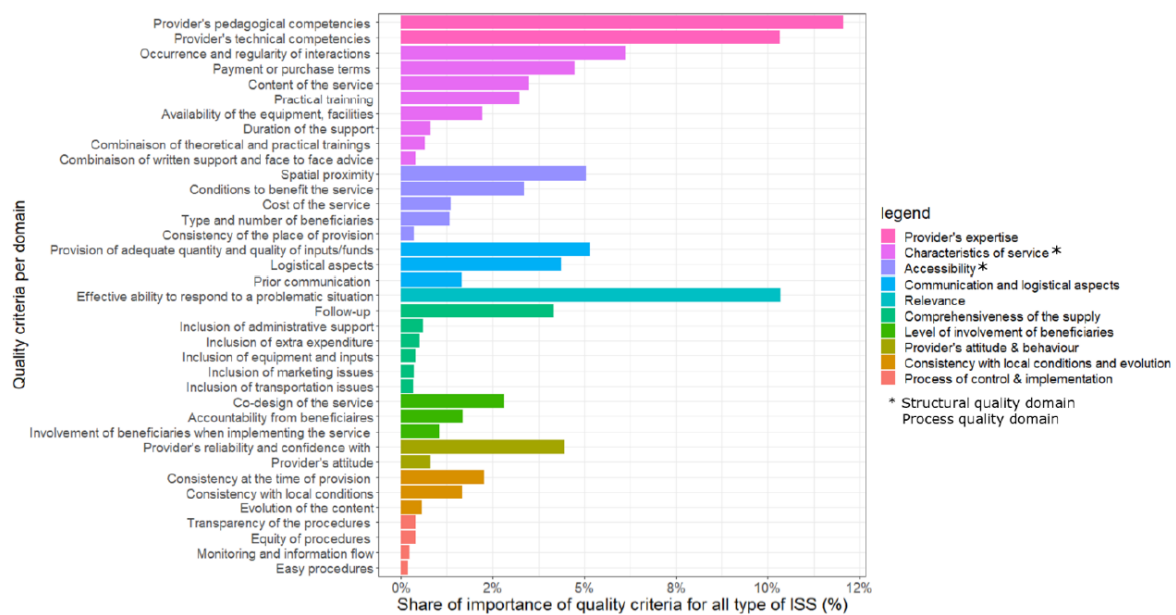
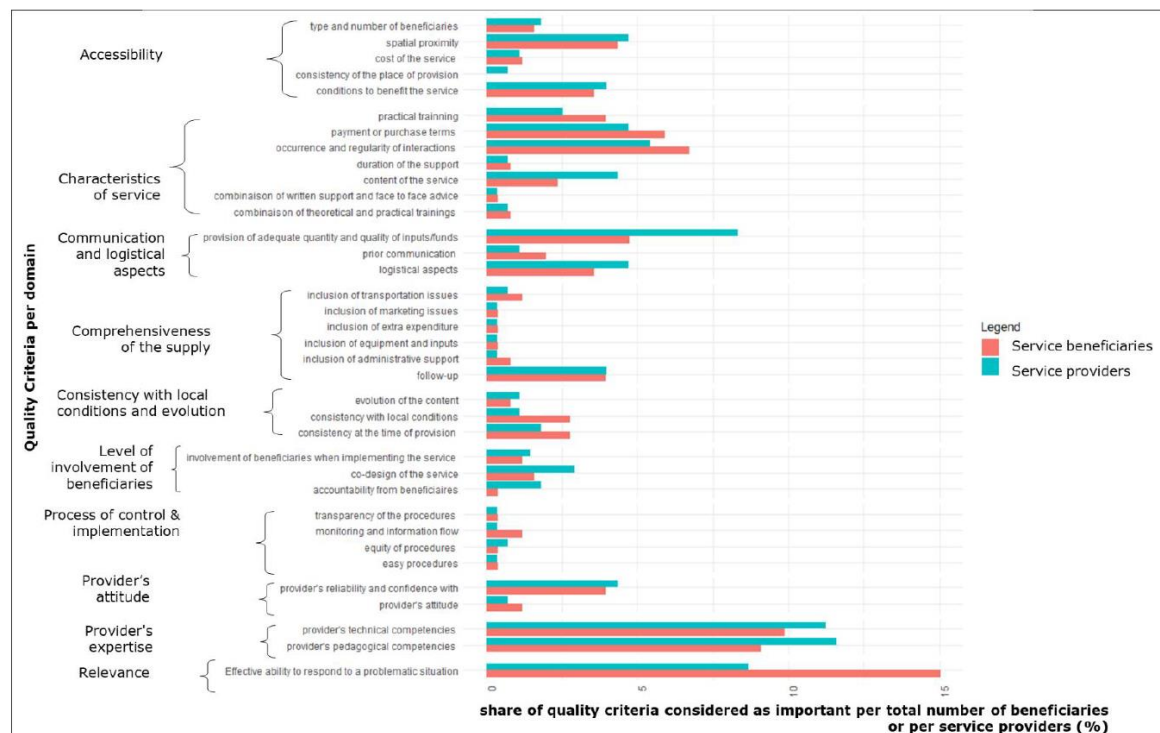


Figure 1: Importance of quality criteria mentioned by ISS beneficiaries and by ISS providers, for all type of ISS, according to their domain of quality

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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