

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.

More information

<https://esee2023.colloque.inrae.fr/esee-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 Aino 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

P. Djamen, S. Audouin, N. Alexandrova, P. Van Doren, Z. Mroczek

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

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

What are the specificities of agricultural innovation systems in the South: an approach based on innovation support services 423

Mathé Syndhia, Audouin Sarah, Toillier Aurélie, Temple Ludovic, Ndah H. Tim, Knierim Andrea, Randrianarison Narilala, Traoré Ousmane, Ngouambe Nestor, Guillaume Fongang

Mapping ISS functions as a tool for national policymakers across EU countries 430

Livia Kránitz, S. Aboelnaga, S. Vágó, Patrizia Proietti, Simona Cristiano

Ecosystem of actors and sectoral governance strategies for agricultural innovation in Cameroon 436

Temple L., Talla SMB., Kamga R., Awah MLA., Mathé S.

Worthy ISS provider functions case as a guide for the national policymakers, through mapping ISS across EU countries..... 444

Peter Páree, Somaya Aboelnaga, Livia Kránitz, Patrizia Proietti, Simona Cristiano

Session 4C – Methods and tools to support policies 450

Assessing performances of advisory services based on their quality: a user-centred evaluation model 450

Simona Cristiano, Patrizia Proietti, Alberto Sturla, Valentina Carta

Measuring the effectiveness of CAP's agri-environmental knowledge transfer: An evaluation framework 460

Ana Novak, Tanja Šumrada

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

Oliver Müller

New directions in changing farmer behaviour: extension lessons from the HerdAdvance project (Welsh Government/AHDB)..... 471

David Rose, Juliette Schillings, James Breen, Rosie Morrison

The needs of extension and education and governance of AKIS for the revival of chestnut growing in Italy 474

Tatiana Castellotti

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

Eleni Pappa, Alex Koutsouris

From farm advisory regimes to KIBS market menageries. Effects of privatisation on technological change in the agricultural sectors of seven European countries. 482

Pierre Labarthe

Local Action Groups and Leader approach in innovation transfer and governance policies: The case of Turkey 487

Mücahit Paksoy, Orhan Özçatalbaş

TOPIC 5 - Inclusion and the social dimension of sustainability.....	488
Session 5A – Social farming	488
The Advisors’ role in Social Farming: a case study project	488
<i>Giulia Granai, Francesco Di Iacovo, Alessandra Funghi and Roberta Moruzzo</i>	
How is animal well-being affecting employees farmers and extension on large dairy farms ? ...	492
<i>Louise Axelson</i>	
Social Farming and Animal Assisted Intervention in rural context: a cultural change in social and health services for people.....	496
<i>Morgana Galardi, Laura Contalbrigo, Roberta Moruzzo</i>	
The potentials of an integrated approach to social sustainability in natural resource management – Swedish experiences from 50 land owner groups	499
<i>Magnus Ljung, Lars Johansson</i>	
Theatre-Based Behaviour Change Intervention as an Agricultural Extension Tool for Farm Health, Safety and Wellbeing Training for Farmers.....	505
<i>Sinead Flannery, Anne Markey</i>	
Session 5B – Occupational health, safety and well-being.....	510
Managing Stress on the Farm	510
<i>Suzanna Windon, Carolyn Henzi</i>	
The mental wellbeing of young farmers in Ireland and the UK: driving factors, helpseeking and support: Implications for advisory and extension services	512
<i>Deirdre O’ Connor</i>	
Dying to Farm – understanding the factors affecting farmer mental health and the support requirements	515
<i>Tomás Russell, Alison Stapleton, Anne Markey, Louise McHugh</i>	
What would a relevant evaluation of occupational safety and health advisory services in agriculture be? Evidence of conflicting perceptions in the French context.....	518
<i>Pierre Labarthe, Catherine Laurent, Nathalie Jas, Agnès Labrousse</i>	
Session 5C – Designing farm advisory services for Hard-to-reach population.....	524
‘I was always the farmer’: The dynamics of young farmer education choices in Irish agriculture	524
<i>Brian Leonard, Tomás Russell</i>	
Institutional Evolution of Gender in Farm Advisory Services: A Canada-France Comparison ..	526
<i>Rivellie Tschuisseu</i>	
Supporting women’s roles within family dairy farms – A case study of an Irish learning initiative	530
<i>Monica Gorman, Beth Dooley, Marion Beecher</i>	
How to make John’s Disease extension strategies more inclusive of ‘disengaged’ farmers	535
<i>Rosie Morisson, David Rose, Pete Orpin, James Hanks, Emma Taylor</i>	

A Global Foresight Framework for the transformation of national agricultural extension systems: contribution for renewing AKIS

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Short abstract:

This communication presents the first-ever global Foresight Framework co-designed to support the transformation of extension and advisory systems (EAS). The Framework includes global EAS scenarios meant to guide EAS actors to think beyond usual trends, explore alternatives and integrate global drivers that they would not have considered otherwise. It has practical implications for the reform of EAS systems. This framework was tested in Madagascar, Azerbaijan and Liberia. Theoretical implications on the interest of foresight and the place and role of EAS in AKIS/AIS²³ were identified. Potential evolutions of EAS in the AKIS/AIS configuration and operation were explored.

Key words: extension, reforms, foresight, policy

Extended abstract

Purpose

In the context of unprecedented agrifood challenges, agricultural extension and advisory services (EAS²⁴) must rapidly adapt and be rethought to remain relevant and effective. Due to the low predictability of the agrifood systems, the great diversity of the EAS clientele, the multiactor composition of EAS systems with actors with different interests, capacities and drivers, the design of an effective and transformative EAS system policy and institutional strategies becomes a very challenging endeavour. Traditional approaches to renewing EAS, generally rooted on deductive approaches based on major trends, have shown their limits. To address those limitations, FAO embarked on a Global EAS foresight to mobilise a wealth of knowledge and vast expertise to exploring global trends- manifesting or silent, regional and country specificities and allow a transformative and analytical policy making in absence of experiential facts. FAO engaged with CIRAD to address the lack of methods and knowledge on foresight applied to EAS reform processes. This communication presents the characteristics, implementation modalities, and practical and theoretical

²³ There are two terms with identical content: Agricultural Innovation System (AIS) “is a network of actors (individuals, organizations and enterprises), together with supporting institutions and policies in the agricultural and related sectors that bring existing or new products, processes, and forms of organization into social and economic use. Policies and institutions (formal and informal) shape the way that these actors interact, generate, share and use knowledge as well as jointly learn” (TAP, 2016).

Agricultural Knowledge and Innovation System (AKIS) refers to “a set of agricultural organizations and/or persons, and the links and interactions between them, engaged in the generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and information, with the purpose of working synergistically to support decision making, problem solving and innovation in agriculture” (Röling and Engel, 1991).

²⁴ EAS are defined as all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing their own technical, organizational, and management skills and practices so as to improve their livelihoods and well-being. In: Five Key Areas for Mobilising the Potential of Rural Advisory Services, (GFRAS 2016).

implications of a global foresight methodological framework developed in a participatory manner to accompany the reform processes of national EAS systems in the perspective of future post-Agenda 2030 agrifood systems. This effort is part of a broader foresight FAO initiative related to emerging technologies and innovations and the innovation policy lab initiative.

Methodological approach

The EAS foresight framework was developed following a participatory and iterative approach including six steps (figure 1). Based on global foresight methods applied to agri-food systems (FAO, 2018 and 2022; Le Mouél et al., 2018), we selected drivers from the future agrifood scenarios (FAO, 2022) as a basis to be enriched and extended towards EAS issues. Through a literature review, we screened drivers that affect food systems and more specifically EAS at global scale, and select them through a DELPHI consultation (Toillier et al., 2021), based on 2 rounds with more than 80 international experts at global level but capturing regional perspectives (step 2). Then we built the morphological table of the drivers (a set of plausible, relevant and contrasted hypothesis of the future) (Bourgeois et al., 2017) and synopsis of EAS scenarios during 2 webinars with international EAS experts (24 participants). In order to ensure that contrasted visions of the future to be elaborated will be well contrasted, we adopted Inayatullah approach (2008) which mobilized a projected, desirable, undesirable, disruptive matrix to build the set of hypothesis of the future for each drivers.

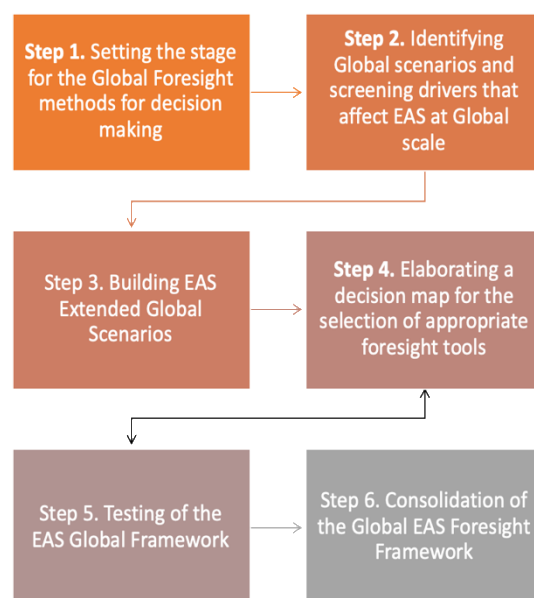


Figure 19. Different steps for the designing of the EAS Foresight Framework

Then, 7 EAS scenarios were built iteratively during back-office sessions with the co-authors of this communication, with a specific attention to the features of future EAS (step 3). Finally, the EAS Foresight framework have been tested in Madagascar, Liberia and Azerbaijan in December 2022 (step 5), following the purpose to explore future pathways for EAS transformation in a context of EAS national policy revision. The testing provided relevant feedback to be considered to consolidate the final EAS foresight framework.

Findings

a. Features of the framework

The EAS foresight Framework is composed of 5 steps (fig 1), that shape activities to support a 2-3 days participatory workshop with actors involved into EAS policy, academic and practical experiences. The fifth step encloses a toolbox designed according to the purpose assigned to the foresight approach.

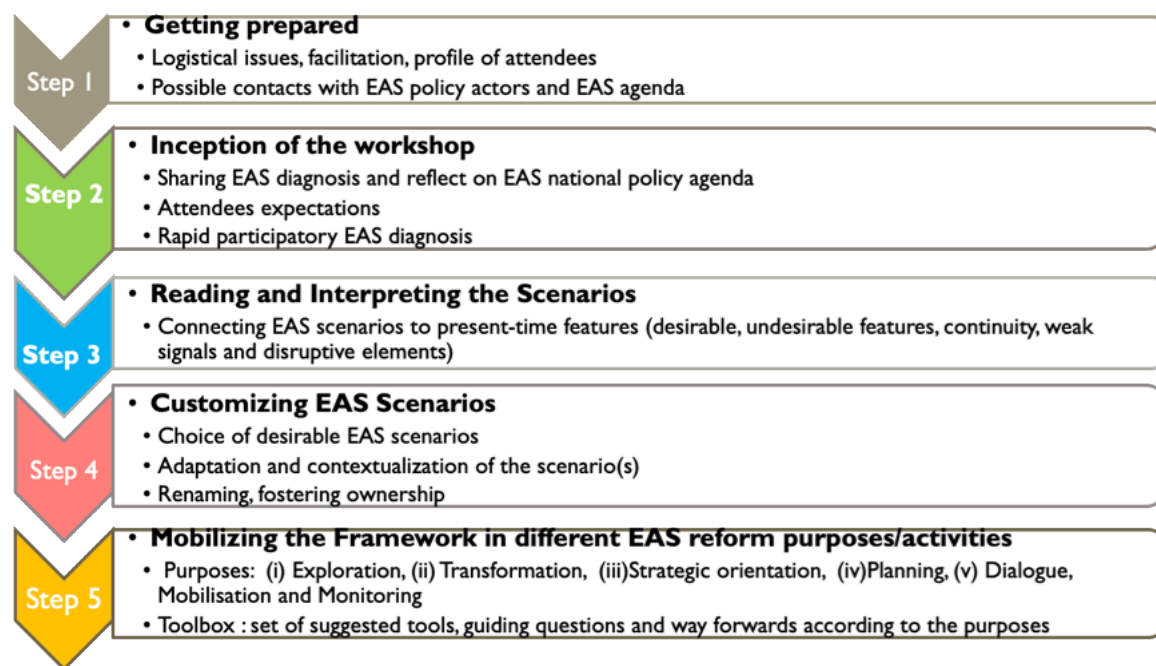


Figure 20: EAS Foresight Framework

b. Seven futures for EAS

Seven EAS scenarios of the future have been identified. They are quite contrasted and highlight different plausible evolutions of national EAS systems.



S1. Dinosaur. EAS have disappeared, because it has become obsolete and absorbed by weak signal dynamics that it did not manage to consider a few years or decades earlier. Knowledge became accessible to all, particularly through online platforms and open data. Due to the agrifood and farmer egalitarianism, the role of intermediaries has severely shrunk. Extensionists are replaced by other actors not specialized in the agricultural sector or not specialized in advice. AIS/AKIS are very fragmented and weak. Urban and rural actors manage their part-time interest in food production autonomously and peer-to-peer, enabled by policies, focusing on capacity development. Person-to-person advisors, if they exist, will have a “boutique” function – as traditionally-romantic food producers’ gurus.



S2. Total Agony of EAS. Lingering issues of EAS during past decades have not been addressed. Cosmetic measures have been taken but have not solved the fundamental problems. Some reforms of the EAS system have been initiated, but have not been carried through to the end. The added-value of EAS is no more recognized. EAS is underfunded, poorly coordinated though pluralistic. Digitalization is used as panacea but has left many farmers by the wayside and led to a big digital divide.



S3. Archipelago. EAS is a lever for community and equitable development. EAS systems are fully decentralized, dominated by NGOs and in service of an endogenous development and a circular economy that give priority to small-holder producers. Co-creation is the main innovation pathway. However, only the regions with strong potential are developing into archipelagos, while the rest of the world faces a more negative scenario. Decentralization that tends towards autonomy.



S4. Greenverse. The process of reforming the agricultural advisory system and correcting its shortcomings (the subject of scenario 5 below) has been completed, and has made the system more efficient and proactive. Nature positive agrifood systems are prevailing. EAS are pluralistic, responsive to producer and consumer demands, use co-creative, open, inclusive and innovative approaches. EAS systems are results-oriented and accountable to societal challenges. EAS cover all latent or clearly expressed demands of users, whether technical, social, community, environmental, organizational or related to One health issues.



S5. Business Class (pay-as-you-go). EAS are seen as a means of supporting the most affluent producers to improve their business development (productivity, financial profitability). Access to services is fee-based and structured around agribusinesses and large commodity chains. Family farming and substance farming are seen as a dead-end model, budget-wasting and to be discouraged in favour of large commercial farms. EAS highly use of technology and digital-based methods and tools.



S6. Wake-up. This scenario corresponds to a transitional or transformational situation where after awareness of the level of decay of the EAS system, decision-makers and other relevant EAS actors have taken and are implementing adequate measures to correct the structural and historical deficiencies and improve performance and impact of EAS systems. It is characterized by a series of promising reforms of the entire EAS system, including components such as governance, methods and tools, funding, accountability, and the inclusiveness of the service offer. EAS are more and more recognized as a major lever for the development of agrifood systems, there is a trend of increasing political and financial support.



S7. Recovery and Resilience. In a world plagued by frequent natural, social, health and economic crises and disasters, the role of EAS is increasingly geared towards recovery and resilience. EAS systems are integrated with social /civil and health services to mobilize resources and capacities. Unlike in the Greenverse scenario (S4) where EAS are focussed on sustainability broadly speaking, in this Recovery and resilience (S7) the main function of EAS is to support the management of risks and disasters. The functions of direct support to agricultural production and the development of value chains are becoming a minority, as they are being supplanted by the functions of raising awareness among producers and supporting their communities in the development and implementation of risk and disaster management strategies.

These scenarios raise issues, challenges, and disruptions that can be considered in the process of reforming agricultural EAS systems. The testing of the EAS Foresight framework in Madagascar, Liberia and Azerbaijan for example, has shown that these different scenarios are not necessarily exclusive; several of them can co-exist, depending on the diversity of EAS issues in different regions.

c. Evolution of EAS and potential implications for AIS/AKIS

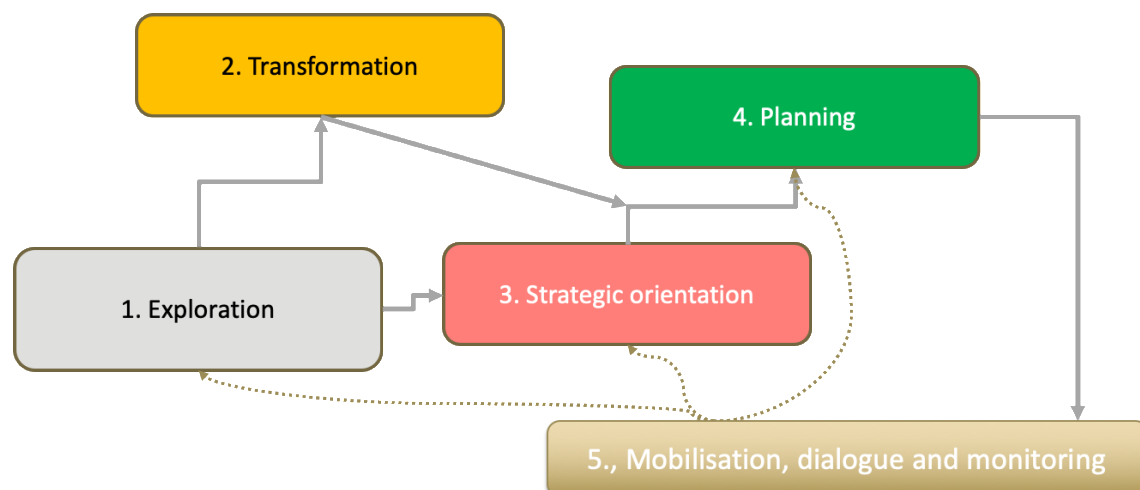
In the seven highlighted scenarios, the role of EAS in AIS/AKIS varies greatly, so do the corresponding agrifood systems and AIS/AKIS themselves. There is a gradient from a situation where EAS have completely disappeared and are no longer part of AIS/AKIS (scenario S1) to cases where EAS play a crucial role in the structure, functioning and performance of AIS/AKIS. Overall, three main profiles of situations can be identified:

- The first profile is where the EAS play a central role in the AIS/ AKIS system, not only participating in the brokering of knowledge, but also in the process of knowledge and innovation co-creation, building the capacity of producers to participate in knowledge production. This multifaceted role is particularly relevant in contexts where AIS/AKIS must contribute to addressing sustainability or systemic issues. In these contexts, the EAS system is also pluralistic and coordinated. This is for example the case with the Greenverse (S4) and Recovery and Resilience (S7) scenarios.
- The second profile is that of a situation with low pluralism of EAS and also weak and undiversified roles in agricultural knowledge and innovation systems. This is somewhat the situation where EAS provided mostly by public organisations or big agro-industrial companies are very much oriented towards technical extension on a few themes or commodities, with increasing productivity as the main objective. The Total agony of EAS (S2) and Business class (pay-s-you-go) (S5) scenarios are representative of this situation. Scenario 1 (Dinosaur) is an extreme case that shows the disappearance of EAS and consequently of AIS/AKIS that would function without EAS. This extreme situation is plausible contexts where demand for services is unified due to the extreme convergence of the agrifood systems into one global system, in which artificial food prevails. EAS therefore does not need to be personalized and can be automated. However, it may also happen if challenges of EAS described in the Total Agony scenario (S2) are not managed, and the emerging trend of EAS as a product linked to other services develops and becomes the rule.
- The third profile: few EAS providers exist but are multifunctional. In this situation, EAS organizations are not very diversified, but have enough complementary skills to play a plurality of roles in knowledge management. This situation can be found in highly centralized systems, with EAS organisations that are very territorially anchored and benefit from substantial means (human and material resources) to meet the diversity of demands. There is a heavy dominance of public or private EAS that managed to put barriers (disincentivise) other EAS so at the end big EAS organisations provide all the services

Practical Implications

The EAS foresight framework (EAS 2F) has several practical implications for national EAS system reform processes. These implications can be classified into five broad categories of purposes: (i) exploration, (ii) transformation, (iii) strategic orientation, (iv) strategic planning and, (v) dialogue, mobilisation and monitoring (Figure 21). Boundaries between these five categories of purposes is not watertight. Results from the implementation of the framework following one purpose can be considered as input, or implementation instrument, for another purpose, as it is the case of strategic orientation and planning.

Figure 21. Main potential usages of EAS Foresight Framework in the framework of EAS transformation



Exploration. The use of EAS 2F in an exploratory perspective is understood both as the study of future developments, trends, breaks and weak signals. It can also be used to identify and understand what could possibly happen - the possible, probable, plausible futures - given the imperfect knowledge of the present. The function of exploration is thus plural. Probable and plausible scenarios for EAS system can be explored is done through the selection and customization of the scenarios presented in the EAS 2F. Such exercise enables the identification of potential outcomes or consequences of upheavals EAS, and more generally consequences (positive or negative externalities) of a given strategic choice (scenario, major change). Exploration translates into a comparison of the different potential scenarios, their added value and limitations, and their consistency with the objectives of the desired reform. Foresight tools such as the Future Wheels can be used to identify potential direct effects of the 1st, 2nd or 3rd order that may result from the choices that are made. Lastly, exploration can help to highlight major elements, or those with strong potential, that are likely to have a positive or negative impact on the transformation of agricultural advisory systems. These may include weak signals, disruptive innovations, pitfalls or mistakes to be avoided, etc. The scenarios enclosed in the EAS include issues, challenges, opportunities, but also avenues for reform or, technical or organizational innovations that may be of interest to stakeholders. The approach includes identification of challenges, opportunities, and possible pockets of the future that already exist in the present and that could be mobilized to achieve the desired future (new EAS system).

Strategic orientation. Here, the EAS Foresight Framework can be used with two modalities. The first modality is to use EAS 2F as an instrument to facilitate the definition of a common vision for the future among actors and stakeholders of the agricultural advisory system. This vision should then serve as a general framework, a reference, for implementing change at one or several levels or components of the EAS system. The second modality is to mobilize the result obtained from the normative use of the EAS 2F to conduct strategic steering. It is then used at any time during the process of setting up or reforming the EAS system to check whether activities undertaken are coherent or whether their design or implementation approach must be reviewed to effectively contribute to the realization of the vision that has been developed. The use of EAS 2F for strategic orientation use produces broad strategic directions. It highlights the ends rather than the means, the objective being to guide the introduction of change (reform) in the structuring, functioning or practices within the EAS system. The result (i.e., strategic vision) of this use serves as a basis for planning, which in turn will focus exclusively on objectives and means.

Planning refers to defining the necessary measures for the design or reconfiguration of the national EAS system based on the new strategic vision that has been set. This strategic vision is built on selected desirable EAS scenario after possible customization, especially by adding other elements of the local or regional context, and/or other features from other EAS scenarios enclosed in the foresight methodological framework. The use of this tool help to think planning in a different way. It is no longer a matter of starting with the present to identify the successive actions required to achieve the strategic vision. Instead, participants start with the desired EAS scenario and describe the successive changes required and the actors involved. Foresight tools such as backcasting are particularly suitable for this exercise. The analysis and thematic grouping of the various successive changes needed to achieve the new vision of the EAS can help identifying the strategic axes. In the Madagascar for instance, the use of the framework to explore potential pathways for renewing EAS in the framework of the producers' services strategy under development enable the identification of the following potential strategic axes were identified: (i) coordination and regulation; (ii) professionalization of EAS; (iii) innovative financing; (iv) renewal of EAS methods and tools; (v) decentralization, inclusion and accountability

Transformation. The use of the EAS 2F for transformation purpose aims to identify the relevant and adapted levers to manage the possible tensions generated by the gap or even the total or partial incompatibility between the characteristics of the present system and those of the system that one would like to bring about. These gaps may be linked, among other things, to the constraints of the agricultural advisory system that we want to change, and on the other hand to the dynamics and changes associated with the new vision and agricultural advisory system that we want to implement in the future.

Mobilisation, dialogue and monitoring. The EAS 2F can serve to mobilize and engage actors and stakeholders of the EAS system in an ad hoc or continuous process of consultation, collective intelligence,

debate or public dialogue around the current progress of the EAS system. The objective can be multiple, it can be to strengthen the inclusive and citizen governance of the EAS system, but also to identify possible updates, inflections or incremental improvements to the system and the strategic plan of EAS. The use of participation and dialogue is not limited to the implementation of the strategic plan, but can also be implicit in the exploration, policy and strategy development phases. Mobilisation, dialogue and monitoring purpose of the EAS 2F should be one of the main activities of the country forum or network of EAS actors in countries where they exist.

Awareness raising and consensus-building. The deployment of foresight is also an opportunity for the various stakeholders to discuss the current state of the agricultural advisory system, the determinants of this situation, the perspectives and/or approaches to solutions. Conducting this exercise makes it possible to compare different perspectives, facilitate exchanges and build consensus around the diagnosis, but also and above all on the new configuration of the agricultural advisory system and the strategic levers to be used to achieve it.

Further to the five-implication presented above, the deployment of EAS 2F can also contribute implicitly to strengthening actors' knowledge on foresight approach and their national EAS system. In several countries, the level of mastery of anticipatory approaches by EAS actors is still low. The active and effective participation of stakeholders in a foresight process for EAS reform often requires a reminder or sensitization of the participants on foresight concept and the tools that will be used. In fact, the mobilization of foresight tools for the different purposes presented above should mobilize appropriate andragogical approaches that facilitate empowerment and mastery. In addition, the foresight exercise should include a session dedicated to diagnosis that allows for an assessment of the EAS system, highlighting the internal and external factors that determine its current state, but also the elements that are likely to influence the transformation. This activity allows actors to have a common and better knowledge of their EAS system and also of the factors of change that should be considered in the transformation process.

Theoretical Implications

This research highlights a paradoxical contrast between the potential of anticipatory approaches to facilitate disruptions and creativity in strategic thinking (called "future literacy" (Miller, 2018)), and the tendency of actors to remain into their routine and classic orientations that are ultimately not very innovative. To counteract this misleading point, it appears necessary to ensure actors effectively develop awareness toward future thinking, thanks to their effective participation in the entire process, from prospective diagnosis to the elaboration of scenarios or even trajectories of the future. A similar observation was made by Jahel et al (2020).

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