

With support from



by decision of the
German Bundestag



Agricultural Knowledge and Innovation Systems (AKIS)

in Albania

National Report and Proposed Draft Action Plan

Prepared by: Edvin Zhllima, PhD

September 2022

Abbreviations

AIDA	Albanian Investment Development Agency
ARDA	Agriculture and Rural Development Agency
AS	Academy of Sciences
ATTC	Agriculture Technology Transfer Centers
AUT	Agricultural University of Tirana
DCM	Decision of the Council of Ministers
EC	European Commission
EIP	European Innovation Partnerships
EU	European Union
GDP	Gross Domestic Product
GERD	Gross Domestic Expenditure on R&D
GoA	Government of Albania
HEIs	Higher education institutions
IPA	Instrument for Pre-accession Assistance
IPPM	Integrated Plant Protection Management
ISARD	Inter-Sectorial Strategy for Agriculture and Development
FSVI	Food Safety and Veterinary Institute
MARD	Ministry of Agriculture and Rural Development
MAPs	Medicinal and Aromatic Plants
MESY	Ministry of Education, Sport and Youth
MoFE	Ministry of Finance and Economy
NAFHE	National Agency for the Financing of Higher Education
NASRI	National Agency for Scientific Research and Innovation
NCHES	National Council for Higher Education and Science
NFA	National Food Authority
NPEI	The National Plan for European Integration
NPTI	National Programme for Technology and Innovation
NPO	Non-Profit Organizations
NSDI	National Strategy for Development and Integration
RAEA	Regional Agricultural Extension Agencies
R&D	Research and Development

Contents

1. Introduction.....	4
2. AKIS SWOT.....	5
3. AKIS structure.....	7
4. Stakeholders and their involvement.....	11
5. The roadmap.....	12
6. Action plan.....	14

List of tables

Table 1. SWOT analysis of AKIS in Albania.....	5
Table 2. Main stakeholders for AKIS.....	11
Table 3. Roadmap for the evaluation, promotion and monitoring of the formalization process of the National AKIS systems.....	13
Table 4. Action Plan for the AKIS in Albania.....	18

List of Figures

Figure 1. The structural relation of AKIS stakeholders.....	9
---	---

1. Introduction

Encouraging the transfer of knowledge and innovation in rural areas is one of the most important instruments for Albania in achieving agriculture competitiveness and enable a viable, resilient and sustainable agricultural sector. In order to support research and innovation and enable a more targeted and added-value economic impact for agriculture the Ministry of Agriculture and Rural Development has emphasized the main strategic priorities for fostering knowledge transfers and innovation in agriculture are specified in the Cross-cutting Strategy for Agriculture, Rural Development and Fisheries (CSARDF 2021-2027) and National Strategy on Science, Technology and Innovation 2017-2022.

The activities delineated at these strategic documents are implemented through a fragmented institutional structure and mainly based on limited public funding. The overall financing amount for agriculture innovation and transfers are supporting based on MARD budget the five research institutes (namely the Agriculture Technology Transfer Centers) while MESY funding is support two Universities and few vocational schools operating in the agriculture sector. Financing of the vocational schools is carried by MoFE. There is not direct coordination between these three core funding entities.

Attempts for increasing access from international financing schemes are limited to less than 0.5% of overall Gross Value Added (GVA) created in agriculture or few million Euro. EU is pooling funding from main two instruments namely the Horizon Europe program for research and innovation in food, agriculture, rural development and the bioeconomy and the agricultural European Innovation Partnership (EIP-AGRI). Moreover, a very small amount of financing is spent by private operators, mainly input providers operating in the sector.

Considering the high institutional fragmentation and limited capital spent in technology and innovation transfers as well as the frequent alteration of the overall governance, there is a need to explore the ways to strengthen knowledge transfer and innovation structures in WB countries by developing a regional network to strengthen academic engagement in agricultural and rural development policy design and the development and diffusion of innovative technologies in the agri-food sector. Considering the AKIS framework and its evolution in EU member states, it is very important to follow the research objectives by using the AKIS approach for developing further a knowledge and innovation transfer system and promote interactions between AKIS actors, through multi-actor partnerships, territorial partnerships, and alliances, public–private partnerships (PPPs), and communities of practice (learning partnerships).

The main research activity of the report is based on the project supported by the German Federal Ministry for Food and Agriculture (BMEL) and implemented by SWG with the title “Germany - Western Balkans Agricultural Policy Dialogue (APD-WB), with one of main objectives is to strengthen knowledge and innovation transfer structures as basis for a regional Agricultural Knowledge and Innovation System (AKIS) to support innovations in agriculture and agri-food services and products in the Western Balkan.

The main objective of this report is to:

- i. Develop a national AKIS map presenting all AKIS players with their capacities and links and
- ii. Describe the conditions for developing a national action plan on AKIS development based on a SWOT analysis for Albania.

- iii. Introduce a roadmap which serve as a indicative topic for the specific objectives and actions for strategic objectives of the Roadmap to specific objectives and actions for AKIS establishment. A roadmap is a series of proposed steps and actions for introducing and advancing the reforms in the system of innovation and knowledge transfers. It is based on comprehensive and participatory policy development process with the ultimate goal to establish AKIS.
- iv. Present the National AKIS Action Plan Albania which provide a sequence-based description of specific objectives and relevant actions for adopting, legitimising, and developing an AKIS in Albania. The interventions are presented in order or priority, as based on the impact and feasibility of these interventions. In addition, the Action Plan paves the way for the preparation indication (and objectives) of a possible regional plan perspective based on a specific theme for focused interventions.

The report builds forth on the results from the former EU financed and JRC implemented project “Research, innovation and technology transfer in the agri-food sector in the Western Balkan countries/territories”. This report describes AKIS structure and the SWOT analyses as well as main actions for knowledge and innovation transfer system and promote interactions between AKIS actors. The section two describes structure of AKIS. Section 3 describes the SWOT and the Road Map for establishing multi-actor partnerships and alliances with communities of practice (learning partnerships) for effective knowledge and innovation transfer system. This section is followed by the final section which illustrates the action plan.

2. AKIS SWOT

In order to analyze the main steps for enhancing innovation and technology transfers, a clear depiction of main conditional factors is required. Therefore, a SWOT table is used to group most striking strengths, weaknesses, opportunities and threats. The SWOT is designed by using the information from SWG (2021) study (Table 1).

Table 1. SWOT analysis of AKIS in Albania

Strengths	Weaknesses
<ul style="list-style-type: none"> - Continual cooperation within MARD depended structures such as ANES and ATTCs. - ATTCs are long experienced institutions in transferring knowledges. - Existing agriculture systems that are absorbing innovation and knowledge - Existing awareness and needs from private operators. - Solid network of input suppliers and high capacity to transfer technologies to farmers. - 	<ul style="list-style-type: none"> - Limited financing for carrying the roles defined for ATTCs and ANES. - No clear leader institution in discussing long term vision on AKIS models of innovations. - Fragmented institutional structure and fragmented financing sources. - Unstable partnership structures with private operators and weak cooperation among AKIS actors. - Weak capacity building and inconsistent contracting for upgrading the research staff in ATTCs, Universities and ANES. - Weakened role of actors outside MARD - Fragmented strategies and legal components are existing to regulage certain AKIS parts. - Absence of a formalized advisory services.

Opportunities	Threats
<ul style="list-style-type: none"> - Ongoing reform processes in the sector in the framework of European Integration. - Increased demand for information and knowledge in agriculture production. - Limited number of institutions which makes easy the adoption of changes in structures, relations and terms of work. - Increased knowledge and efforts of input suppliers. - New frameworks created with the adoption of Smart Specialisation Platform (S3P). 	<ul style="list-style-type: none"> - No incentives for applying for external financing due to absence of competing mechanism within the ATTCs, Universities and other research institutions. - Knowledge provided by ATTCs and Universities are financed by different financial mechanisms. - Weak and not stable role of Civil Society in providing agriculture knowledge and innovation. - Yet weak role of local government in facilitating agriculture knowledge and innovation.

Source: Authors own elaboration

The main strengths according to focus group participants are the following:

- A long experience of cooperation between MARD related structures such as ANES and ATTC. This segment of cooperation can become a crucial node for starting the reconstruction of AKIS in the future.
- ATTCs are institutions with over 50 years of existence and farmers appreciate the former role of science and research.
- Existing agriculture systems that have high experience and are absorbing innovation and knowledge especially in areas where market-oriented farms dominate. There is an emerging number of agro based cluster-like areas which are accumulating knowledge and generating new methods of production. These areas have high demand for knowledge and innovation.
- A high awareness that research and innovation are behind even when compared to the past. There is an increasing demand for innovation transfer especially from core export oriented sectors.
- Solid network of input suppliers and high capacity to transfer technologies to farmers. The input suppliers are equipped with knowledge and capital, keep strong cooperation with farmers/clients and are very influential in influencing their production technologies.

The main weakness related to AKIS in Albania are:

- Fragmented strategies and legal components are existing to regulate certain AKIS parts. However, they are still not able to create an overall regulatory framework to support a functional AKIS.
- Limited financing. According to Zhllima (2020) the overall financing of the research and innovation in agriculture is not more than 0,2% of the GVA of the sector.
- No clear leading institution in discussing long term vision on AKIS models of innovations. Although MARD plays an important role, yet can not have a comprehensive coordinating role in the overall system of knowledge and innovation.
- Absence of a formalized advisory services. A private veterinary service is functional but agriculture advisory services are yet not regulated and formally represented.
- Weak cooperation has reduced the opportunity to coordinate the efforts for enhancing RITT (see earlier sessions in describing cooperation). Lack of cooperation has weakened also the capacities to get and absorb the available funds of available EU programs like Horizon 2020, COST, etc.
- Fragmented institutional structure and fragmented financing sources. ATTC and ANES are financed by MARD while vocational schools by Ministry of Finance. Moreover, research at Universities is financed by Ministry of Education.

- Capacity building and contracting for upgrading the research staff in ATTCs and ANES has been scarce.
- The top down and centralized approach in carrying reforms on technology and innovation transfer has weakened the role of actors outside MARD. This makes induced changes from upper level less likely to be adopted accordingly in the most distant actors.

Main opportunities for the RITT enhancement are the following:

- Reform processes in the sector is speeded by the efforts of the country government for further EU alignment and the agenda of donor aid organisations.
- Increased demand for information and knowledge in agriculture production due to higher orientation to market and larger risks emerging from market disruptions and climate risk.
- Limited number of institutions which makes easy the adoption of changes in structures, relations and terms of work.
- Increase efforts from private sector especially from the exporters and input providers.
- New frameworks created with the adoption of Smart Specialisation Platform (S3P). S3P in Albania aims to contribute to the Research and Innovation investments in the ICT, tourism (including blue growth) and agrotourism and Energy (especially renewable energies – water, solar¹. The country is currently coordinating further steps in preparing the collection of data and the entrepreneurial discovery process (EDP). A road map for the S3 process has been drafted and the mapping process is being prepared with TAIEX support².

The main threats from the sector are related with the rigid structure of the current actors. The focus group participants mentioned the following ones:

- No incentives for applying for external financing due to absence of competing mechanism within the ATTCs, Universities and other research institutions.
- Knowledge provided by ATTCs and Universities are financed by different financial mechanisms. This make any top down approach not very effective.
- Decreasing interests for vocational education in agriculture and vanishing potential for vocational schools. The role of vocational school in knowledge and innovation is in extension.
- Weak and not stable role of Civil Society in providing agriculture knowledge and innovation.
- Yet weak role of local government in facilitating agriculture knowledge and innovation, due to not developed components of advisory services and insufficient financing.

3. AKIS structure

The updating and evaluation of the state of the formalization process of the National AKIS system is essential in the mid/long-term target for the future of Albania. In order to better conceptualize the main elements of AKIS in enhancing RITT in Albania, the AKIS map is instrumental. AKIS structure illustrates the combined organization and knowledge flows between actors, organizations and institutions who use and produce knowledge for agriculture and interrelated fields. It is a useful concept to describe all actors and organizations involved and the links and interactions between them by focusing on the relevant the institutional infrastructure and additional incentives and financial

¹ Haxhi, F, Smart Specialisation Process in Albania, available at <https://www.regione.puglia.it/documents/606680/1059701/Sabg+Conference+--+Florensa+Haxhi.pdf/d55adf11-2741-15d0-944d-b3683aea92f5?t=1611659992106>

² Source <https://s3platform.jrc.ec.europa.eu/albania>

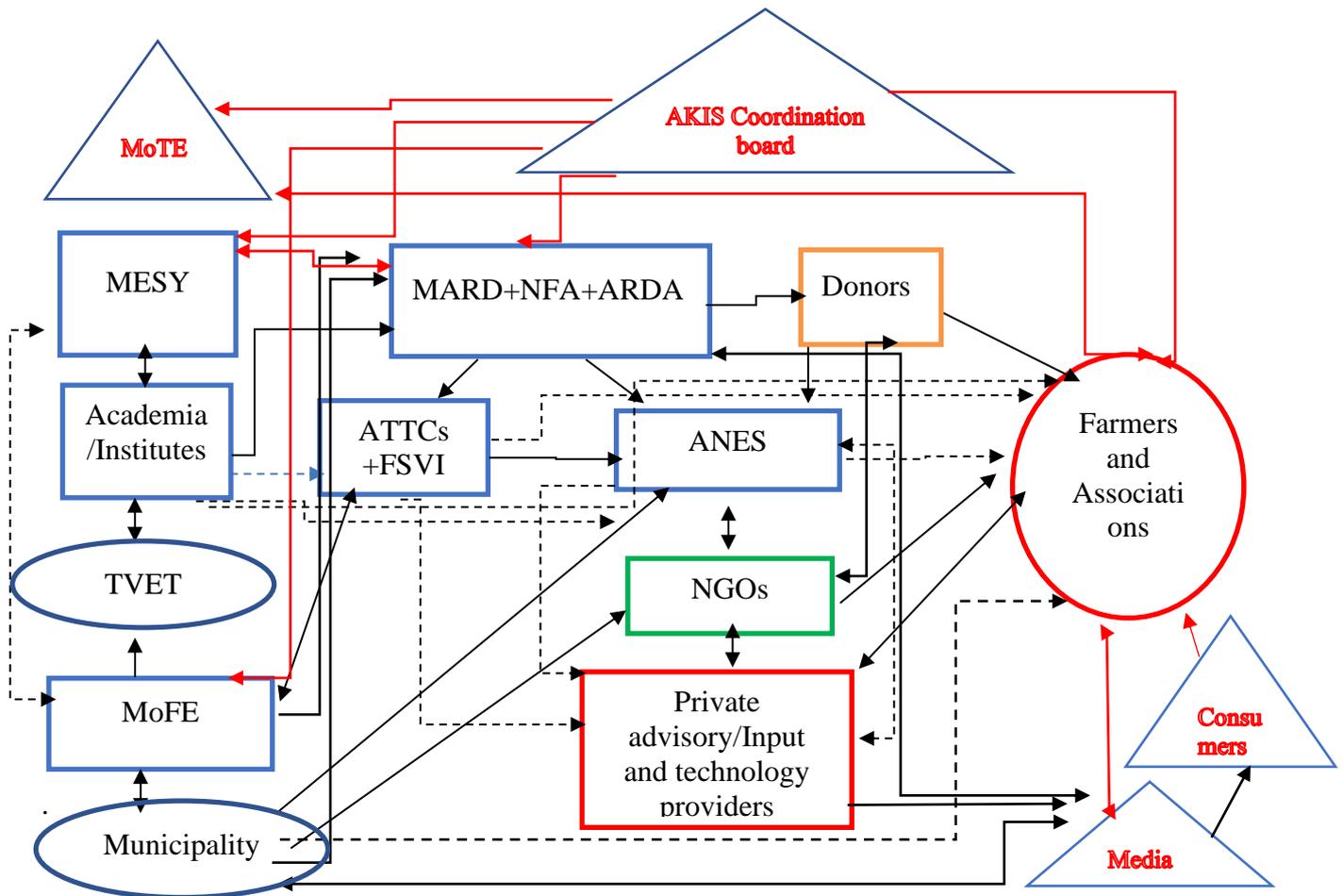
mechanisms embedded in it. In Albania attempts to conceptualize AKIS has been increasing. Former conceptualization has been provided by Sustainable Rural Development (financed by GIZ) and IPESA in 2019³. Later, the research carried in 2021 through the SWG (2021) study⁴, helped to prepare an updated and a more comprehensive illustration of actors such as Ministry of Education, Media and vocational schools for the divulgation of information.

Considering the current institutional and legal situation, there are no considerable changes in the system. The AKIS, is yet based on very fragmented but with some clear patterns of consolidation. The rigid institutional structure makes the institutional fragmentation and financing sources not aligned and converging. For instance, Ministry of Education and Science strategic documents are not updated and thoroughly reviewed by the needs reflected by MARD strategic orientation (as the later is influenced by the ATTCs and ANES core needs). Actors are not close to each-other, are based on not closed and regulated cooperation and farmers are weakly covered. The major weaknesses are reflected on the density of weak relations (dashed lines) in the right part of the map (Figure 1) which show weak cooperation with farmers and market operators. Therefore, the farmers and market operators are not in the center of the scheme.

³ Improvement of the performance and quality of the public extension service in the livestock sector - EuropeAid/136437/IH/SER/AL

⁴ Research, innovation and technology transfer in the agro-food sector in the Western Balkan countries - The case of Albania, report prepared in the framework of the project 'Research, innovation and technology transfer in the agri-food sector in the Western Balkan countries/territories: Phase II' has been initiated by the European Commission (DG AGRI)

Figure 1. The structural relation of AKIS stakeholders



Source: Own elaboration

Legend: Rectangle - existent AKIS players that have sufficient capacity to function properly
 Circle existent - AKIS players that do not have sufficient capacity to function properly
 Triangle - non-existent AKIS players that are critical for the AKIS system to function properly
 Blue color-institutions from the public sector
 Red color - organizations from the private sector
 Green color - NGOs
 Yellow color -other organizations/stakeholders
 Full black line - a functional relationship between AKIS players
 Dashed black line -a non-functional relationship between AKIS players
 Red line - a non-existent, but necessary relationship between AKIS players

The AKIS is based on a centralized role of MARD depended institutions, namely Agriculture National Extension Service (ANES) in being transferring information from Agricultural technology Transfer Centers (ATTCs), Food Security and Veterinary Institute (FSVI) and National Food Authority and Academia (Agricultural University of Tirana and Faculty of Agriculture of University Fan Noli in Korca) to farmers. Moreover, ANES is also signaling information to other depended institutions of MARD such as Agriculture and Rural Development Agency (ARDA). The schemes revealed no direct linkage between ANES and private service providers. In reality these ties although not formally created are frequently visible in the organization of training and field demonstrations.

The involvement of extension and research is regulated by the inter-institutional ties coordinated by MARD. The institutional link between MARD and ATTCs is more visible while link between Agricultural Universities and ATTC (although having historical legacy and aligned objectives) or ANES is disrupted due to lack of dedicated funding). The segment of high vocational schools is vanished due to their weakened ties with the agriculture policymaking (schools currently covered by Ministry of Economy and Finance). Ministry of Tourism and Environment is entirely disconnected from the AKIS although management of forests and pasture, protection of environment, land and water management as well as management of protected areas are relevant for farmers as potential users. Moreover, media and consumers are very isolated group. Media communicate sporadically the farmers, despite and increasing presence of farmers associations on media. Consumers are not engaged in any form of communication with the market operators and farmers.

Farmers and farmers associations are represented in one group. However, functionally they would appear apart in the scheme. Major part of farmers associations represent large farms, exporters and consolidators. However, these Associations due to contradictory interests and absence of support and engagement from business side have failed to be active ultimately. Only few associations are present. There are several specific sub-sector associations. The fruit sector is represented through ADAD. While in the livestock sector there are several active associations, most notably LEAA (Livestock Entrepreneurs Association of Albania). A more important association, also related with the value chain is the Syndicate for United Farmers which is based in Fier but represents the vegetable producers and traders of the Region of Berat, Fier and Lushnje as well as Divjaka. The Syndicate⁵ has been very active recently in representing farmers and consolidators concerns on price fluctuations and fiscal package changes in agriculture. There are also several umbrella-like associations - the largest and all-encompassing umbrella association is the Albanian Agribusiness Council (KASH). KASH, is a member of other entities such as the Chamber of Commerce and Economic Consultative Council. These associations have their affiliation and members in Divjaka Area. Associations are well linked with traders of agricultural inputs and machinery (wholesale and retails one). In addition, they are also well linked with media and Donors. In the recent years, associations has been active playing the role of service providers for donor projects or the role of facilitator. The link of Associations with MoARD and other central institutions is cyclical, functioning weakly except the cases of large efforts needed by MoARD to prepare the legal base or the need to prepare sector strategies. Despite the claims for weak participation, the access for these entities is much stronger compared to the access of individual farmers.

Farmers (especially large farmers), agribusiness and associations are well linked with traders of agricultural inputs and machinery (wholesale and retails one). For instance, large farmers do base their search for innovation on small experiments and technology package acquired by input providers. On contrary, to private to private cooperation, the cooperation between farmers/market operators and ANES and ATTCs is limited by the poor financing and weak orientation. The level of coordination between ANES and ATTCs is high while there is very weak coordination between ANES and input suppliers.

The link between the NGOs and Agricultural Universities is less frequent and project based. The local government is gradually emerging as interlocutor (due to available premises in administrative units' level) but yet has a facilitation role between civil society and farmers'/farmers associations, such as providing their premises and information. Other institutions does not appear at all.

Based on the illustration provided at Figure 1, the AKIS in Albania is not formalized. There is no particular legal base or any strategic document regulating the functions and interrelations of the existing components of AKIS. There are few functional subsystems such as the cooperation of

⁵ <https://www.facebook.com/officialpageforfarmers/>

ATTC and Extension Services within the coordination and programming of MARD. Thus, AKIS is based on a weak linkage between few components. In order to escalate a cooperation and better coordination of central institutions such as MaARD, farmers and the third group, an AKIS Coordination board is to be established. The remaining section illustrates the steps required to formalize the AKIS structure.

4. Stakeholders and their involvement

As mentioned in the previous section, the actors in the current AKIS system operate disconnected and semi-isolated resulting into inefficiencies in terms of output and effect. There is a need for cooperation and formal recognition of each other's advantages and disadvantages, complement each other tasks and orient the system into problem solving approach with selective target toward market-oriented activities.

A comprehensive and participatory policy development process in establishing AKIS and the identification of the key stakeholders promoting innovation and the time of action requires a roadmap with proposed steps and actions for introducing and advancing the reforms in the system of innovation and knowledge transfers. In addition, the roadmap adds to the overall framework a sequence of actions which identifies the leading role in AKIS as well as the institutionalization of cooperation networks, empowerment of yet weak components and their activation in a bottom up approach to AKIS function. In order to be effective, roadmaps typically involve several conditions that need to be worked on simultaneously, both bottom up and top down, and in the short and long run. Among the most important ones is collaboration, with enhanced links between key actors and private operators, a more transparent and intense exchange of information on policy and practices among government, implementing units (farmers and farmers associations, traders and processor), civil society organizations, and community, donors and other stakeholders.

Table 2. Main stakeholders for AKIS

Stakeholders	Status	Relevant actors
Producers and processors	Private	Farmers
		Processors, Association of farmers and agribusiness
Input and technology providers		Suppliers (importers) of inputs and technologies Private advisory services
Central government Academia	Public	Ministry of Agriculture and Rural Development (MoARD), Albanian National Extension System (ANES), Regional Agricultural Extension Agency (RAEA), Agriculture Technology Transfer Centres (ATTC)
		Ministry of Education and Sciences (MoES), Ministry of Economy and Finance (MoEF) and Albanian Investment Development Agency (AIDA), Ministry for Europe and Foreign Affairs (MoEFA)
		Agricultural University of Tirana, University of Korca, Agricultural vocational schools
LGU		Municipalities

Civil society organizations	Society	Albanian Rural Network (ARN), Local Action Groups (LAGs)
		Consumer Protection Association
		NPO and NGOs operating in the sphere of agriculture and rural development and environment
Media	Media	TV broadcasting
		Printed media
		Social media
International	Donors	European Commission; Multilateral donors, such as UN Agencies (FAO, UNDP, UNEP) Bilateral donors (GIZ, Italian Cooperation, etc)

Source: Authors own elaboration

The needs for an effective AKIS entails each stakeholder to step up their efforts:

- (i) MARD (with core ATTCs and ANES) to set the priorities and create the right environment (financing and right environment for flexible functioning) to enhance knowledge flows and strengthening links between research and practice; In this direction there is an urgent need to establish innovation support services (ISS), one-stop shops to capture farmers' needs and innovative ideas. Cluster approach would be the most effective approach to unify and target core problems and facilitate the use of operational groups (EIP AGRI like).
- (ii) Academia and other research institutions to drive the implementation through demand driven mission, innovative thinking, new investments;
- (iii) NGOs and Municipalities to carry the role of mobilizing and supporting communities, building local capacity, and filling the gaps not addressed by the market.
- (iv) Farmers associations and farms to be open for sharing and building knowledge in an open way that creates space for public actors to meet and develop ideas and generate innovation accessible to all. In this position they should act as act as innovation brokers/facilitators.
- (v) Other institution to provide contribution and financing through alliances for successful policy coherence.

5. The roadmap

In order to allow the development of a functional and integrated national thematic focused AKIS systems a list of actions is required to be undertaken in order to capitalise the strengths and use the opportunities as well as control for the weaknesses and threats revealed in the Section 2. A roadmap is helpful to list the main midterm and long term actions required for the evaluation, promotion and monitoring of the formalization process of the National AKIS systems. It is helpful to facilitate the prioritization of the importance of the components and the feasibility of an AKIS and to identify the level of intervention and the outlining of the AKIS. The AKIS implementation requires a prioritised set of actions namely: i. The preparation of a national strategic document on ad hoc basis on innovation and knowledge transfer in order to formalise AKIS. ii. Programming of the AKIS iii. Entitlement of a leading Agency for AKIS in order to tackle institutional fragmentation and leadership issues and iv. Internationalisation and integration of Albanian AKIS in the region.

There is a need for establishing a central agency for Knowledge and Innovation Transfer which coordinates the work of ATTCs and Universities. Regulatory bodies (mainly MoARD, and MoEF), the Ministry for Europe and Foreign Affairs (MoEFA) should be responsible for adopting budgetary changes to centralise the budget for agricultural research. Partnership is necessary for achieving a constructive dialogue for increasing institutional, legal, and budgetary instruments for facilitating AKIS.

In addition, legislation for private advisory services is yet to be developed. Further efforts has to be made to introduce this component in the overall framework.

Efforts should be made to establish an inter- ministerial and multi-stakeholder cooperation with implementing units, which are farmers and processors ((interested in solving core problems which requires collective action) and importers of inputs and technologies (as main sources and partner organizations in knowledge technology transfer, adoption and innovation). The partnership should be based on local level by including also the relevant municipalities. MARD should remain a leading institution which enables the political reforms for mainstreaming AKIS concepts and coordinate efforts for technology investments and knowledge transfers.

Table 3. Roadmap for the evaluation, promotion and monitoring of the formalization process of the National AKIS systems

Objective	Milestone	Deliverable	Resources	Timeline
Action 1. A national strategic document to be prepared in order to formalise AKIS to be presented in a dialoguing event.	Expert advisory group established in the last quarter of 2022	Key experts identified TOR prepared Report on the national study.	<u>MoARD</u> , <u>SWG</u> <u>AKIS</u> <u>scientific</u> <u>group</u> , Donors	Short term
	Awareness and dialoguing event organized in the first quarter of 2023 National strategic document for agriculture knowledge and innovation drafted within the second quarter of 2023	Awareness and dialogue event prepared Evaluation forms and list of participants filled. Strategic policy document	<u>MoARD</u> , Donors, AUT and University of Korca, Donors	Short term
Action 2. Create new structures: AKIS coordination board and Establish AKIS local structures: operational groups EIP like.	A multi-institutional framework will exist in within 2023 AKIS coordination board will be finalised within 2023 Formalise the operational groups by establishing semiformal meetings	Listing of institutions and Nomination of leading agency Memorandum of understanding formulated and signed. AKIS coordination board ToW defined Formalisation of AKIS network within 2023	Council of Ministers, <u>MoARD</u>	Short-term
Action 3: Strengthen service providers to comply with the demand by carrying capacity building and implement a specific budgetary support measure	Formalize the private advisory service through a specific legislative base. Prepare capacity building activities Introduce and ICT based platform Prepare a national budgetary measure for ARDPF for supporting operational groups	Training materials and training activities held within 2023 ICT space created within 2024 Budgetary measure prepared and applied as pilot within 2024.	<u>MoARD</u> , Donors Academia, Donors, ARDA	Short-term

Action 4. Plan a series of awareness activities and knowledge and innovation promotion events to be developed in the sector with focus on Agri based clusters.	Create a plan of awareness and promotion events in each areas Open calls based on specific budgets likewise the LAGs animation. Use established operational groups to apply for farm trials, farm experiments, mentoring and other field work using national budgetary measures mention in action 3	Prepare pilot interventions Apply the criteria formulated at the budgetary measures Make the selection of implementation bodies. Promote and diffuse information on the adoption cases	<u>MoARD.</u> <u>Donors</u> <u>Public and private advisory services</u> <u>Operational groups</u>	Short-term
Action 5. Internationalisation and integration of Albanian AKIS in the region.	Establish an agreement within counties for the functioning of an interregional AKIS framework withing 2025. Establish cross-border Operational Groups.	Agreement within counties for an interregional AKIS framework withing 2025. Albanian AKIS will be part within 2025 into a potential cross-border Operational Groups	SWG SWG and Ministries	Mid-term

Source: Authors own elaboration.

In addition to the formalisation of AKIS there is a need to prepare actions for developing and enhancing the functionability of AKIS in addressing gaps related to transfer of knowledge and innovation. The required action steps to reach objectives are the i. Establishment of several operational groups⁶ and creation of EIP like network in order to increase cooperation and involve better the private operators at local level. ii. Integration of advisors in the AKIS (by prioritising sources from outside ANES and ATTCs) to foster the sharing of knowledge and innovation for agriculture and increase capacity building for service providers at AKIS, iii. Establishment of ICT platform development and increase of the use of ICT tools in the exchange of knowledge and innovation by using the spread of internet in rural areas. Iv. Support of the AKIS by inserting budgetary measure in order to tackle the problem of funding fragmentation and create better targeting.

6. Action plan

The final objective of the report is to present an action plan. Actions are described in terms of task dependencies, prioritize using evaluation criteria of action impact and feasibility. Milestones to help track achievements within the Action plan are defined. A separate column describes the specific tangible results planned to be delivered from the Action plan within a set timeframe. In addition,

⁶ Operational groups should be established on 5 clusters with clear orientation such as Vegetables (Fier), Fruits and livestock (Korce), Citrus and Olives (Vlore) and MAPs and Nuts (Shkoder).

resources in terms of human and financial resources are assigned, accompanied also by a detailed timeframe. Table 1 provide a ranking of the tasks by identifying and prioritizing tasks using evaluation criteria of action impact and feasibility, namely i. Impact – how crucial that action is in developing a functional and integrated AKIS system (scale 1 – 7, 1 least impact) and ii. Feasibility – how feasible that action is in terms of resources needed (financial, human, time etc.) (scale 1 – 7, 1 least feasible). The average score of the cumulative scores of impact and feasibility are reflected in the priority level column. In addition, the necessary human and financial resources are illustrated in the resources column.

The AKIS implementation requires a prioritised set of actions which are described in the Roadmap namely: i. The preparation of a national strategic document on ad hoc basis on innovation and knowledge transfer in order to formalise AKIS. ii. Programming of the AKIS iii. Entitlement of a leading Agency for AKIS in order to tackle institutional fragmentation and leadership issues and iv. Internationalisation and integration of Albanian AKIS in the region.

In order to achieve the first objective it is required a kick off phase which settles the basis for the initiation of the dialogues between actors. In this stage a national strategic document should be prepared on ad hoc basis on innovation and knowledge transfer in order to formalize AKIS. The study should be formulated as a feasibility study where the roles and synergies of each actor should be described in order to define the potential contribution. The study can provide several scenarios for legitimizing AKIS following the leadership of a central institution. In order to achieve a quick response by actors the document can be circulated in order to have feedback for finetuning and adjusting according to recent developments. In a second stage, with the preparation of the draft an awareness and dialoguing event should be held, based on invitation of the MARD as a central agency. The discussions in the event should bring a fruitful result which is the common understanding of actors for the need to restructure and legitimize AKIS. In the final stage actors should agree on the need for establishing a central agency for Knowledge and Innovation Transfer, based on several institutional scenarios. The meeting should be based on group work which can bring added value to the document. A final short synthesis can be provided from the parties in order to be used as seed proposal and be provided to the central government together with the report (which contains the regulatory frameworks to be created for adopting the government changes).

The second objective is the legitimisation of AKIS structure. Partnership is necessary for achieving a constructive dialogue for increasing institutional, legal, and budgetary instruments for facilitating AKIS. A leading institution will be defined which coordinates the work of ATTCs and Universities. The preparation of the legal changes should be prepared based on the cooperation of regulatory bodies (mainly MoARD, and MoEF), the Ministry for Europe and Foreign Affairs (MoEFA) which are also responsible for adopting budgetary changes to centralise the budget for agricultural research. A multi-institutional framework will exist in within 2023 and an AKIS coordination board will be finalized within 2023 in order to tackle institutional fragmentation and leadership issues.

The preparation of the AKIS structure should be accompanied with the preparation of the structures at local level. The MARD should lead the work, in cooperation with donors to establish operational groups and create an EIP like network in order to increase cooperation and involve better the private operators at local level.

In addition, legislation for private advisory services is yet to be developed. Further efforts has to be made to introduce this component in the overall framework. Efforts should be made to establish an inter- ministerial and multi-stakeholder cooperation with implementing units, which are farmers and processors ((interested in solving core problems which requires collective action) and importers of inputs and technologies (as main sources and partner organizations in knowledge technology transfer, adoption and innovation). The partnership should be based on local level by including also the relevant municipalities. MARD should remain a leading institution which enables the political reforms for mainstreaming AKIS concepts and coordinate efforts for technology investments and knowledge transfers.

The third objective are to strengthen the supply side of the AKIS. Budgetary and institutional changes should create the basis for strengthening service providers (both public and private) to comply with the demand by carrying capacity building, introducing ICT components and implementing specific budgetary measures. Additional activities are planned to integrate private advisors in the AKIS (by prioritising sources from outside ANES and ATTCS) to foster the sharing of knowledge and innovation for agriculture and increase capacity building for service providers at AKIS . The legislative changes in this aspect should prepare the legal certification of the private advisers role and terms of work. In a sequent stage identification and definition of the list of private advisers groups should be prepared by upscaling a bottom up movement which may be enacted by a recognition of association of private advisors (in the form of nongovernmental non for profit entity). An ICT based platform should be prepared for supporting the exchange of information and the recognition of the entity. Capacity building activities should be carried in order to create advisors' profile, train and increase governing capacity of the Association and also prepare the terms of work for the private advisors. Last but not least, an alignment of private advisors can be carried by orienting them to the already prepared EIP network. In order to foster the functionality of operational groups a budgetary measure should be designed by using partly (without clashing) the previous funding used for ATTCS and other research institutions in the agriculture sector. Budgetary measures can be applied based on competing criteria.

Additional interventions are required to change the terms of reference for public advisory services. It is required a sharpening of their role in terms of responsibilities and tasks. The institutional relations between ANES and ATTC should be revised in order to make more functional the system of knowledge diffusion.

The fourth objective facilitates the integration of the National Action plan on a regional plan perspective. In the regions which share boundaries with other countries, conditions for creation of cross-country support facility are planned. The entities in Korca and Shkoder where also Agricultural Technology Transfer Centers (ATTCS) are located are planned to be integrated into regional AKIS framework in order to respond to regional concerns such as those related to climate change and green agenda. These two topics are two of several potential cross-country thematic links which are non-existing and need developing. The dairy and wine sector can be the sector for which exist also an internal demand, meaning that forces of development are linked with internal forces of trade rather than exporters strength. The main disadvantage of the wine sector is that ATTCS focused on this

sector is located in another region. Academia representatives namely Agricultural University of Tirana and Faculty of Agribusinesses in Korca are also main partners to be involved for creating stronger synergies in research components. Infrastructure for research and knowledge diffusion should be developed by establishing training centers, mobile training units, Centers of Excellence and Demonstration farms. The Farm Didactic unit located at both mentioned Universities should be used as spin offs. Further efforts should be done to extend Operational Group created in the targeted crossborder areas for enhancing activities of common interest.

Table 4. Action Plan for the AKIS in Albania

Roadmap strategic objective	Specified objectives	Required action	Milestones	Deliverables	Resources needed	Deadline	Impact (1-7, 1 least impact)	Feasibility (1-7, 1 least feasible)	Priority (1-7, 1 least priority)
1. A national strategic document to be prepared on ad hoc basis on innovation and knowledge transfer in order to formalise AKIS.	1. Preparation of a national strategic document on ad hoc basis on innovation and knowledge transfer in order to formalise AKIS.	<ul style="list-style-type: none"> Establish an expert advisory group Prepare TOR for work Draft a national study Summarise the study into an executive summary Use scenarios and agree with participants on the most feasible scenario. 	<ul style="list-style-type: none"> Expert advisory group established in the last quarter of 2022 TOR defined Draft of the national study finalised Preparation of an executive summary for being circulated 	<ul style="list-style-type: none"> Key experts identified TOR prepares Report on the national study. 	<ul style="list-style-type: none"> MoARD, Donors Civil society Academia 	Short-term	7	7	7
	2. Prepare an awareness and dialoguing event and formalise a common position of the stakeholders.	<ul style="list-style-type: none"> Organise an awareness and dialoguing event Present to stakeholders and collect comments and agree on a the concept of the national strategic document Prepare a concept note and with the attached study endorse to central government 	<ul style="list-style-type: none"> Awareness and dialoguing event organised in the first quarter of 2023 which involves main stakeholders and increase awareness on the reform required for AKIS National strategic document for agriculture knowledge and innovation drafted 	<ul style="list-style-type: none"> Awareness and dialogue event prepared Evaluation forms and list of participants filled. Strategic policy document 	<ul style="list-style-type: none"> MoARD, Donors Civil society Academia 	Short-term	6	7	6.5

			within the second quarter of 2023						
Action 2. Create new AKIS structures and EIP like operational groups	3. A multi-institutional framework will exist in within 2023 and an AKIS coordination board will be finalised within 2023 in order to tackle institutional fragmentation and leadership issues.	<ul style="list-style-type: none"> • Create a list of institutions • Nominate a leading agency • Prepare the legal base with accompanied RIA • Design a memorandum of understanding • Create an officially accepted AKIS coordination board 	<ul style="list-style-type: none"> • List of institutions drafted • Leading agency defined • Memorandum of understanding finalised • Legal base finalised with RIA • AKIS coordination board nominated 	<ul style="list-style-type: none"> • List of institutions • Nomination of leading agency • Memorandum of understanding formulated and signed. • AKIS coordination board terms of work defined • Nominate the AKIS coordination board members, terms of work and TOR for each member 	<ul style="list-style-type: none"> • <u>MoARD</u>, Donors • Civil society • <u>Academia</u> 	Short-term	6	6	6
	4. Establish operational groups and create an EIP like network in order to increase cooperation and involve better the private operators at local level.	<ul style="list-style-type: none"> • Carry a stakeholder mapping and identify potential operational group • Formalise the groups by establishing semiformal meetings 	<ul style="list-style-type: none"> • Stakeholder mapping and formation and formalisation of AKIS network within second quarter of 2023 	<ul style="list-style-type: none"> • Stakeholder analysis finalised • List of operational groups proposed. 	<ul style="list-style-type: none"> • <u>MoARD</u>, Donors • Civil society • <u>ATTCs and ANES</u> • <u>Academia</u> • <u>Donors</u> 	Short-term	7	5	6
Action 3: Strengthen service provider to comply with the demand by	5. Integrate private advisors in the AKIS (by prioritising	<ul style="list-style-type: none"> • Define legally the role and function of private advisors 	<ul style="list-style-type: none"> • Legal base for advisory services finalised • Association of advisers established 	<ul style="list-style-type: none"> • List of advisers prepared • List of advisers diffused in a portal. 	<ul style="list-style-type: none"> • <u>MoARD</u>, ATTC, ANES • Donors, • <u>Civil society</u> 	Short-term	6	4	5

carrying capacity building, introducing ICT components and implementing specific budgetary measures	sources from outside ANES and ATTCs) to foster the sharing of knowledge and innovation for agriculture and increase capacity building for service providers (both public and private) at AKIS	<ul style="list-style-type: none"> • Redefine the role of public advisory services • Establish the association of private advisors • Identify and expand the number of advisors • Create a list of adviser groups to be merged with operational groups 	<ul style="list-style-type: none"> • Pool of advisors with respective curricula listed within the third quarter of 2023 		<ul style="list-style-type: none"> • <u>Association of private advisory services</u> • ATTC, ANES • 				
		<ul style="list-style-type: none"> • Prepare terms of work for private advisors and develop innovation support services including innovation brokering, facilitation and innovation tools • Change the terms of work for the public advisory services 	<ul style="list-style-type: none"> • Terms of work and list of services formulate and tailor made by type of advisors. 	<ul style="list-style-type: none"> • Terms of work prepared • Annual package of activities designed 	<ul style="list-style-type: none"> • <u>MoARD, Donors, ATTC, ANES</u> • 	Short-term	6	4	5
		<ul style="list-style-type: none"> • Design a package of training for both public and private advisory services with focus on core problems • Prepare training of trainers • Create long term programme of education through the use of National Agricultural 	<ul style="list-style-type: none"> • Training material and programs formulate within 2025 	<ul style="list-style-type: none"> • Training package finalised and diffused • Training of trainers implemented and evaluation forms filled • A curriculum of long term education 	<ul style="list-style-type: none"> • <u>MoARD and Donors, Academia (AUT)</u> 	Short-term	5	4	4.5

		<p>Training Scheme, financed by the Albanian Government.</p> <ul style="list-style-type: none"> • Use the upcoming centers of education and excellences which are planned to be created at the Agricultural University of Tirana, namely the the Experimental Didactic Farm. • Establish a demonstration, experimental, research, educational Center of Precise Agriculture (Smart Agriculture) 		programme is prepared					
6. Establish ICT platform development and increase of the use of ICT tools in the exchange of knowledge and innovation by using the spread of internet in rural areas.	<ul style="list-style-type: none"> • Use ICT tools for raising the information flows and reduced institutional divisions • Prepare videos and short materials to raise education and information. 	<ul style="list-style-type: none"> • ICT space created within 2024 	<ul style="list-style-type: none"> • ICT platform established • ICT platform populated with information inputs. 	<ul style="list-style-type: none"> • <u>ATTCs and ANES</u> • <u>Academia (AUT)</u> • <u>Donors</u> 	Short-term	5	3	4	
7. Support the AKIS by inserting a national budgetary	<ul style="list-style-type: none"> • Prepare a national budgetary measure for ARDPF for supporting operational groups. 	<ul style="list-style-type: none"> • Budgetary measure prepared • Criteria are prepared and 	<ul style="list-style-type: none"> • National budgetary measure drafted 	<ul style="list-style-type: none"> • MoARD, ARDA, NAGE, Civil society • DG Agri 	Mid-term	5	2	3.5	

	measure in order to tackle the problem of funding fragmentation	<ul style="list-style-type: none"> • Prepare the main criteria and budgetary limits • Prepare the criteria and premium criteria for other investments measures. 	<p>introduced in the ARDPF programme</p> <ul style="list-style-type: none"> • Separate budgetary voice is provided in the planned ARDFP programme • Call opened s pilot within 2024. 	<ul style="list-style-type: none"> • Criteria defined 					
	7. Implement the budgetary support measure in compliance with EU programming criteria	<ul style="list-style-type: none"> • Prepare open calls for Operational Groups 	<ul style="list-style-type: none"> • Open calls carried in 2025. 	<ul style="list-style-type: none"> • Call opened using Pilot financing by GIZ 	<ul style="list-style-type: none"> • ARDA and GIZ 	Mid term	6	1	3.5
Action 4. Internationalisation and integration of Albanian AKIS in the region.	8. <u>Prepare the conditions for creation of cross-country support facility.</u>	<ul style="list-style-type: none"> • Prepare the terms of work for the conditions, working objectives and organisaiton patterns of a croscountry support facility 	<ul style="list-style-type: none"> • TOR prepared within 2025 	<ul style="list-style-type: none"> • TOR and organisational framework design 	<ul style="list-style-type: none"> • SWG and Ministries 	Mid term	4	2	3
	9. Create regional AKIS framework to respond to regional concerns such as those related to climate change and green agenda.	<ul style="list-style-type: none"> • Sign a memorandum of understanding between Ministries 	<ul style="list-style-type: none"> • Memorandum signed within 2025 	<ul style="list-style-type: none"> • Memorandum of understanding draft 	<ul style="list-style-type: none"> • SWG and Ministries • Academia • Civil society • DG Agri 	Mid term	3	2	2.5

Source: Authors' own elaboration.