



SHERPA
Rural Science-Society-Policy
Interfaces

A VISION FOR RURAL AREAS

MAP Position Paper



LONG-TERM VISION FOR RURAL AREAS: CONTRIBUTION FROM 20 SCIENCE- SOCIETY-POLICY PLATFORMS

MAP POSITION PAPER

AKIS MAP

HUNGARY

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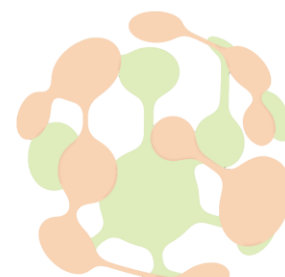
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1. Headline message

The Hungarian AKIS MAP covers horizontal issues. The MAP is expected to have considerable impact since the relevance of the topic digitalisation is justified also by the fact that it is embedded into the CAP strategic planning, thus it requires the cooperation of policy makers, researchers and farmers or in broader context the society. Main messages of the AKIS:

Vision: Although, the entire rural population will be more digitally skilled as today's population by the time we reach 2040, the future vision for rural areas is twofold. The lagging-behind areas in order to avoid complete depopulation will need outside help, while rural areas with more favourable conditions will attract urban outmigrants. A shift toward service sector jobs is expected.

Challenges: Major opportunity in the Hungarian rural areas cover the aspects of digital leap, better coordination of existing institutions and platforms and the retention and expansion of the intellectual strata. At the same time the latter was considered an important challenge, too. Further significant challenges are to create adequate road and other infrastructure, to find digital/ smart solutions, to develop digital knowledge, skills, and competencies.

Enablers: Digitalisation will fundamentally change the way rural areas operate, economically, environmentally, and socially. The main enablers are capacity building for knowledge transfer, adaptation for job creation and better quality of life in rural areas, community building for collaborations and local identity in rural areas.

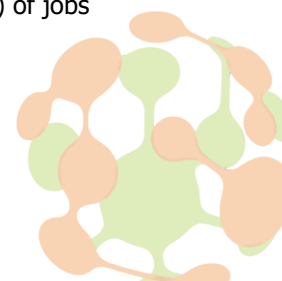
Keywords: AKIS, rural development, digitalisation, smart solutions

2. Key scientific evidence

Trends: Certain demographic factors, such as aging, the growing welfare and income gap as well as socio-economic tensions greatly influence the environment which increasingly requires innovative solutions at all levels (Ministry of Innovation and Technology, 2020). In Hungary, global trends related to technological development, innovation, digitalisation, and the on-going overall industrial revolution have just started to reach the countryside and are still at the beginning of their transformative journey. The Hungarian digital economy accounts for 20 percent of the gross value added of the national economy and provides employment opportunity for 15 percentage of the employees (Digital Start-up Strategy of Hungary, 2016). However, economic benefits from the digital development of agriculture are still unutilised (Digital Welfare Program 2.0, 2017).

Opportunities and challenges: The period of the CAP 2021-2027 will play a major role in the infrastructural and organisational coordination of certain elements of the Hungarian AKIS (Agricultural Knowledge and Innovation System). It is considered an immense challenge that the structure and coherence of different components has not been fully developed yet. In several cases there are problems also with the quality of the components themselves. The level of expertise, management, digital and language skills of farmers is low. The agricultural education is outdated and/or its infrastructure is of low quality. Furthermore, the sector is characterised by the lack of complex knowledge.

Digital solutions might contribute to more efficient use of resources, risk mitigation in production, reduction of losses, productivity growth, better traceability and quality assurance. In certain cases, these can be solutions for labour shortage. The increase in productivity has favourable impact on both the environment and the climate. Technological development, the increase in automatisisation and the spreading of robotic technologies will support enterprises in handling labour shortage. Due to the technological development and innovation, physical work is expected to become easier and thus improve the judgement (or image) of jobs in the agri-food sector among young people (Ministry of Agriculture, 2017).



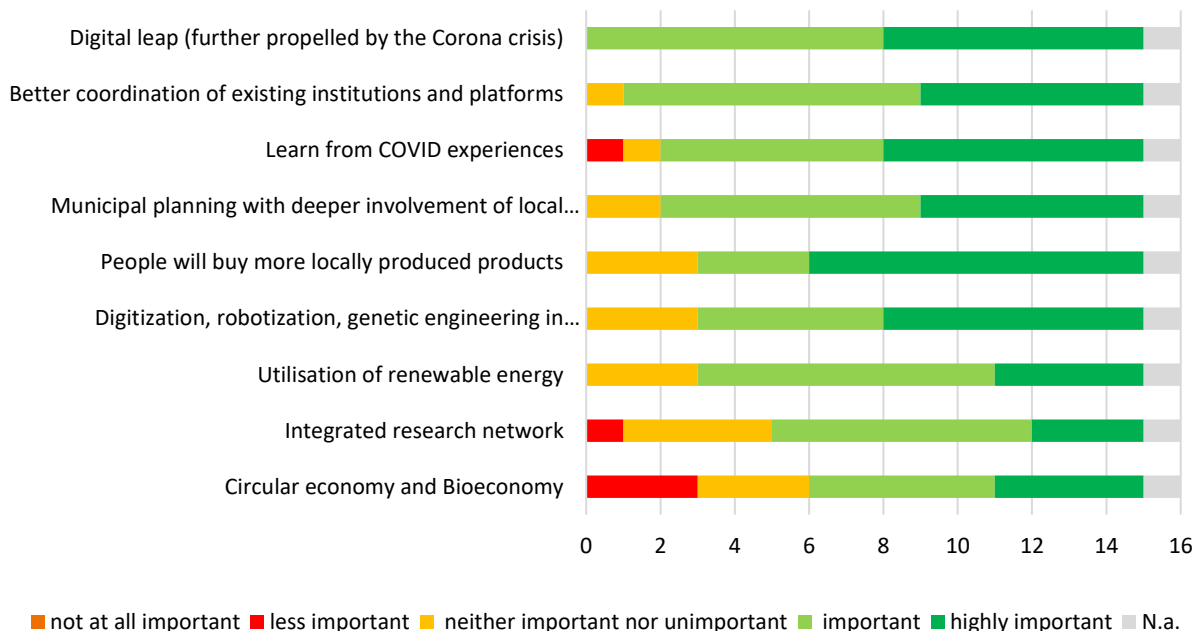
3. Summary of the outcomes of the Delphi

3.1. Challenges and opportunities in the next 20 years

In terms of challenges and opportunities in the next 20 years in Hungary, AKIS experts were asked to talk about their experiences and opinions in the framework of interviews and a focus group meeting and at a later stage they were also requested to fill in a survey.

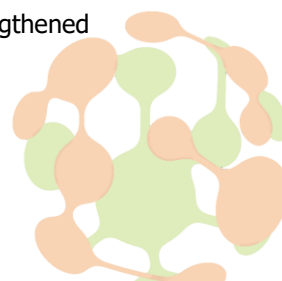
In our Survey, **9 opportunities** were listed for the respondents to decide whether they seem to be important for them. As regards the level of importance, based on the summarised answers three big groups can be created. In the first group more than 90% of the respondents considers digital leap (further propelled by the Corona crisis) (100%) and better coordination of existing institutions and platforms (93%) important. In the second group according to 80% or more than 80% of the respondents the following opportunities emerged as important: municipal planning with deeper involvement of local stakeholders (87%); learn from COVID experiences (86%); digitalisation, robotisation, genetic engineering in agriculture (80%); Utilisation of renewable energy (80%) and sale of more locally produced goods (80%). In the third group 66% of the respondents thinks that the integrated research network is important and 60% considers circular economy and bioeconomy to be a major issue. The greater share of those who are not covered by these percentages did not decide at all whether the issues/opportunities are important or not important. As regards the three stakeholder groups – public sector, society and research – it can be stated that in most cases there were members in each group who could not clearly decide whether the opportunity is important or not and as a result choose the option “neither important nor unimportant.”

Figure 1 Importance of opportunities in the next 20 years according to AKIS working group in Hungary, Survey results



Source: Sherpa Survey

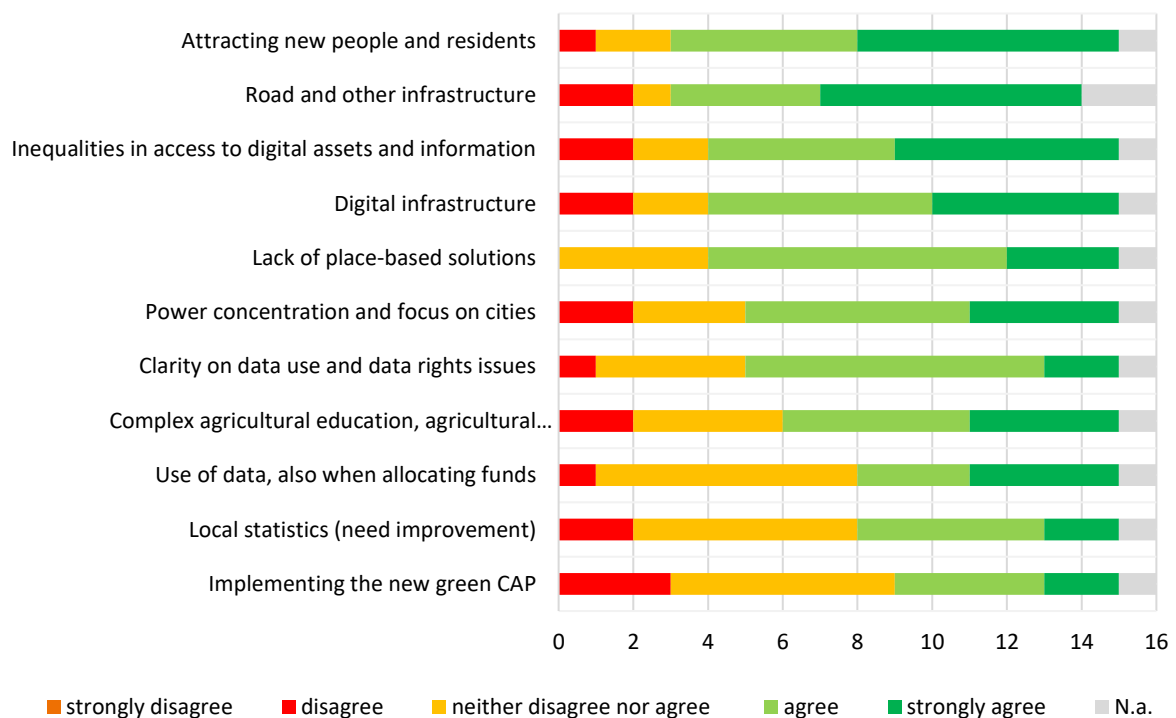
The interviewees see the opportunity in a competitive agriculture shifting toward a high-tech sustainable agriculture based on innovation, digitalisation and modernisation, in the retention and expansion of the intellectual strata i.e. of highly skilled labour force, in increased demand for local products and strengthened



role of short supply chains and in strengthening the role of rural areas in producing goods and providing services.

According to experts, Hungary will be faced with several challenges and weaknesses until 2040. As a result of the Survey's evaluation, there are 3 well-separated groups of challenges the Hungarian rural areas have to find a solution for. In the first group approximately three fourth of the respondents consider the challenge listed below a major one: road and other infrastructure (80%); attracting new people and residents (80%); digital infrastructure (74%); lack of place-based solution (74%) and inequalities in access to digital assets and information (73%). In the second group approximately two third of the respondents consider the below listed challenge a major one: power concentration and focus on cities (67%); clarity on data use and data rights issues (66%) and complex agricultural education, agricultural entrepreneurship trainings (60%). In the third group less than half of the respondents consider the below listed challenge a major one: use of data, also when allocating funds (47%); local statistics (47%) and implementing the new green CAP (40%). As regards the three stakeholder groups – public sector, society and research – it can be stated that in most cases there were members in each group who could not clearly decide whether they consider the statement as a strength or not and as a result choose the option "neither agree nor disagree." Furthermore, in most cases there were some members of each stakeholder group who basically did not identify the listed statement as a weakness.

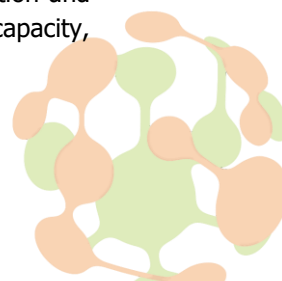
Figure 2 Challenges & weaknesses according to AKIS working group in Hungary, Survey results



Source: Sherpa Survey

The interviews confirm also that it is major challenge to find digital/ smart solutions to help rural living, especially in adapting climate change and extreme weather conditions; to increase digital knowledge, skills, and competencies and to figure out the proper application and use of technical improvements i.e. to educate and train farmers and consumers to use digital technologies in a proper way, furthermore to find ways how to keep the young generation in the rural areas.

In the consensus meeting, the results of both interviews and the survey were confirmed on one hand and slightly amended and refined on the other. It was emphasised that both the problem of depopulation and the diversity/heterogeneity of rural areas (in terms of e.g. closeness to the capital, density, carrying capacity,



capacity for population attraction and retention) should be expressed explicitly. Furthermore, raising awareness about social responsibility and environmental protection and strengthening local identity seemed to be important aspects to be added.

3.2. Desirable future for 2040

MAP members were asked to express their future vision of Hungarian rural areas in three different ways: through interviews, a survey and a consensus meeting.

During the interviews, different themes were raised around which the future vision was built, but one main element was always mentioned as the 'heart' of these visions, and that is 'sustainability'. Some of the interviewees approached the vision from the side of the CAP and thought that the cessation of the CAP would be a shock for rural areas since the CAP can help the transition to economic and environmental sustainability. Others pointed out the importance of green policy in shaping sustainability. However, according to this vision there always will be winning and losing rural areas which cannot be avoided anywhere. The importance of equal opportunities was emphasized as a solution to ease these differences.

Other interviewees placed more emphasis in their vision on digital and technological development. This can convince and motivate young people to be farmers and remain in the rural areas. The popularity of healthy (chemical-free) food production and lifestyle will be higher, just like special consumer demands for specific products.

As a vision for 2040 some interviewees highlighted the appreciated role of skilled individuals with digital knowledge in rural areas. The development of the countryside as an innovative space close to nature and using its environmental endowments adds value according to this vision.

The results of the Survey conducted among members of the AKIS working group in Hungary reassured the main elements of the vision created during the interviews.

When questions were asked about their personal priorities concerning different themes and topics, *skills, education and education services; knowledge-transfer* were rated the most important. It received the rating of *very important* by the highest proportion (63%) of the respondents. An additional 12% of them considered this topic as *fairly important* while nobody evaluated it as less than important. (The other theme without any ratings below important was *Climate change, carbon neutrality & SDGs*, however it was rated *very important* by less respondents than the topic on skills and education). More than two-thirds of the respondents (69%) found the topic of *multi-locality, service provision & infrastructure* as *very important* or *fairly important* which pushes this topic as the second highly rated in the survey. Almost two-third (63%) of the respondents considered *demographic development and aging* as a very important or fairly important topic. The theme of *digital transformation* is *very important* according to 25% of the survey participants, and a further 37% of them thinks it is *fairly important*. Interestingly 6% of them finds it only *slightly important*.

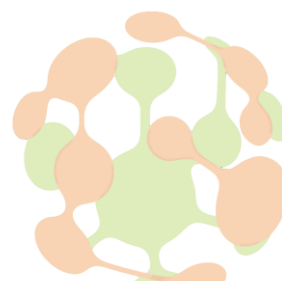
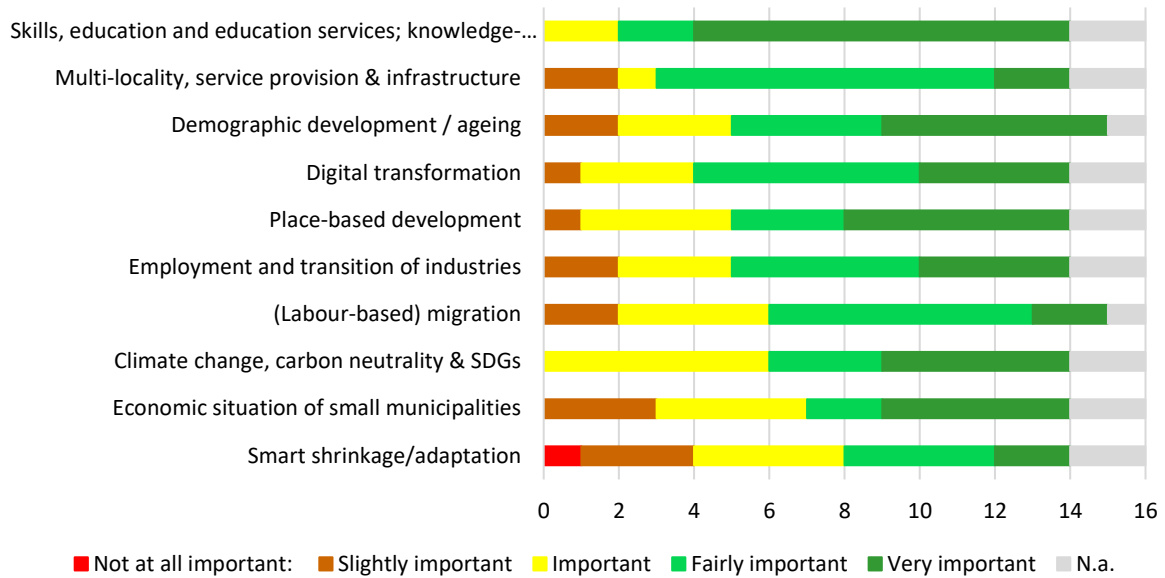


Figure 3 Importance of different themes and topics according to AKIS working group in Hungary, Survey results



Source: Sherpa Survey

Another set of Survey question were asked from respondents directly about their vision of Hungarian rural areas by 2040. Although all topics were considered as worthy enough to be a part of the 2040 vision (all of them received a *strongly agree* rating at least from one respondent), three themes stand out from the list by receiving the most *strongly agree* and *agree* ratings from respondents. These three most highly supported themes are:

- **more innovative and digitalised rural areas** (strongly agree: 38%; agree: 35%= supporters: 73%)
- the **presence of new types of teaching methods and tools** (strongly agree: 31%; agree: 50%= supporters: 81%)
- **better connection of rural areas to knowledge economy** (strongly agree: 25%; agree: 37%= supporters: 62%)

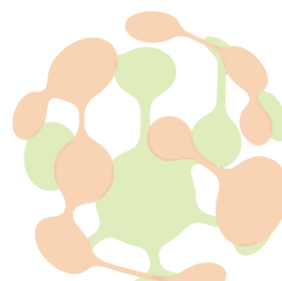
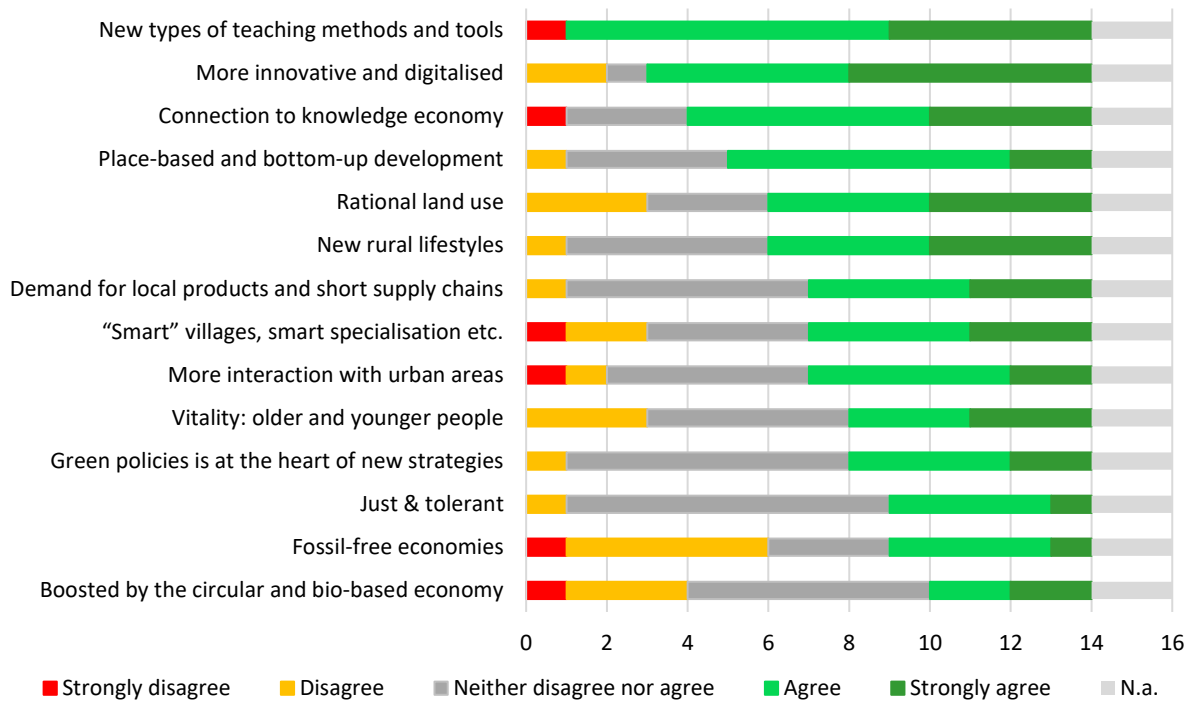


Figure 4 Acceptance of topics as part of the Rural Vision 2040 of Hungary, Survey results



Source: Sherpa Survey

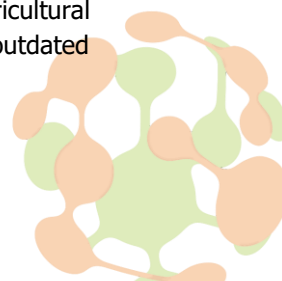
During the consensus meeting MAP members were encouraged to express their opinion on the results. Overall, they accepted the results, however there was one specific area which became the main theme of the meeting. When they were asked about the possible reasons of *strong disagreement* among the ratings of otherwise popular themes (e.g. *new types of teaching methods and tools* or *better connection to knowledge economy*) they brought up the issue of different types of rural areas. Based on the differences, two visions were unfolded: one for the remote, lagging-behind, struggling rural areas where aging, lack of skilled individuals and depopulation are typical and another for the more attractive rural areas with desirable natural resources as well as more promising demographic and economic conditions. According to the latter, rural areas will provide habitation for people moving out from urban areas to enjoy a more peaceful natural environment, as well as a place for home office and for home delivery. For the lagging-behind regions the threatening vision of complete depopulation could be avoided with outside help: with the community building efforts of civil and faith-based organisations, with introducing ecotourism or cross-border cooperation, where possible. According to a little brighter vision, the entire rural population will be more digitally skilled as today’s population by the time we reach 2040.

Regarding agricultural production, digitalisation and increased efficiency will require fewer human resources, and lead to less job opportunities in this sector, while through internet connection other sectors will open up for the rural population (e.g. service sector).

3.3. Enablers to achieve the vision

According to the assessment of the answers of the interviews in the Hungarian AKIS MAP Discussion Paper for smart adaptation/digitalisation in agriculture it is essential for AKIS, education and for innovative farms to develop solutions and necessary competences to create adequate conditions for quality production, rural services and infrastructures, health-conscious consumer attitudes and new rural life forms.

Among setbacks in the discussion paper, digital and management skill shortage, lack of enough agricultural consultants with proper knowledge of agricultural informatics and innovation referred. Missing or outdated

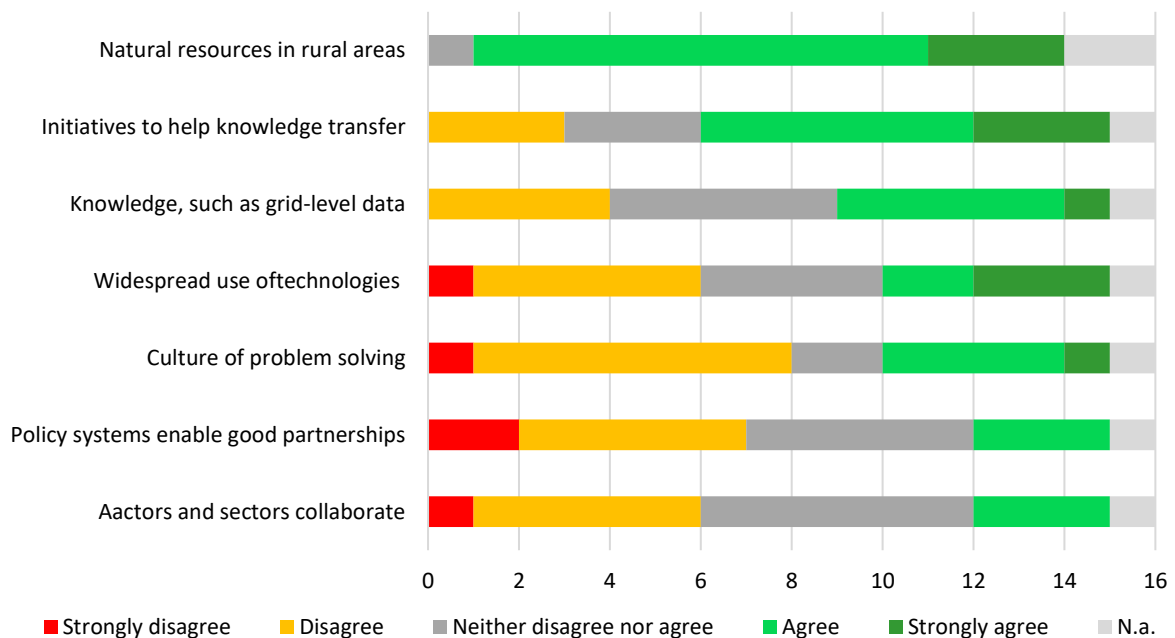


environmental and economic data; data right related questions, unequal access to digitalisation and information also mentioned as limiting factors. On the contrary, majority of the survey respondents stated that certain initiatives are already in place to help advanced knowledge-transfer, digitalisation and innovation (confirmed by 60% of the respondents, with 20% rejection respectively).

Availability of other capabilities doomed low level as knowledge considered appropriate by only 40% respondents (while 27% disagreed). Culture of problem solving (53%) and policy systems enabling good partnerships (47%) were also referred to be improved. Besides only 40% of the respondents stated that there was also greater need for widespread use of innovative technologies (Figure 4).

Implementation of policies supporting smart adaptation in Hungary is hindered by lack of collaboration between different levels and sectors (agreed by 86% of all the survey respondents); interconnectedness of strategies between policy levels (agreed by 73%); lack of resources and instruments and local knowledge and data availability (60%). Interestingly, economic and population growth were not considered important (agreed by only 40% of all survey respondents) in policy implementation of smart adaptation.

Figure 5 Acceptance of topics as part of the Enablers to achieve the vision, Survey results.

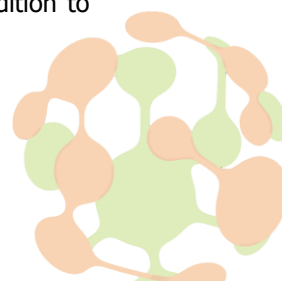


Source: Sherpa Survey

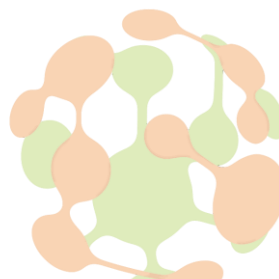
Implementation of smart adaptation policies will be backed by the opportunities of national policy framework (agreed by 87% of all the survey respondents) with interconnectedness between policy levels and with availability of local knowledge and small-scale data (agreed by 80%) and trust between authorities and society (73%). While existing partnerships and cooperation between different policy levels (agreed by 67% of all the survey respondents) and networks of local actors the respondents held less important (53%).

Digital improvement of rural areas needs development of infrastructure and competences for creation local job opportunities, while abilities of local communities, networks and collaborations need support, training and innovation.

According to the consensus meeting the participants accepted and confirmed the results of the interviews and the questionnaire. Digitalisation will fundamentally change the way rural areas operate, economically, environmentally and socially. Several factors arise as difficulties in achieving AKIS MAP's Digitalisation Vision. The most important issue is the reversal of current economic and migration trends, which, in addition to opportunities, also entails enablers:



- **Knowledge transfer** - the role of the human factor is emphasized, there is no capacity for this presently;
- **Adaptation** - climate adaptation, environmental sustainability job creation, better quality of life in rural areas;
- **Community building** - collaborations, local identity in rural areas;
- **Institutional, governmental involvement:** providing grants.



Annex 1. Methodology used in the MAP

Target group: The topic - Agricultural Knowledge and Innovation System - is a horizontal issue and it is embedded into the CAP strategic planning process. Being part of it the development of AKIS definitely requires the close and intensive cooperation of policy makers, researchers and farmers or in broader context the society with various stakeholders.

The MAP's core group is the AKIS sub-working group established by the Ministry of Agriculture to facilitate the CAP strategic planning process. The sub-working group's activities supplement, however, the activities of an AKIS group established originally by the Hungarian Chamber of Agriculture and re-established by the Chamber and the Ministry of Agriculture last year (2019) with a broad and more general focus.

The AKIS sub-working group contains officially 15 members, but occasionally depending on the topics to be discussed more experts are invited to the meetings. The number of the extended working group is approximately 40.

MAP members:

Number of official MAP members is 12. Equal balance of power is demonstrated among the stakeholder groups and almost all of them belong to the official members of the AKIS sub-working group.

Society (4): Mátyás Szabó (Field Consulting); Péter Varga (DJN nonprofit Ltd.); Erika Székely (Hungarian Chamber of Agriculture); Péter Tóth (Hungarian Ornithological and Nature Conservation Association)

Science (4): Márta Gaál (Research Institute of Agricultural Economics); Katalin Szentes (National Centre for Biodiversity and Gene Conservation), Eszter Hamza (Research Institute of Agricultural Economics); Katalin Rácz (Research Institute of Agricultural Economics)

Policy (4): Anikó Juhász (Ministry of Agriculture); Judit Bohner Gonda (Ministry of Agriculture); Rita Szekeres Köteles (Ministry of Agriculture); Miklós Maác (Ministry of Agriculture)

Desk Research

The desk research carried out in May and June 2020 focused on the 5th topic described by the SHERPA Discussion Paper i.e. on 'The rise of digitalisation and smart ruralities'. Other topics were touched upon indirectly, only if they were related to digitalisation in some aspect (e.g. climate change). The review of key trends, main challenges and opportunities and the summary of existing foresight regarding digital agriculture was embedded into the Discussion Paper of the Hungarian AKIS MAP.

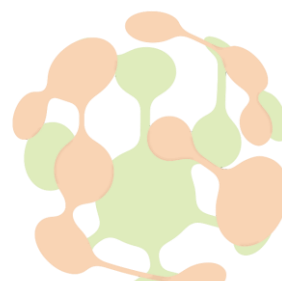
Interview and Focus group meeting

Interviews were carried out basically on phone in Hungarian language due to the COVID-19 situation and as the time available was quite short some experts answered the questions per email either in English or in Hungarian. The questions were asked and answered through the lenses of AKIS.

6 MAP members were interviewed individually, and 6 members participated in the focus group meeting moderated by Szabolcs Biró.

Questions raised on the 'Long-term vision for rural areas from the aspects of AKIS' are the following:

- Are you aware of any studies, documentation, foresights, initiatives regarding the future of the AKIS (national, regional, local levels)
- According to you, what are the main current theme(s) for rural areas in the MAP region (i.e in Hungary)? "How is it to live in rural areas at the moment". Regarding the impacts of the COVID-19 how do you see the resilience of the country (resilience to acute shocks as the one of the pandemic)
- Opportunities and challenges in the next 20 years: What do you see as the main opportunities and challenges coming up until 2040?
- What is your vision for your rural territory by 2040?



- What are the challenges in reaching the vision?

Closing: How could the MAP contribute to the debate on the long-term vision for rural areas at local, national or EU level?

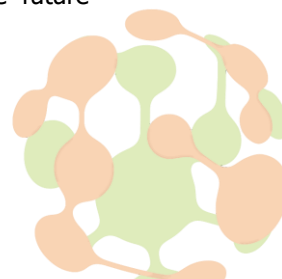
The answers were analysed, and the outcome – together with the result of the desk research had become part of the Hungarian AKIS MAP Discussion Paper that was submitted to Ecorys by 3rd July.

Survey

In the context of SHERPA's first contribution to the EC long-term vision for rural areas the AKIS sub-working group was invited to express its opinion on local challenges and opportunities as well as its vision for the future of rural Hungary within the next 20 years. The Survey under the title 'Rural development up until 2040 - Challenges, opportunities, enablers and hinders' contained 20 mostly 'quick click' multiple choice questions. The estimated time for completion was 15-20 minutes. The survey was circulated from 28th July onward with a deadline of 25th August. But because of the summer break there was a need for extending it until 4th September.

Questions of the survey are the following:

- From the options below, which one describes your background best? Please choose only one option.
- On a scale from 1 (not at all important) to 5 (very important) how important are the themes and topics mentioned below for you?
- Do we miss an important topic in this list? (Q.2 and Q.3 belong together)
- Please give us 3 to 5 keywords that best describe living in rural Hungary at the moment.
- Rural areas are well prepared for and resilient to acute shocks, such as the COVID-19 pandemic. - Please indicate the extent to which you agree or disagree with this statement.
- What needs to be done to improve the resilience of rural areas to acute shocks: (essay type)
- Rural areas and the next 20 years. Please indicate whether you agree or disagree. Hungarian rural areas are strong because of...
- Any other important strengths? (Q.7 and Q.8 belong together)
- Opportunities in the next 20 years. How important are the opportunities below?
- Any other important opportunities? (Q.9 and Q.10 belong together)
- Challenges & weaknesses in the next 20 years. Among the main challenges and weaknesses until 2040 are...
- Any other important challenges? (Q.11 and Q.12 belong together)
- Rural Vision 2040. Please indicate the extent to which you agree or disagree with the statements below. In 2040, Hungarian rural areas...
- What is your vision? (essay type)
- Please indicate the main challenges and opportunities you see for the implementation of policies supporting smart adaptation. The development of policies, based on the smart adaptation approach, is mainly challenged due to: ...
- Other (please specify) (Q.15 and Q.16 belong together)
- Please indicate the main opportunities for implementing smart adaptation policies.
- Other (please specify) (Q.17 and Q.18 belong together)
- How much does the idea of smart adaptation / shrinkage match your vision for the future development of Hungary?



- Anything else you would like to share with us?

Responses were anonymous and confidential. They were analysed and presented to the Multi-Actor Platform as background material for the consensus meeting.

16 experts started to fill in the survey but, in most cases, there were 15 answers that could be analysed.

Among the respondents the group of society was under-represented with 3 experts, but as regards the number of the other two stakeholder groups they were equal: 6-6 experts represented both public sector and research.

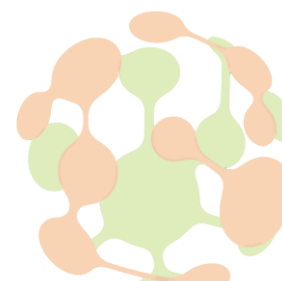
Consensus meeting

The consensus meeting was held on 2nd October 2020 on Microsoft Teams with the participation of 7 experts including the monitor and the facilitator of the MAP. Other MAP members were offered the opportunity to express their opinion in a shared excel file. 4 MAP members answered the following questions: Name of the MAP member; Do you agree with the statements of the Position Paper (Yes/No); If your answer is no to the previous question please explain why. (Which statement is the one you don't agree with?); If your answer is yes to the question in Column2 do you know other (strong) opinions of experts, which are different from the ones introduced in the Position Paper? What are those opinions?; Is there anything missing? If yes please add your statements.; Do you have any general comments? Please explain!



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