# *Agricultural Extension and the Role of Higher Education. Lessons Learned, Current Situation, and Insights for Future Development.*

## Workshop - 30 April 2025 - University of Aleppo, Syria

# Report

Contents

## Introduction

Agricultural extension is one of the main pillars for the development of the agricultural sector and the achievement of sustainable rural development. It plays a pivotal role in transferring information, expertise, and innovations from educational and research institutions to farmers and livestock breeders. It also contributes to building their capacities and enhancing their agricultural practices through training and guidance, which in turn positively impacts agricultural productivity and food security.

Over the decades, agricultural extension in Syria has gained increasing importance, but the long years of conflict have caused a dramatic disruption of agricultural extension services, the loss of many qualified cadres, and a deterioration in the extension infrastructure, which negatively affected the capabilities of farmers and livestock breeders in facing the increasing challenges, especially climate change, high production costs, marketing disruptions, and the emergence of new pests and challenges that were not previously known. It is worth noting that the reality of agricultural extension over the past decade has varied from one region to another, depending on the level of stability, local authorities, and the presence of both local and international partners. This created gaps in the provision of extension services, which call for the development of flexible and participatory mechanisms to bridge these gaps and reintegrate the extension system in Syria. The private sector (agricultural companies, agricultural and veterinary centres and pharmacies) has played an essential role in bridging the lack of government agricultural extension services, which enhances the importance of the private sector and the need to involve it in agricultural extension programs. Innovative local initiatives such as the use of social media, the creation of WhatsApp groups with thousands of farmers and agronomists, and the organisation of digital seminars and field tours have also contributed to enhancing trust between farmers and agricultural extension in these areas.

Today, following the recent political transition, there are new opportunities to rebuild and modernise the agricultural extension system, keeping pace with technical and digital developments and responding to the needs of sustainable agricultural development in Syria. After years of devastating conflict, Syria requires innovative solutions to accelerate the recovery of its agricultural sector, promote sustainable agricultural development, reach the largest number of farmers, and effectively transfer agricultural expertise and practices that will enhance agricultural production and improve farmers' incomes and living conditions for themselves and their families.

Agricultural extension is a vital link between universities and research centres on the one hand and farmers on the other, by transferring research results and knowledge to users and transferring feedback from farmers on the needs and challenges they face. This, in turn, contributes to identifying research priorities and the necessary agricultural policies more accurately and effectively. This role requires the availability

of a qualified and specialised cadre capable of communicating effectively and employing technology in a way that suits the capabilities and realities of local farming communities.

## Organisation and Participation

The workshop “Agricultural Extension and the Role of Higher Education: Lessons Learned, Current Situation, and Insights for Future Development” was organised in cooperation between Syrian Academic Expertise, the University of Sussex (UK), the University of Aleppo, and the University of Idlib. The workshop was held on Wednesday, April 30, 2025, at the Creativity and Innovation Centre at the University of Aleppo**,** with approximately 40 participants in attendance. They represented the faculties of agricultural engineering, directorates of agriculture, research centres, the agricultural engineers associations, and several experts, researchers and agrarian extensionists from the governorates of Aleppo and Idlib

The workshop opened with welcoming speeches by Dr. Mohammed Osama Raadon, President of the University of Aleppo; Dr. Ahmad Darkalt, Dean of the Faculty of Agricultural Engineering at the University of Aleppo; and Dr. Ahmed Al-Afdal, Dean of the Faculty of Agricultural Engineering at the University of Idlib. It was moderated according to the methodology of open discussion and voluntary participation, where the session was facilitated by Dr. Shaher Abdullateef and the assistant team at Syrian Academic Expertise.

The sessions revolved around a number of core questions that formed the basis of the discussion, including:

- What is the reality of agricultural extension today, after 13 years of war and liberation?
- Is the agricultural extension system in Syria still effective and fulfilling its required role? What successful past experiences can be built upon?
- What are the main challenges facing agricultural extension from an institutional and field point of view?
- What is the required role of universities, research centres, and directorates of agriculture in supporting extension services?
- What are the priorities and practical proposals that can contribute to the advancement of agricultural extension in the future?

## Workshop Objective and Main Themes

The workshop aimed to assess the reality of agricultural extension in Syria and explore ways to develop it in line with current changes and future challenges. The discussions dealt with the following themes:

- Presenting some local experiences and initiatives that have demonstrated the adaptability and innovation of agricultural extension.
- Reviewing challenges at the technical and institutional levels.
- Highlighting the role of universities in the development of agricultural extension.
- Discussing opportunities to integrate digital tools and agricultural media as a qualitative lever for agricultural extension.
- Formulating practical and applicable recommendations and ideas aimed at modernising the agricultural extension system and enhancing its contribution to achieving food security and sustainable agricultural development.

## Results and Outputs

### 1. Present conditions

The reality of agricultural extension was highlighted from multiple perspectives to reflect the diversity of stakeholders and the different roles, responsibilities and challenges facing each entity. It was found that the most obvious feature of agricultural extension is its weak effectiveness, and its dependence on the private sector is significant, especially in farming and veterinary pharmacies. Additionally, there is a lack of specialised expertise, particularly in modern issues such as climate change and agricultural technology.

The following are the most prominent points of discussion put forward by the authorities participating in the workshop:

**Universities and agricultural engineering faculties** face significant challenges that have affected their role in supporting agricultural extension, including: the migration of specialized scientific competencies, the weakness of teaching curricula and their failure to keep pace with modern developments, the lack of financial resources, the decline in the level of laboratories and research and training facilities, and the weakness of logistical resources, including transportation.

However, the faculties of agriculture have made significant efforts in training and qualifying students through graduation and graduate projects, as well as partnerships with local organisations, which have contributed to some extent to compensating for the shortfall, but not fully meeting the actual needs of the agricultural labour market. Here, the importance of developing curricula, modernising laboratories and research

and training stations, and integrating specialised materials in agricultural extension and communication skills emerged.

**Research centres** play a crucial role in the development of agricultural extension by providing it with new knowledge and expertise, as well as finding solutions to the challenges facing farmers and the agricultural sector.
Scientific research centres, in collaboration with the Agricultural Extension Department, conducted seminars and lectures, both in-person and online, using simple techniques to showcase modern agricultural methods and the challenges facing farmers, thereby achieving effective communication with a diverse range of stakeholders. Researchers, engineers, and farmers have successfully implemented experiments in propagating strategic crops, such as potatoes and wheat. The research centres made efforts to conduct research in various agricultural fields according to their available capabilities. Still, they suffered from poor funding and a lack of support from the previous government authorities.

**The International Center for Agricultural research in the Dry Areas (ICARDA),** despite the disruption of its activities during the years of conflict, began to recover its activity after liberation and is one of the leading centres at the international level, as it includes highly qualified research cadres and advanced laboratories and has a vital role in the development of varieties resistant to drought and climate change conditions. It also contributed to the transfer of knowledge and experience to local researchers, which is directly reflected in the enhancement and development of agricultural extension performance.

**Agriculture directorates and agricultural extension departments** face numerous challenges, including a lack of qualified and trained cadres, inadequate CPD training of agricultural extensionists, limited utilisation of modern means in agricultural extension, constrained operational budgets, and the absence of strategic plans. However, the directorates of agriculture organised many activities to provide extension services and participated in organising some extension events with universities and research centres.

**The Agricultural Engineers Association** owns the full data of agricultural engineers and supervises agricultural and veterinary pharmacies, which serve as effective points of contact with farmers and livestock breeders. Despite its key role, the impact of agricultural extension on development is still limited and requires further support and activation. The association raised essential and vital issues to increase its role in agricultural extension and contribute to effective communication with engineers, including the development of continuous vocational training programs for agricultural engineers and enhanced coordination with universities, directorates and research centres.

In general, the participants' interventions highlighted the fact that agricultural extension in Syria suffers from institutional disintegration, weak coordination among stakeholders, and inadequate investment in financial, human, and technical resources.

## 2. Lessons learned

The participants discussed several important lessons that contribute to a deeper understanding of the reality of agricultural extension in Syria, forming a solid basis for the development of initiatives, projects, and policies to achieve a more effective and sustainable extension system. It was recognised that the agricultural extension services should not be limited to the transfer of knowledge, but also to the transformation of research results into practical applications, which requires strengthening the links between research centres and farmers through applied and experimental programs. A thriving agriculture needs innovation and implementation of new applications on a large scale.

The key lessons discussed in the workshop are presented below:

- **Promote integration and coordination between actors.**
  - There is an urgent need to enhance integration between universities, research centres, directorates of agriculture and the Agricultural Engineers Association, as the absence of governance and weak institutional coordination constitute a significant obstacle to the development of an effective and integrated agricultural extension system.
- **Formulate a clear national vision for agricultural extension.**
  - It is necessary to design and implement a comprehensive strategic framework that guides the efforts of various institutions and unifies multiple initiatives within an integrated national plan with clear objectives.
- **Update curricula and enhance practical skills.**
  - There is a need to develop educational programs in the faculties of agronomy to keep pace with the rapid changes in the agricultural sector and provide students with applied and communication skills that qualify them to engage effectively in extension work.
- **Build the capacity of agricultural extensionists.**
  - Experiences have demonstrated the importance of qualifying agricultural extension workers through continuous systematic training programs that take into account scientific developments and modern farming techniques, especially in light of the exacerbation of challenges and the shift towards more sustainable production techniques.

- **Digital guidance tools are a necessity, not a luxury.**
  - Field experiences, especially in Idlib, have confirmed that digital tools (such as social media groups, interactive pages, and guidance videos) have proven their ability to reach large numbers of beneficiaries at low costs. These require the development of digital tools dedicated to guidance, especially in issues of information, agricultural updates, forecasting and early warning, taking into account the poor agricultural infrastructure in some areas.
- **Document successful local experiences in agricultural extension and disseminate them more widely**.
  - Disseminating best practices contributes to building national cumulative knowledge, which in turn informs the formulation of future policies.
- **Involve farmers and the local community in the extension process**.
  - One of the outstanding lessons is that the farmer is no longer just a recipient of information, but an active partner in developing, experimenting with, and modifying extension content. Therefore, participatory extension programs based on local knowledge and responding to the actual needs of farmers must be designed.

## 3. Priorities

The workshop concluded with a set of priorities that will make a qualitative leap in the agricultural extension system in Syria and activate its role in achieving sustainable agricultural development. Among the most important priorities are:

- Rebuilding the institutional structure of agricultural extension in a modern and effective manner with clarity of roles and responsibilities and defining clear references that coordinate work between the concerned authorities (for example, the establishment of a national committee for agricultural extension to coordinate, guide and formulate general policies for agricultural extension).
- Developing a comprehensive and immediately actionable national agricultural extension strategy based on farmers' actual needs, linked to higher education, scientific research and agricultural and rural development plans.
- Developing permanent professional training programs for agricultural engineers in general, and agricultural extension workers in particular, with a special focus on practical skills, modern farming methods, keeping pace with technology, communication skills and sustainable agricultural practices.
- Strengthening coordination between universities, research centres, directorates of agriculture and trade unions through an institutional mechanism that ensures continuous interaction and exchange of experiences (representatives of these bodies will be members of the national committee mentioned above).
- Integrating digital extension tools such as smart applications, podcasts, educational videos, and electronic platforms contributes to expanding access

to farmers and enhancing the effectiveness of extension message delivery.

- Enabling farmers' participation in the extension process by adopting a participatory learning approach, enhancing the role of leading farmers, organising extension fields and farmers' schools, and encouraging the creation of sustainable communication groups such as WhatsApp and Facebook groups that have proven successful.
- Funding research and extension centres to enable them to play their role in the production and application of knowledge with a focus on applied research priorities related to the needs of local farming communities.
- Developing agricultural university curricula to include courses on extension skills, effective communication and the use of digital tools, and updating their scientific content to keep pace with modern agricultural transformations.
- Improving the infrastructure for practical training by modernising laboratories and rehabilitating research and training stations and centres of universities to provide effective training that raises the efficiency of students and graduates and qualifies them to participate effectively in agricultural extension programs.

## 4. Recommendations

In light of the discussions and interventions witnessed by the workshop, the participants concluded a set of practical recommendations that can contribute to the development of the agricultural extension system in Syria and activate its developmental role, most notably:

1. Develop a unified national strategy for agricultural extension that is grounded in participatory principles, addresses the genuine needs of farmers, and addresses the challenges of the agricultural reality in Syria.

2. Update and develop university curricula to include agricultural extension skills, communication techniques, the use of modern digital tools, and linking agricultural education to the labour market's requirements. One priority concerns the use of digital mentoring and its adaptation to the local context.

3. Establish a national committee for agricultural extension to provide guidance and coordination among universities, research centres, directorates of agriculture, and professional unions and strengthen institutional coordination.

4. Enhance the efficiency of agricultural engineers through continuous vocational training programs that focus on both applied and cognitive aspects, communication skills, and technology transfer.

5. Develop the infrastructure of universities (laboratories, research and training stations) to enhance the practical experiences of graduates.

6. Provide the necessary human, technical, and financial resources to develop the infrastructure of the agricultural directorates, especially the departments and units of agricultural extension.

7. Support and fund research centres to ensure their ability to produce scientific and applied solutions that respond to the challenges of local agriculture and climate change conditions.

8. Strengthen the Agricultural Engineers Association's role in organising and qualifying agricultural engineers and supervising the work of farming and veterinary pharmacies as one of the important extension entrances.

9. Establish a national archive of extension experiences and success stories to promote a culture of documentation and dissemination of agricultural knowledge locally.

10. Enable farmers to participate actively in the design and implementation of agricultural extension programs.

This workshop is an important step in the process of reactivating agricultural extension in Syria and enhancing its role in supporting farmers and promoting sustainable rural development. The rich discussions and valuable interventions made by participants from various academic, research and professional institutions contributed to shedding light on the real challenges facing the agricultural sector in general and agricultural extension in particular, and crystallising visions and ideas that can be built upon in the future.

The workshop organisation team extend their sincere gratitude to all participants for their active attendance and outstanding contributions. We also extend special thanks to the University of Aleppo for its generous hosting and to everyone who contributed to the success of this event. Furthermore, we highly value the support of the Sussex Sustainability Research Programme, which funded this initiative and provided cooperation on other projects related to agricultural extension services and higher education in Syria, implemented by Syrian Academic Expertise in collaboration with colleagues from the University of Sussex.


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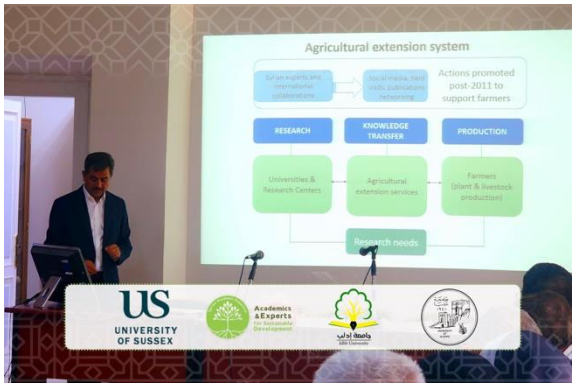
Agricultural extension system
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