Syrian Food Futures: Visioning for the future of food security in Northwest Syria

One Health FIELD Network 2021

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Contents

List of Tables and Figures

Table or Figure	Title	Page number
Table 1	Critical uncertainties	11
Table 2	Participant-identified needs derived from critical uncertainties- displacement, natural resource management and agricultural policy reform (reproduced from Boden et al. 2019[1]).	21
Table 3	Proposals for locally-appropriate interventions to improve agricultural innovation	25
Figure 1	Critical uncertainties are reflected as axes of change.	15

List of Abbreviations

Abbreviation	Definition
NGO	Non-governmental organisation
COVID-19	Coronavirus disease 2019 caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
SDG	Sustainable Development Goal
FCAS	Fragile and Conflict-Affected States
LMIC	Lower- and Middle-Income Countries
GDP	Gross Domestic Product
UN	United Nations
SWOT Analysis	Strengths Weaknesses, Opportunities and Threats Analysis
WoS	Whole-of-Syria
NWS	Northwest Syria
FAO	Food and Agriculture Organisation
WFP	World Food Programme
FSL	Food Security Cluster – Food Security and Livelihoods
UK	United Kingdom
USA	United States of America
CARA	Council for At-Risk Academics
GCRF-UKRI	Global Challenges Research Fund

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[1] Boden LA et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available at https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf

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Executive Summary

- Relevant, context-specific and interdisciplinary sources of intelligence may be neglected or excluded from intergovernmental, third-sector and local initiatives, Non-governmental Organisation (NGO)- or government-led social and development programmes.

- The aim of this work is to highlight the potential role and contributions of Syrian academics, and to facilitate a platform for dialogue between academics and practitioners in order to integrate local knowledge, cultural and scientific expertise, and to improve strategy development and prioritisation for long-term future planning.

- The emphasis of that dialogue is not to "predict the future" but to create opportunities to discuss potential constraints and benefits, and to evaluate whether proposed policy and investment decisions are likely to be robust in the context of evolving uncertainties.

- In this workshop, participants employed this framework to explore uncertainties associated with long-term drivers of change according to three axes: displacement, natural-resource management, and agricultural policy, in order to articulate vision for the future of food security over the next five years.

- Participants stressed the importance of harmonising and centralising data curation, management and information-sharing to ensure a coordinated approach in the region

- Affordable, accessible and acceptable locally led interventions to improve agriculture and food security from production to consumption were proposed.
  - Community-based actions should be incentivised and integrated into sustainable institutional arrangements capable of countering displacement and low connectivity. This includes a graduation from relief initiatives to those focused on sustainability, self-reliance, cost-recovery and empowerment of women.
  - Technological change improves natural-resource management when supported by an institutional framework structured around transnational and local efforts (e.g., networks of agricultural knowledge and collaboration with the international institutions).
  - The links between food security, agricultural production, and local and international markets should be explored at the intersection of a conflict-driven institutional landscape, the economic determination of long-term contingency planning, and the impacts of chronic global emergencies (e.g., the COVID-19 pandemic and climate change).

- The connectivity and resilience of Syrian food systems is addressed in terms of the constitution of sites of local knowledge-sharing about the culture and history of agriculture, food access, production, preparation and food behaviours. These networks of agricultural knowledge form the basis for the reconstruction of the agricultural sector, by counteracting conflict- and economic-driven de-territorialisation.

Background

Protracted political conflict creates conditions for severe and widespread food insecurity. Improving local knowledge-sharing about the culture and history of agriculture, food access, production, preparation and food behaviours will improve the effectiveness of strategy development for future recovery of the agricultural sector and Syrian food systems.

In Syria, 12.4 million people are in need of food assistance[2] due to the sustained crisis since 2011. Nevertheless, agriculture is still considered an important part of Syria's economy (26% Gross Domestic Product (GDP))[3] and important for self-sufficiency for more than 75% of households who grow their own food for consumption.

Capturing stakeholders' visions for the future of agriculture in Syria is now critical as attitudes and beliefs towards producing and consuming food will have changed considerably over the long duration of the conflict. Uncertainties about governance, weakened institutions and research funding and capacity constrain traditional opportunities for long-term contingency planning and inhibit access to local expertise, which is essential for timely, evidence-based decision-making.

Interventions have, so far, understandably focused on survival and short-term food security needs (i.e., food supplies and agricultural inputs such as seeds, fertilisers, pesticides, animal vaccines), perhaps at the expense of longer-term strategic approaches which incorporate broader socio-economic or environmental considerations. This may result in unforeseen tensions between short- and long-term food security demands, which could undermine resilience in the long term. This is exacerbated by diminished regional and international collaborative research ties between researchers, universities, public institutions, national, international and United Nations (UN) agencies, producer organisations and the private sector.

Although there is still excellent expert capacity remaining within Syria (with Syrian academics embedded within local and international NGOs, and governmental entities) it is also the case that there has been extensive loss of in-country human and intellectual capacity, as academics have been displaced from high-risk areas as a matter of safety and security. This has made it more challenging to connect local cultural knowledge with decision-makers who are responding to the crisis and trying to influence future societal rebuilding efforts positively, based on social trust, cultural values and pluralism.

In this report, we describe the use of participatory scenario-planning methods as a framework for facilitating dialogue between academics, local stakeholders, practitioners, and lay people so that local knowledge, cultural and scientific expertise can be better integrated into strategy development and prioritisation for long-term future planning for food security. We describe the participatory approach (Section 1) and historical drivers and trends (Section 2) which were

[2]Boden LA et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available at https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf; Food Security Cluster (2017) Food security situation in Syria: Expanded version of the Food Security Sector Humanitarian Needs Overview 2018. Whole of Syria Food Security Sector

[3] FAO (2017) Counting the cost: Agriculture in Syria after 6 years of crisis. Available from http://www.fao.org/3/b-i7081e.pdf NEEDS TO BE LINK?

used to develop a vision for the future of food security in Northwest Syria over the next five years (Section 3). A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is described (Section 4) which was used by participants to inform and future-proof strategy development (Section 5). We discuss the findings (Section 6) and conclude with a series of next steps in Section 7.

1. Approach

Scenario-planning methodologies were employed to explore uncertainties associated with long-term drivers of change and to create a vision for the future of food security.

Scenario planning is a transdisciplinary approach which brings together diverse groups of participants with different interests/beliefs to engage in qualitative, structured, long-term strategic thinking about the future. The emphasis of this approach is not to "predict the future" but rather to create opportunities to discuss potential constraints and benefits, and to evaluate whether proposed policy and investment decisions are likely to be robust in the context of evolving uncertainties. In order to inform this process, we drew on previous work that systematically explored the history and prioritisation of important drivers of long-term trends and developments in food security in the region as a starting point for this exercise.[4]

Participatory workshops were subsequently held to facilitate stakeholder discussion and agreement on the definition and characteristics of a vision for a sustainable agricultural industry through consideration of the following focal question:

> **"What is a desirable future for food security in Northwest Syria in five years' time?"**

The instability and uncertainty of the Syrian context, means that long-term scenario planning (considering a 20–30-year time horizon) is challenging for participants, particularly given the uncertainty around the imminent renewal of the cross-border agreement (which was due to occur the same week as the participant workshops). A short timescale – three to five years was therefore proposed.

> *"…you don't know what will happen in the next week so it is a big challenge. Also, for the colleagues to think really what they imagine, what could happen in five years."*
> *"I think it's somehow a governmental approach used in Syria– to say that this is the five-year plan… (this is typically) considered as a long-term plan."*
>
> *"The time horizon for the scenario is critical to strategy development. There is a tension between consideration of the status of the beneficiary: emergency, short term or long term and the imposed link to livelihoods, which may go beyond the timescales."*

Although a "Whole-of-Syria" approach was acknowledged to be pragmatic; the geographical scope of the focal question was narrowed to consider only Northwest Syria to reflect the expertise and sphere of influence of the participants in the discussion, as well as the variability and specificity of the region with respect to agricultural production.

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[4] Boden, L. A. et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available from https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf

> *"Northwest Syria is different from south, or from the governmental Syria hub, because the climate is different, the soil is different and also the material aid is different."*
>
> *"We have access to Northwest Syria's olive branch, peace spring, Euphrates Shield areas and sometimes to Northeast Syria, I think, let us be geographically specified to focus on this area rather than focusing on the whole of Syria, unless we have some good colleagues who can join from international entities, like FAO (Food and Agriculture Organisation), like WFP (World Food Programme) from Damascus to feed in, because to be honest, there is a gap in information, there is even a gap… when we are discussing the whole of Syria food security assessment; sometimes there is disagreement between the two, three or four geographic locations."*

A "SWOT" (strengths, weaknesses, opportunities and threats) analysis was subsequently performed, and linked to strategy development exercises, which generated a number of policy options around: livestock production; land use; promotion of knowledge and technology innovation; and exchange and development of education and training programmes to increase technical competence at a local level and to address short-term stakeholder-felt needs.

2. Historical Drivers and Trends

A detailed discussion of social, technological, economic, environmental and political drivers was conducted in 2019 at a roundtable discussion on the future of food security in fragile and conflict-affected states.[5] A summary is available [here](#) and critical uncertainties are presented in Table 1. Of these, three themes: displacement; natural resource management; and agricultural policy were considered by participants as the critical axes underpinning any future scenario (see Figure 1).

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[5] Boden, L. A. et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available from https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf
Drivers of change: food and agricultural production in Syria since 1960 at pages 7–10

Table 1. Critical uncertainties (reproduced from Boden, L. A. et al. 2019).[6]

	Displacement	Natural Resources	Agricultural Policy
High impact and uncertainty	• Lack of access to academic expertise, which is no longer in country and cannot return • Lack of access to veterinary services • Increased role of women in the workforce	• Increasing water poverty – reduction in groundwater levels and sources of replenishment for safe drinking, sanitation and irrigation • Dependency on water sources outside Syria (in Turkey) and elsewhere for replenishable water supply • Preservation of natural-resource heritage (i.e., genetic resources and seeds from lost Syrian forests)	• Market forces (prices, value chains, agriculture as a private rather than public good) • De-regulation and absence of strong institutions responsible for standards and certification of agricultural products (inputs such as pesticides, fertilisers, etc.) • Emergence of privately run and owned businesses • Increase in black markets, counterfeit drugs and agricultural inputs • Changing donor-funding priorities
Lower impact and uncertainty (modifying or underpinning drivers)	• Competition from expatriate expertise from China, Russia, Iran (sent in to develop markets to feed their populations)- exacerbation of "brain drain" • Kinship networks: sources of income, communication and expertise	• Availability of fuel and machinery • Transport: availability, accessibility of road network (mines, damage to infrastructure, security) • Fire hazards (resulting from conflict activities) • Climate change: increase in greenhouse gas emissions; extreme weather events such as drought, flooding; changes in distribution of pathogens, pests, vectors and hosts/reservoirs of infectious disease	• Land ownership and tenure (response to legislation #10): availability, access, use for agriculture, ownership (state or private) • Porous borders and movements of people across them

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[6] Boden, L.A. et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available from https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf

Critical uncertainties were subsequently transformed into axes of change. Each axis represents a driver of food security in Syria (Agricultural Policy, Natural Resource Management, Displacement) that may be pushed towards one of two extremes over the next five years.

Definitions of each axis and its extremes are presented below. Before the Syrian Futures workshop, participants were asked to consider the following questions:

- Where along each of these axes do you think the "ideal" future of food security in Syria might be located?
- What does food security look like in this ideal future scenario?
- What strengths and weaknesses would your organisation have in this future? What opportunities and threats would it face?
- Are there actions that could be put in place this year, or next to try and arrive at this future?

I. Displacement:

This axis refers to the number of Syrians who are displaced externally or within Syria. The two extremes of this axis are "Continuing/Increasing Displacement" and "Reducing Displacement". If there is "Continuing/Increasing Displacement" it means that the number of Syrians unable to return to their homes remains the same or is increasing as a result of the conflict, and lack of security and safety in the country, and that there is increased demand for emergency responses. If there is "Reducing Displacement", the number of Syrians able to return to their homes is greater than the number continuing to be displaced and there is decreased demand for emergency responses.

Current situation

- Displacement remains continuous within and outside Syria, but it is anticipated that, as a result of international agreements (specifically ceasefire agreements) in place, this will decrease over time.
- Migration, resulting in the internal and external displacement of people, means that much of the country's practitioner, scientific and technological expertise may reside outside Syria and remain inaccessible to decision-makers.
- Increasing numbers of camps results in decreased land available for agricultural production and increased competition for limited resources (water, bread, etc.).

In the future

The vision is for displacement to be significantly reduced over the next five years, as a result of decreased security risks, leading to a safe return of Syrians to Syria from host countries such as Turkey, Jordan, Lebanon and Iraq.

> *"For me, I regret that today I am witnessing an urban expansion, not an agricultural expansion."*

II. Natural resource management:

This axis explores how management of natural resources (including water, soil and forests) is incorporated into agricultural practices and decision-making. The two extremes:

"Sustainability" and "Resource Exploitation" refer to the emphasis placed on practices which enable farmers to meet not only their own needs, but those of the next generation versus those that maximise production without consideration of the long-term impact on natural-resource availability. The ability to manage natural resources in Syria is co-dependent with security (or lack of security) and resultant displacement of people and animals.

Current situation
- Natural-resource management in Northwest Syria is highly variable by region, but predominantly characterised by resource exploitation.
- Public assets for manufacturing no longer have government oversight and there has been a significant breakdown in water infrastructure.
- Lack of fuel and electricity means that it is not possible to use existing irrigation canals and, in the absence of government controls, farmers routinely drill underground wells, causing further damage to aquifers and depleting already scarce water resources.
- Between 2015 and 2019 there was a positive shift away from emergency programming towards initiatives that promoted sustainability (such as livelihood-programme initiatives, value-chain approaches, and initiatives for seed-multiplication and crop-variety introduction). However, implementation of these initiatives has been difficult and disrupted by the political situation in some areas of Northwest Syria. However, more recent airstrikes on irrigation systems and bakeries have increased the demand again for humanitarian aid and emergency food distribution.

In the future
In the next five years, the aim is to move towards agricultural practices which are more sustainable.

> *"When it comes to olive trees in Northwest Syria, in North Hama especially, last development of the security, or last advance of government of Syria to south Idlib and north Hama, they control hundreds of thousands of hectares of olive trees, pistachio trees. Unfortunately, thousands of hectares were cut just because it is recently controlled by GoS forces as a revenge on the opposition. Now all of those trees, all of those lands, I can say it is out of services or at partial production, because their farmers and their owners don't have access to that area. When it comes to natural resources, rivers, Northwest Syria now, all rivers – except the Afrin one – the source of water, for the Orontes River, it came from GoS area and it is cut. No water can pass from GoS-controlled area to opposition-controlled areas in Idlib. Everything, for example, when we talk about the Euphrates River now its level is at a critical stage. Imagine what happened…Now there is not enough water to feed people, not to irrigate lands."*

III. Agricultural policies

This axis explores decision-making and policy-creating approaches in agriculture within Northwest Syria. The two extremes of this axis are "Top down (state led)" and "Bottom up (community led)". The former refers to policies and guidelines created and implemented by a central governing body at a countrywide level (with or without consultation). The latter are created and implemented by local communities, organisations and NGOs at a provincial or city/town level.

Current situation

- The conflict in Syria has had a devastating impact on Syria's agricultural capacity and governance.
- The absence of regulation and weakening of remaining governance institutions has led to a reliance on community-based approaches to address existing or newly created policy gaps.
- In Syria today, it is estimated that 6.5 million people are currently food-insecure and a further 4 million are at risk of becoming acutely food-insecure.[7] Despite the sustained conflict, agriculture is still considered an important part of Syria's economy (26% GDP)[8] and critical for self-sufficiency for more than 75% of households that grow their own food for consumption. There have been $16 billion in total losses within agriculture between 2011 and 2106, including more than $3 billion losses in infrastructure, such as irrigation canals, wells and veterinary support.[9]

In the future

- Syrians would like a balance between top-down and bottom-up approaches to agricultural policymaking to be established within the next five years. It is critical that any policy is self-determined by Syrians rather than imposed upon them.
-

> *"At present, it's the community that leads agricultural policy-making, since there is no authority. Some policies have not been beneficial and for the future they should be avoided, like the scenario before the conflict which was mismanaged by the government (leading to) … a loss of biological diversity as well as not being in line with international standards and with the desires of the farmer community."*
>
> *"Syrian food security has been affected not only by the conflict but also [by the] decrease of agricultural production and general deterioration of the agricultural sector not only due to environmental factors but also because of the procedures and policies enforced before 2011 by government and authorities. All led to a negative impact on food security in Syria. Those policies were short-term and narrow. Future policies instead need to take into account the sustainability of those resources."*

A summary of the critical axes defining the future scenario is presented in Figure 1. The olive symbol on each axis denotes a desired plausible vision for conditions in five years' time.

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[7] Food Security Cluster (2017) Food security situation in Syria: Expanded version of the Food Security Sector Humanitarian Needs Overview 2018. Whole of Syria Food Security Sector

[8] FAO (2017) Counting the cost: Agriculture in Syria after 6 years of crisis. Available from http://www.fao.org/3/b-i7081e.pdf

[9] Global Communities, Partners for Good (2018) Resilience through Humanitarian Assistance: Agriculture in the Syria Conflict. Edited by David Humphries. Available from www.globalcommunities.org p9
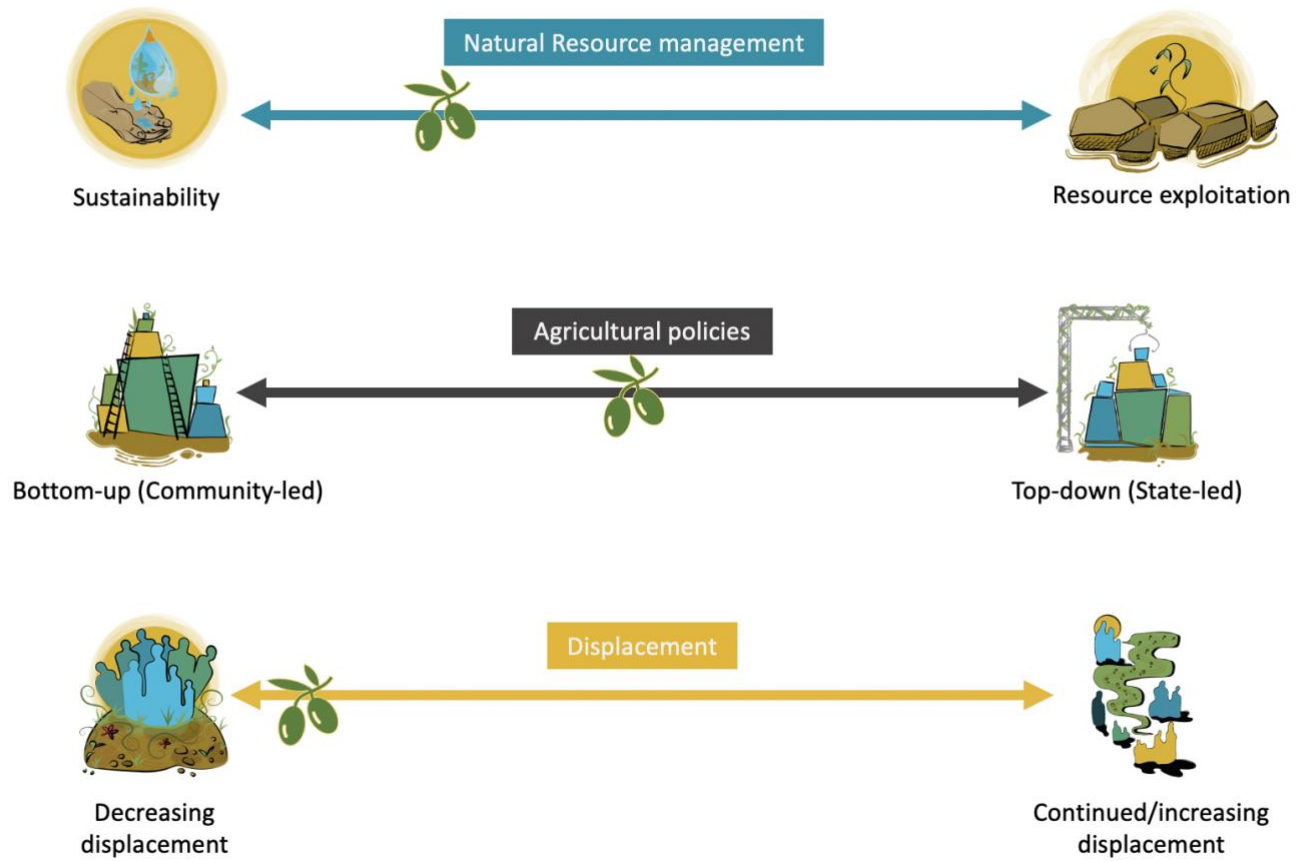
Figure 1. Critical uncertainties are reflected as axes of change

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3. A Vision for the Future of Food Security
Fragile peace: a vision for the future of food security in Northwest Syria in the next five years

A desirable future in the next five years would be one in which there's increasing stability and security, in the majority of regions in Syria, but in particular in the Northwest region. The frequency of security risks will have decreased, leading to a return of Syrians to Syria from host countries (Turkey, Jordan, Lebanon and Iraq). The return of donors, such as the World Bank, facilitates progress in de-mining efforts and has improved the security of roads and transport

This return of previously displaced experts, who have acquired new skills and expertise, will strengthen existing pipelines of expertise and facilitate uptake of new technologies which will enable data-driven approaches to decision-making.

Decision-making and policy-creation in the region is self-determined with a balance between community-led and state-led approaches. Researchers, academics, engineers, NGOs and INGOs will collaborate in a harmonised approach to inform decision-making and new opportunities will emerge to support entrepreneurship. This might require online platforms, and efforts to build trust between the decision-makers and the people who are putting their decisions into practice, to enable an effective transition from theory to implementation, and from short-term priorities to longer term initiatives.

Producers will have access to both international and healthy local markets. Technicians who remain in the country will have access to up-to-date information and capacity-building training. Farmers will have access to extension services, and there will be a specific emphasis on women's participation in agricultural production and decision-making (e.g., through an integration initiative between the Food Security Cluster – Food Security and Livelihoods (FSL) and protection-mainstreaming programmes). New farming practices, which are attentive to issues of climate change and other threats to the environment will be implemented and promoted within communities, through training and extension services. This will result in improved access and strengthening of local markets for agricultural products and food supply chains, as well as a recognition of the importance of climate-smart farming practices that are delivered by the community.

4. SWOT Analysis: Strengths, Weaknesses, Opportunities and Threats for Agricultural Practice in Northwest Syria

Strengths: What is already done well? What unique resources are available?
Weaknesses: What needs improvement? What resources do you lack?
Opportunities: How can you leverage your strengths? What trends could benefit people in the future?
Threats: What global or local shocks might disrupt the future?

Strengths	*Weaknesses*
- People returning with new skills; strengthening pipelines of expertise and knowledge, and improving decision-making - Agricultural practices improve and diversify as a result of new knowledge and expertise - Transferrable skills for strategy development and policy-making gained through extensive participation and experience in humanitarian relief and sustainability programmes (e.g., needs assessment, programme development, proposal writing, risk assessments) - Land and natural resources availability - Agro-ecological and environmental diversity	- Lack of accurate data and statistics for agriculture – no official entity to archive them and gap on information sharing - Weak links between academic and humanitarian sectors - Lack of expertise for agricultural production activities → dislocation of local knowledge provoked by displacement - Lack of access to agricultural extension programmes; insufficient numbers of women involved in agriculture practice and decision-making - Lack of trust between farmers and academics/experts because of the lack of extension services - Low levels of production/planting due to diminished land availability - Old agricultural equipment, expensive to run - Lack of local crop varieties leads to imported seeds not adapted to local environments - No crop rotation, which affects crop production and soils, creating conditions for crop-borne diseases - Gap in animal food production with only subsidised distribution; overdependency on agricultural inputs and subsidies - Minimal veterinary services and lack of vaccination campaigns. - Poor coordination e.g., no government to oversee vaccination campaigns - Competition between local communities' herders and internally displaced people for animal feed; livestock being sold to neighbouring countries as a result of displacement

Opportunities	Threats
• Building trust • Peace-building initiatives • Empowerment of women through greater participation in agricultural production and decision-making • System thinking from producer to consumer • Resilient logistic supply-chain management • Manufacturing and marketing of food products • Improvement of local internal markets for the food supply chain • Enhance agricultural exports (e.g., olive, pistachio, potato), to create jobs and new sources of income • Climate activism and climate-smart practices • Shift to sustainable agricultural production (inter-cropping, solar-power integration into agriculture systems)	• Uncertainty over border closures, renewal of cross-border agreement and subsequent threat to humanitarian aid (see below) • Conflict and waves of displacement put pressure on pasture and agricultural land, increasing urbanisation and affecting food production • Practical local agricultural knowledge not shared with new generations and new-entrant farmers • Drought caused increase in crop and forage-crop prices, affecting herders and causing a decrease in livestock production • Scarcity of water resources, irrigation and low rainfall. Damaged irrigation canals and wells in northern Syria • Potential spread of diseases and threat to human health • Increase in fuel prices • Land mines • Reduced funding availability • International political disagreement

4.1 Future Threats: the Renewal of the cross-border agreement

The cross-border agreement is a resolution passed by the Security Council to allow the UN and their humanitarian partners (with the Syrian authority's permission), to send aid across the border into Syria from surrounding countries.[10]

Key facts

- The agreement was initially introduced in July 2014 by a resolution that was unanimously voted in by the Security Council. It authorised four border crossings for urgent humanitarian aid into Syria: Bab al-Hawa (Syria–Turkey border), Bab al-Salam (Syria–Turkey border), Al-Ramtha (Syria–Jordan border) and Al Yarubiyah (Syria–Iraq border).[11]
- The agreement in this form was renewed annually in December of each year between December 2014 and December 2018, with unanimous support until 2016 and despite China and Russia abstaining from voting in 2017 and 2018.[12]
- In December of 2019 the Council did not re-authorise the agreement as it was and instead tabled several alternative resolutions.
- After complex negotiations between council members, on 10 January 2020 a new version of the agreement was renewed for six months, which removed the al-Ramtha and Al-Yarubiyah crossings but kept Bab al-Salam and Bab al-Hawa.
- The main source of disagreement between council members was the support of cross-line rather than cross-border aid delivery, with Russia and China in particular pushing for more cross-line rather than cross-border aid and a reduction in sanctions, while the United Kingdom (UK) and United States of America (USA) cited the dangers and potential limits of cross-line aid to push for continuing the cross-border aid.[13]
- On 11 July 2020, after days of intense negotiations and four separate drafts tabled, a resolution was adopted re-authorising only the Bab al-Hawa crossing for 12 months until 10 July 2021.[14].

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[10] In Hindsight: Six Days, Five Resolutions, One Border Crossing (2020) 13 September 2021. Available from https://www.securitycouncilreport.org/monthly-forecast/2020-08/in-hindsight-six-days-five-resolutions-one-border-crossing.php.
[11] *Ibid*
[12] *Ibid*
[13] *Ibid*
[14] In Hindsight: Getting Across the Line on Syria's Cross-Border Mechanism (2021) 13 September 2021. Available from https://www.securitycouncilreport.org/monthly-forecast/2021-08/getting-across-the-line-reaching-an-agreement-on-syrias-cross-border-mechanism.php

4.2 Future Threats: Implications of the current agreement on the future of food security

- The current cross border agreement was introduced on 10 July 2021 and re-authorises the Bab al-Hawa crossing for six months, with a further extension of six months "subject to the issuance of the Secretary General's substantive report, with particular focus on transparency in operations and progress on cross-line access in meeting humanitarian needs.
- Of the four million Syrians living in Northwest Syria, 75% rely on humanitarian aid from the United Nations to meet their basic needs(3). This humanitarian aid would be unable to reach Northwest Syria by a cross-line route as negotiations between the United Nations and the Syrian government to allow cross-line aid to Northwest Syria have consistently been unsuccessful.[15]
- In 2021, of the $99.5m of Syrian cross-border funding that has been allocated, $18.4m has been allocated to projects supporting food security, making it one of the funds' most supported clusters (matched only by water sanitation which has also been allocated $18.4m) (4).[16] This is consistent with funding allocation in 2020, when Food Security was the most funded cluster, receiving more funding than Health, Emergency Shelter and Water Sanitation.[17]
- The cross-border aid and funding that goes towards the Food Security cluster, is distributed between 60 active partners, on the ground in Syria. These partners work to provide access to food for displaced people in Northwest Syria.[18]
- Funding allocation indicates that supporting food security has been, and continues to be, an area of highest priority for aid entering Northwest Syria through the Bab al-Hawa border crossing, as allowed in the cross-border agreement.[19]
- The July resolution to keep the Bab al-Hawa border crossing open was essential to allowing projects supporting food security to continue and was therefore essential for the continued support of food security in Northwest Syria. The resolution did not, however, allow for the re-opening of any other border crossings that had previously formed part of the agreement (Bab al-Salam, Al-Ramtha or Al Yarubiyah). In this way, it limits any potential expansion of aid that is arguably essential, considering the Syrian economic crisis, continuing high levels of displacement and impacts of the COVID-19 pandemic, that have all increased the number of people in Northwest Syria at risk of food insecurity (7).[20]
- By keeping a single border crossing open for humanitarian aid, the cross-border agreement creates a dependency of that aid on the country of origin. Under this arrangement, aid is only able to enter Northwest Syria from Turkey, a country that is heavily politically involved in supporting the opposition in Syria(7). Changes in the political situation in Turkey could significantly impact what is able to cross the border at Bab al-Hawa, while there are no alternative border crossings from Jordan or Iraq.
- Damage to the Bab al-Hawa crossing that prevented it functioning (e.g., destruction of roads) would lead to Northwest Syria being completely cut off from aid.

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[15] As Hunger, Malnutrition Rise in Syria, Security Council Must Ensure Border Crossing Remains Open, Aid Flows to Millions, Humanitarian Affairs Chief Stresses [press release]. un.org: United Nations, 29 March 2021

[16] Country Based Pooled Funds Data Hub [Internet]. Office for the Coordination of Humanitarian Affairs (2021) [cited 13 September 2021]. Available from https://cbpf.data.unocha.org/

5. Strategy Development

Participants devised a set of strategies that enhanced or mitigated the strengths, weaknesses, opportunities and challenges in this future scenario. A description of the strategies follows and is aligned to the needs presented in Table 2.

Table 2. Participant-identified needs derived from critical uncertainties – displacement, natural-resource management and agricultural policy reform (reproduced from Boden, L. A. et al. 2019).[21]

Critical uncertainties	Displacement	Natural-resource management	Agricultural policy reform
Needs	- Centralised data curation, sharing and management - Improved information sharing networks - Building Trust - Education and Training and extension initiatives for agriculture	- Agricultural innovation to enable self-sufficiency – - Climate-smart agriculture	- Holistic agricultural policy reform - A combination of top-down and bottom-up approaches

5.1 Strategies to address the impact of displacement on the future of food security
5.1a. Data curation, sharing and management

- Underlying any and all challenges faced by the agricultural sector in Northwest Syria is a lack of reliable, well curated data.
- Data are currently fragmented and disparate – either not collected at all or collected by numerous, disparate NGOs and governing bodies, making it impossible to build a reliable, accurate picture of the current situation.
- Data collection regarding key agricultural information is important for an informed, coordinated response (e.g., how many animals are in an area? How many olive trees? How many farmers who have lost land?)
- Data-sharing should facilitate alignment of donor priorities with needs of people in the region.
- A centralised body, responsible for collecting and curating a repository of existing data in a single centralised data-bank is needed. This body would need to be recognised internationally and require university support. Its role would then be to maintain and

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[17] UNOCHA. Syria Cross-Border Humanitarian Fund: 2020 Allocation Dashboard (Cumulative) - As of 31 December 2020 reliefweb.int: Reliefweb; 2021 [updated 22 February 2021. Available from https://reliefweb.int/report/syrian-arab-republic/syria-cross-border-humanitarian-fund-2020-allocation-dashboard-0.
[18] Hub FSC-G. About fscluster.org: Food Security Cluster; 2021 [Available from: https://fscluster.org/gaziantep/about.
[19] *Ibid*
[20] Hall N. The Implications of the UN Cross-Border Vote in Syria. csis.org: Center for Strategic and International Studies; 2021 4 June 2021.
[21] Boden L.A. et al. (2019) Global Health and Food Security in Fragile and Conflict Affected States (FCAS) Syrian Academics and their Role in the Future of Food Security for Syria. Available from https://www.ed.ac.uk/files/atoms/files/ghafs_fullreport_eng_jan20.pdf

update a store of food security-related data that was available for access to all. This centralised body, by bringing together data from many different sources, would be able to identify existing data gaps and help prioritise research or NGO activity to fill these gaps. This should improve data and information-sharing with other hubs, for example, from Iraq, from Northeast Syria, Damascus, Beirut.

> *"We lack accurate statistics since the beginning of the revolution…. We don't have any correct statistics about agriculture…. There is no official entity to take care of these statistics to archive them and document them. As a result, we cannot assess needs …whether it is related to crops or to livestock. There is a gap between the statistics and the recommendations. Even in the regime government."*
>
> *"I can't trust data that comes from the GoS area, because I do not have any background about the data collection, how it is analysed, and even how it is transferred to other audiences. As mentioned, previously or yesterday, there is still a gap in information sharing between hubs; I mean hubs in Lebanon, Damascus, Iraq and even Turkey. I never ever saw any real report coming from GoS controlled areas for example, no valuable reports."*

5.1b. Networks of expertise to improve information-sharing

- Relevant, context-specific and interdisciplinary sources of intelligence may be neglected or excluded from intergovernmental, NGO- or government-led social and development programmes.
- Formal links should be established between individuals and organisations with international research centres, NGOs and INGOs to facilitate information-sharing and current knowledge and research.
- Academics should be connected through online platforms to share state-of-the-art research and strengthen professional networks and improve visibility of expertise.
- Support is needed to establish an internationally recognised Syrian-led agricultural research centre, which could act as an umbrella organisation to coordinate efforts with local councils, government bodies, universities, and other research centres working in this landscape.

> *"Because after 10 years of crisis, as mentioned yesterday, we currently have maybe three or four governments managing Syria. We talk about Northwest Syria where there are two or three governments, and none of them recognises the other…What about international recognition? Unfortunately, for us as academics working in exile, under which umbrella do we work? Now, if I introduce myself, I will introduce myself as a former Syrian academic, former university lecturer. But what about my career currently? I can't introduce myself in scientific workshops as a senior FSL advisor working for Global Communities. No, this is not the reality. We introduce ourselves as CARA (Council for At-Risk Academics) fellows, and to be honest, we faced several issues in this regard. …The output of this workshop will be policies and will be recommendations for Syria for the future during the upcoming five years. And at the end – and I apologise for being not optimistic – who would recognize that? Who is X, who is Y? which umbrella they are working right now?"*

5.1c. Building trust through improved communication, education and outreach

- Trust between stakeholders has been eroded by years of protracted conflict.
- Building trust between agronomists, practitioners, farmers, NGOs and the general public is difficult but essential, to allow for a coordinated response to food-security threats.
- Developing accessible outreach programmes available to women and IDPs is important for sharing and improvement of best agricultural practices and solutions.
- Encouraging communication with practitioners and the public through agriculture extension and media campaigns will improve transparency and understanding.
- Involving agronomists and other professionals from different disciplines and sectors who are involved in policy implementation should ensure a diversity of views, to mitigate blind spots and improve approaches to problem-solving.

> *"I believe that amid the current situation in Syria it's difficult to have large- or even medium- and large-scale projects, but we can focus on small projects. Still, we need to think about the next stage in the post-conflict stage, when we need to focus on training, on extension services. We need to benefit also from the current technology and all the communication technology, including podcasts or social media to raise awareness, to provide extension services…We need to publish success stories in this regard."*

5.2 Strategies to improve natural resource management

5.2a. Agricultural innovation

- Sustainability is framed in terms of highly connected and resilient Syrian food systems.
- Connectivity and resilience can be prompted by networks of agricultural knowledge conducive to distinct natural resource-use practices.
- Community-based actions should be incentivised and integrated into sustainable institutional arrangements capable of countering displacement and low connectivity.
- Technological change improves natural-resource management when supported by an institutional framework structured around transnational and local efforts (e.g., networks of agricultural knowledge).
- The links between food security, agricultural production, and international markets should be explored at the intersection of a conflict-driven institutional landscape, the economic determination of long-term contingency planning, and the impacts of chronic global emergencies (e.g., the COVID-19 pandemic and climate change).

> *"We have to introduce agricultural technologies or techniques that preserve and enhance natural resources. We need to support production through institutions, organisations, and policies. We have also to preserve natural resources through maybe providing awards or bonuses for communities that, for example, install nursery plants which support planting more trees, especially in the areas that were burnt last year"*
>
> *"There is also a recommendation also to enhance the sustainability of the food security sector by shifting from emergency response programs to sustainable programs, for example, stopping free agriculture commodities distribution, or free food basket distribution and shift those to agricultural production, livestock production and so on. But*

5.3 Strategies to improve agricultural policy development

5.3a. Bottom-up approaches: engaging with communities

- Increasing participation of women and IDPs in policymaking efforts
- Encouraging think tanks that work on issues of food security, women's empowerment and peacebuilding

"Throughout the past ten years, hundreds of workshops or meetings have been held for governance of the agricultural sector through active bodies . We, in Syria, as long as it is the same situation…even if we hold thousands and thousands of workshops putting forward many sets of recommendations, still we will not be able to make an actual change on the ground; as long as we don't have a government that is able to implement and to oversee the implementation of such projects, it will be very difficult. Of course, I'm not saying that the government is going to implement everything and every step itself; what I mean is that the government has its own channels to encourage research centres, management of data… etc. All these sectors would be overseen by the government so the work will be organised and unified. Unfortunately, we don't have this privilege now."

Table 3. Proposals for locally-appropriate interventions to improve agricultural innovation

Crop production	Livestock production	Other forms of production	Land management	Water Management
- Climate-smart practices - Increase land yield where appropriate - Crop diversification (e.g., Azola cultivation for fodder/grass) - Supporting planting of winter foraging crops - Improve crop yield and reduce water requirements for irrigation and methods (crop rotation, intercropping) to increase land fertility - Plant crops suited to the climate and geographical conditions (e.g., use of barley for fodder, alfalfa only in certain areas that have enough water-) - Support strategic industrial crops such as cotton and beet to support farmers - The use of new seed varieties - Strengthen local markets, and marketing practices to give farmers access to greater market capability - Improve nutritional value of food grown	- Support for extension services which are now lacking (to rebuild trust between farmers and experts) - Focus on fodder crop production for livestock - Strengthen local markets, and marketing practices to give farmers access to greater market capability - Reduce pressure on grazing land through fodder improvement - Implement vaccination campaigns to reduce risks of animal disease outbreaks - Improve access to artificial insemination to improve productivity	- Bee-breeding, silkworm-breeding - Cottage industries: yoghurt and cheese production - Strengthen local markets, and marketing practices to give farmers access to greater market capability	- Agroforestry approaches for sustainable development, conservation and rehabilitation in post-conflict times - Support communities to utilise secondary plant products) - Encourage tree-planting (to support soil health) and other forms of sustainable re-purposing of land after camps are removed - Support efforts to improve biodiversity and conservation - Reducing pressure on grazing land through fodder improvement	- Collect and conserve rainfall - Develop early- warning systems to anticipate and prepare for drought - Restore water/irrigation canals – developing new technology systems for irrigation - Use alternative energy sources (solar, biogas) and new technologies to support grey-water recycling

6. Discussion

The scenario-planning workshop was a unique opportunity to facilitate dialogue between academics, researchers, practitioners and other stakeholders with multi-disciplinary expertise working towards food and health security in Syria. It prompted the development of strategic guidelines for a situated re-imagining of Syrian food futures, by questioning the legitimacy and relevance of the scenario-planning rationale itself with respect to the specificity of the Syrian context. This specificity, and the difficulties of remote engagement in an already mediated environment, required the recalibration of the planning timeline, and a more creative and informative implementation of our prospective framework.

Syrian society is characterised by the confluence of a protracted internal conflict, and chronic emergencies (e.g., the COVID-19 pandemic and climate change) intrinsic to the functioning of the globalised modernity into which Syria has been assimilated. Symptomatic of this condition are the extensive loss of the Syrian social fabric, and the multi-scalar fissures in governance deepened by global stressors and structurally weakened institutions. The resulting tensions between short- and long-term strategical planning block the constitution of alternative social arrangements conducive to better connected and resilient food systems.

The stability of the environments in which scenario-planning exercises are often conducted makes 20- to 30-year timeframes and obvious choice. Syria's social specifics makes such a choice impossible. The planning timeframe of our workshop was subsequently recalibrated into qualified time horizons, reflecting an overall sense of chronological fracture.

The strategies, emerging from participants' workshop discussions, indicate two main findings: (i) the co-creation of knowledge about agricultural/natural resource management will be crucial to future societal rebuilding efforts; and (ii) academic knowledge is co-primordial with the local knowledge.

The connectivity and resilience of Syrian food systems is addressed in terms of the constitution of sites of local knowledge-sharing about the culture and history of agriculture, food access, production, preparation and food-behaviours. These networks of agricultural knowledge form the basis for the reconstruction of the agricultural sector, by counteracting conflict- and economic-driven de-territorialisation.

These findings not only delineate context-relevant scenarios for strategy development, but also inform the limitations and reach of our work. The timeframe recalibration indicates that the opportunity to imagine alternative futures cannot be unproblematically distinguished from the historical specificity in which it is embedded. The fragmentation of the spatiality and temporality of Syrian society requires adaptable analytical and methodological frameworks.

7. Conclusions and Next Steps

This workshop was one aspect of the Global Challenge Research Fund-UKRI (GCRF) project: Cultures of expertise: Academics in exile and their role in the future food security agenda for Syria (SyrianFoodFutures). Our aim was to develop relationships, strengthen partnerships and create a platform for dialogue between academics, decision-makers, practitioners and lay people in order to facilitate integration of local knowledge and expertise to improve decision-making and strategy development for long-term and highly uncertain futures.

Next Steps

I. Understand and trace the tensions between emerging paradigms of global public policy (state dynamics) prompted by the COVID-19 and climate change emergencies, and collective actions occurring at community level – linking knowledge networks into a pathway of food security (One Health) innovations.

II. Re-imagining an agriculture network pathway:
- Recognise the gendered nature of knowledge production/creation/transfer and of the appeal to agricultural innovations.
- Horizontally connect local, transnational (displaced Syrians) and external (non-Syrian) expertise.
- Vertically connect academic knowledge and local lore.
- Re-found Syrian higher education around principles of knowledge co-creation and the critical assessment of international guidelines (exigencies) on food security innovations – co-construct a specific One Health framework for Syria, as a means of scaffolding Syrian higher education.

III. Determine the reach and impact of the resulting networks of (gender-critical) agricultural knowledge into various instances of institutional decision-making.