

Research Terms of Reference

Wheat and Barley Mid-Season Assessment

SYR2402

Northeast Syria

April 2024

Version 1

REACH Informing
more effective
humanitarian action

1. Executive Summary

Country of intervention	Northeast Syria (NES)				
Type of Emergency	<input type="checkbox"/>	Natural hazard	<input type="checkbox"/>	Conflict	<input type="checkbox"/> Other (<i>specify</i>)
Type of Crisis	<input type="checkbox"/>	Sudden onset	<input type="checkbox"/>	Slow onset	X Protracted
Mandating Body/ Agency	Food Security and Livelihoods (FSL) Working Group Northeast Syria				
IMPACT Project Code	16BAN				
Overall Research Timeframe (<i>from research design to final outputs / M&E</i>)	11/02/2024 to 30/06/2024				
Research Timeframe <i>Add planned deadlines (for first cycle if more than 1)</i>	Pilot/ training: 15/04/2024 - 16/04/2024		Preliminary presentation: 03/06/2024 (TBC based on FSL working group meeting calender)		
	Start collect data: 18/04/2024		Outputs sent for validation: 13/06/2024		
	Data collected: 29/04/2024		Outputs published: 24/06/2024		
	Data analysed: 14/05/2024		Final presentation: TBC as required		
	Data sent for validation: 15/05/2024 Analysis file to be published 25/05/2024 and disseminated first				
Number of assessments	X	Single assessment (one cycle)			
	<input type="checkbox"/>	Multi assessment (more than one cycle) <i>[Describe here the frequency of the cycle]</i>			
Humanitarian milestones <i>Specify what will the assessment inform and when e.g. The shelter cluster will use this data to draft its Revised Flash Appeal;</i>	Milestone		Deadline (can be tentative)		
	<input type="checkbox"/>	Donor plan/strategy	__/__/____		
	<input type="checkbox"/>	Inter-cluster plan/strategy	__/__/____		
	X	Cluster plan/strategy	To feed into post-harvest assessment in September allowing for analysis of food security situation (supply side) and capacity of farmers to invest in the next season. This will support the Northeast Syria Food Security and Livelihoods Working Group (NES FSL WG) and Agricultural sub-Working Group (AWG) to advise and provide strategic support to operational partners supporting farmers during		

			the current cultivation season (July 2024) and in preparation for the next season (October 2024). This assessment along with a post-harvest assessment will provide an evidence base for advocacy for support for the wheat-to-bread value chain in 2025.	
	<input type="checkbox"/>	NGO platform plan/strategy	_ _ / _ _ / _ _ _ _	
	<input type="checkbox"/>	Other (Specify):	_ _ / _ _ / _ _ _ _	
Audience Type & Dissemination <i>Specify who will the assessment inform and how you will disseminate to inform the audience</i>	Audience type		Dissemination	
	<input checked="" type="checkbox"/> Strategic <input checked="" type="checkbox"/> Programmatic <input type="checkbox"/> Operational <input type="checkbox"/> [Other, Specify]		<input checked="" type="checkbox"/> General Product Mailing (e.g. mail to NGO consortium; HCT participants; Donors) <input checked="" type="checkbox"/> Cluster Mailing (Education, Shelter and WASH) and presentation of findings at next cluster meeting <input checked="" type="checkbox"/> Presentation of findings (e.g. at HCT meeting; Cluster meeting) <input checked="" type="checkbox"/> Website Dissemination (Relief Web & REACH Resource Centre) <input type="checkbox"/> [Other, Specify]	
Stakeholder mapping <i>Has a detailed stakeholder mapping been conducted during research design to identify all actors that could contribute to and/or benefit from the research?</i>	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
General Objective	To provide an updated understanding of barriers and challenges occurring during the 2024 wheat and barley growing season in NES to evaluate status in production and implications for the financial capacity of farmers, so as to inform financial / in-kind assistance to farmers and advocacy to support the wheat-to-bread value chain.			
Specific Objective(s)	<ol style="list-style-type: none"> 1. Assess the progress of the cultivation season in relation to share of seeds planted that germinated and health of the plants (farmers perceptions combined with remote sensing analysis). 2. Analyse production costs of wheat and barley this season against expected revenues. 3. Identify factors impacting production including access (physical and financial) to inputs, weather events, security challenges and assess the implications for the harvest 4. Measure the prevalence of coping strategies farmers are engaging in that have implications for production 5. Understand to what extent farmers will be able to access (availability, affordability) the inputs required until the end of the season and the implications for the harvest 6. Understand wheat and barley farmers' assistance modality preferences to support their production this season 			
Research Questions	<ol style="list-style-type: none"> 1. What is the estimated share of planted wheat and barely seeds that germinated in the 2023/2024 season? 			

	<ol style="list-style-type: none"> How are farmers evaluating the health of the plants at this point in the growing season? What were the predominant factors (environmental, seed quality, disease etc.) impacting seed germination and plant health in the 2023/2024 season? What were the estimated production costs of wheat and barley cultivation from the beginning of the season (October 2023) until mid-season (April 2024) and how do these compare to expected revenues? What were the market or financial barriers that farmers faced in accessing the inputs required during cultivation and for the next stages of production, and their impact until now as well as expected impact until the end of the season? Which coping strategies are farmers in NES engaging in that may impact production of wheat and barley and/or their livelihoods? What are wheat and barley farmers' preferences for assistance this season?
Geographic Coverage	<p>To maximise sample sizes within assessed sub-districts, the following 16 sub-districts will be prioritised for coverage across the 4 governorates in NES:</p> <ul style="list-style-type: none"> Aleppo: Menbij, Ain al Arab, Sarin Al-Hasakeh: Qahtaniyyeh, Ber Al-Hulo Al-Wardeyyeh, Al-Malikeyyeh, Areesha, Qamishli, Tal Hamis, Shahahah Ar-Raqqa: Karama, Jurneyyah, Ar-Raqqa Deir ez Zor: Kisreh, Hajin, Sur <p>Additional sub-districts may be added if capacity allows. The above sub-districts were selected based on the following criteria:</p> <ul style="list-style-type: none"> Partners have access and capacity to conduct interviews in. Inclusion of sub-districts across agro-ecological zones 1-5 within which certain environmental factors impacting production are more likely to be shared, noting environmental factors will not be the only or predominant factor impacting productivity for the analysis. Prioritisation of sub-districts within each governorate with the largest areas of agricultural crop land (absolute) and proportion of crop land of total land area.¹
Secondary data sources	<ul style="list-style-type: none"> iMMAP, Crop Monitoring and Food Security Situation Update in Northeast Syria 2020/2021 and 2023 iMMAP, The Influence of Climate Change of Wheat Production, 2022 iMMAP, Wheat to Bread Market Assessment Part 1 and Part 2, 2023 Food and Agriculture Organisation of the United Nations (FAO), Special Report, Crop and Food Supply Assessment Mission to the Syrian Arab Republic, December 2021 REACH, Wheat Seed Security Assessment, April 2022 Local media reports to contextualise challenges reported by farmers, reporting on changes to price subsidises for farmers, etc. NES Forum Situation Reports, October 2023, and January 2024 Syria Land and Water Monitoring tool Joint Market Monitoring Initiative IMPACT Research, Wheat production value chain in Northeast Syria, April 2022 World Meteorological Organisation, Regional HydroMet Weekly Scan, Syria

¹ 2022 Crop extent data

	<ul style="list-style-type: none"> • REACH, Humanitarian Situation Overview of Syria • Mercy Corps, Measuring Agricultural Production, Drought and the 2018 to 2022 growing seasons in Northeast Syria, 2022 • Whole of Syria Food and Agriculture Sector Strategy, 2024 • ACTED, Wheat and Barley Post-Harvest Assessments, 2021 and 2022 • Rural Livelihoods Information System, Technical notes on concepts and definitions used for the indicators derived from household surveys • REACH, Current Situation of the Water Crisis in Northeast Syria and its Humanitarian Impacts, 2023 • NES FS Working Group, Transitioning from Food Assistance to Livelihoods and Resilience Approach • WFP, Sector 5 Irrigation System Rehabilitation, Building resilience for smallholder farmers in Deir-ez-Zor Governorate, April 2022 			
Population(s)	<input type="checkbox"/>	IDPs in camp	<input type="checkbox"/>	IDPs in informal sites
Select all that apply	<input type="checkbox"/>	IDPs in host communities	<input type="checkbox"/>	IDPs [Other, Specify]
	<input type="checkbox"/>	Refugees in camp	<input type="checkbox"/>	Refugees in informal sites
	<input type="checkbox"/>	Refugees in host communities	<input type="checkbox"/>	Refugees [Other, Specify]
	<input type="checkbox"/>	Host communities	X	Wheat and barley farmers
Stratification Select type(s) and enter number of strata	X	Geographical #: ___ Population size per strata is known? <input type="checkbox"/> Yes X No	<input type="checkbox"/> Group #: ___ Population size per strata is known? <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> [Other Specify] #: ___ Population size per strata is known? <input type="checkbox"/> Yes <input type="checkbox"/> No
Data collection tool(s)	X	Structured (Quantitative)	<input type="checkbox"/>	Semi-structured (Qualitative)
	Sampling method		Data collection method	
Structured data collection tool # 1 Select sampling and data collection method and specify target # interviews	X Purposive <input type="checkbox"/> Probability / Simple random <input type="checkbox"/> Probability / Stratified simple random <input type="checkbox"/> Probability / Cluster sampling <input type="checkbox"/> Probability / Stratified cluster sampling <input type="checkbox"/> [Other, Specify]		<input type="checkbox"/> Key informant interview (Target #): _____ <input type="checkbox"/> Group discussion (Target #): _____ <input type="checkbox"/> Household interview (Target #): _____ X Individual interview (Target #): 960 (60 / sub-district). <input type="checkbox"/> Direct observations (Target #): _____ <input type="checkbox"/> [Other, Specify] (Target #): _____	
Target level of precision if probability sampling	__% level of confidence NA		__ +/- % margin of error NA	
Disaggregation by gender and age Are you planning to conduct sex/age disaggregated analysis?	Gender		Age	
	<input type="checkbox"/>	Yes	<input type="checkbox"/>	Yes
	X	No	X	No
Data management platform(s)	<input type="checkbox"/>	IMPACT	<input type="checkbox"/>	UNHCR
	<input type="checkbox"/>	[Other, Specify]		
	<input type="checkbox"/>	Situation overview #: __	<input type="checkbox"/>	Report #: __
			<input type="checkbox"/>	Profile #: __

Expected ouput type(s)	X	Presentation (Preliminary findings) #: 1	<input type="checkbox"/>	Presentation (Final) #: --	X	Factsheet #: 1 (full situation overview to be developed post-harvest)
	<input type="checkbox"/>	Interactive dashboard #:_	<input type="checkbox"/>	Webmap #: __	X	Map #: TBC
	X	<ul style="list-style-type: none">Analysis file with aggregated counts / sub-district #: 1Based on findings and priorities of FSL a brief may be developed				
Access	X	Public (available on REACH resource center and other humanitarian platforms)				
	<input type="checkbox"/>	Restricted (bilateral dissemination only upon agreed dissemination list, no publication on REACH or other platforms)				
Visibility Specify which logos should be on outputs	REACH [By default unless specified otherwise]					
	Donor: NA					
	Coordination Framework: NES FSL Working Group / NES AWG					
	Partners: Data collection partners (TBC)					

2. Rationale

2.1 Background

The population across NES heavily rely on agriculture as a source of livelihoods and food, with 18% of the working population employed in the agriculture and livestock sector.² Previous assessments have demonstrated that agricultural productivity in NES has been highly sensitive to variation in rainfall, as well as other factors such as the cost of fuel for irrigation, seed quality, and changes in surface and ground water availability. Such factors can significantly drive-up production costs for farmers and reduce yields. This can increase market prices as farmers pass on costs to consumers to maintain their livelihoods. Where farmers are unable to increase prices to absorb these costs³, they face reduced livelihoods and ability to cope with additional shocks and stresses. Diminishing returns for wheat and barley producers can decrease the amount of cultivated land in a season where farmers decide to either leave the sector, as reported during periods of drought, or plant alternative crops that do not contribute to food security outcomes (i.e. cotton).⁴ In addition, changes in production impacts availability in markets which can drive up prices for consumers and increase reliance on imports at higher price. Given the high level of reliance on locally produced wheat in NES, agricultural production costs and overall productivity are important factors impacting food security.

While this agricultural season has seen an improvement in meteorological conditions compared to previous years, Turkish attacks on fuel and electricity infrastructure in October and December 2023 have caused widespread shortages of fuel, disruption to water and electricity services in the middle of the cultivation season and reported water contamination.⁵ Prior to the second round of attacks daily production of diesel has reduced by an estimated 75%, triggering an estimated 80% increase in the price of subsidised diesel allocated to farmers.⁶ At the same time the ongoing currency depreciation and economic decline continue to impact the purchasing power of the population and market conditions. Such factors potentially limit the extent to which farmers can take advantage of improved rainfall conditions impacting their own livelihoods and household food security and overall supply of grain stocks.

² H NAP, Socio-economic Conditions, Summer 2022 Report Series

³ The extent to which farmers in NES are able to increase prices to account for such costs is constrained by fixed prices according to the Self Administration, the largest buyer of wheat in NES, as well as the low purchasing power of the population.

⁴ REACH, Current Situation of the Water Crisis in Northeast Syria and its Humanitarian Impacts, July 2023

⁵ The New Humanitarian, '[Turkish airstrikes in northeast Syria leave millions short of power, fuel, and water](#)', 21 February 2024; Asharq Al-Awsat, '[Oil slicks blamed on Turkish Strikes Blight Northeast Syria River](#)', February 7 2024

⁶ NES Forum, Situation Report #3, Continued Impact of Damaged and Destroyed Critical Infrastructures in Northeast Syria, January 26, 2024

2.2 Intended impact

With the aim of supporting agricultural businesses and supply of locally produced wheat, FSL partners provide assistance to farmers in the form of cash and vouchers (CVA) to enable farmers to choose what is best for their business, as well as in-kind assistance for inputs and productive assets, training, and asset rehabilitation. The contours of the issues impacting farmers' profitability and production levels in NES are well known; as such, this assessment, as well as a post-harvest assessment, will aim to monitor the financial health of wheat and barley farmers to inform the following:

- a) targeted financial assistance to farmers based on an updated understanding of their needs,
- b) an indication of potential production shortfalls and supply of wheat to the market, and
- c) capacity of farmers to invest in wheat and barley crops in the next season (and food security implications).

The post-harvest assessment that will follow in September 2024 will build on these findings for an analysis wheat availability (supply side), as well as a profit analysis for FSL coordination to take into consideration for their planning (i.e. if non-profitable farmers change crop) and advocacy going into the next season to maintain support for agricultural livelihoods.

3. Methodology

3.1 Methodology overview

The sub-districts assessed will first be identified in consultation with the NES FSL Working Group and AWG (see Geographic Coverage for details, page 3). Primary data collection will occur through individual interviews (II) with purposively sampled wheat and barley farmers in prioritised sub-districts where cultivation of wheat and barley takes place, and partners have access to conduct interviews. The survey will be a structured quantitative survey. Data will be collected by REACH and Agricultural sub-Working Group (AWG) partners who currently work on agricultural projects in NES.

Data collection will occur in the second half of April (15-29 of April) during the growing season for wheat and barley. REACH will design the indicators and questionnaire in consultation with the NES FSL Working Group and AWG and taking into consideration a review of previous assessments on the wheat-to-bread value chain. Data collection will take place in person and collected through KoBo collect. REACH assessment staff will be responsible for facilitating the follow ups, data processing and analysis, and output creation.

Data will be aggregated on sub-district level given this is how FSL programming is planned and targeted, as well the governorate and regional level for an overall aggregated understanding of production challenges and potential shortfalls. Data will be reported on as medians for numerical indicators and modes for categorical indicators (most commonly reported answers). Given the inability to conduct representative sampling without farmers lists, the data collected will be indicative only of the factors impacting wheat and barley production in the assessed areas.

Key definitions

Cultivation: The act of preparing land and growing crops on it, or the act of growing a particular crop.

Harvest: The time of year when crops are cut and collected from the field, or the activity of cutting and collecting them, or the crops that are cut and collected.

Market: A market refers to any formal or informal system or group of market actors (not necessarily a physical space) in which buyers and sellers exchange goods, labour, currency, or services for cash or other goods. The word 'market' can

simply mean the place in which goods or services are exchanged. Markets are sometimes defined by forces of supply and demand rather than geographical location, e.g., ‘imported cereals make up 40 per cent of the market’.⁷

Market shocks: Events that produce unforeseen and significant changes within the local economy, impacting supply and/or demand throughout the markets; market shocks can take a variety of forms, including unforeseen increases or drops in the price of food items, as well as increases or drops in the price of agricultural inputs and outputs.

Agricultural household: Agricultural holdings operated by household members for sale or their own use.⁸ For this assessment a minimum threshold of 10 donums is applied to consider only farmers where the holding is considered to be their primary source of income.

Cash and voucher assistance: The direct provision of cash transfers and/or vouchers for goods or services to individuals, households, or group/community recipients.⁹ In the context this assessment, cash and voucher assistance is provided by humanitarian actors to farmers (agricultural households).

In-kind assistance: Humanitarian assistance provided in the form of physical goods or commodities. In-kind assistance is restricted by default as recipients are not able to choose what they are given.¹⁰

Productive assets: Items connected to a businesses’ line of work and its efforts to generate profit. In this context this could include farming equipment, solar panels, machinery etc.

Operating costs: all variable costs including payments in cash for services, all in kinds of agricultural inputs such a fertiliser, seeds and labour, and fixed costs such as hired labour, land rent and technical assistance costs.

3.2 Population of interest

To limit the geographic scope of the assessment and maximise sample sizes within assessed sub-districts, the AWG will prioritise a minimum number of sub-districts for coverage (see Geographic Coverage, page 3). Survey respondents will be wheat and barley farmers (agricultural households) within the assessed sub-districts. Given limited data collection capacity and lack of complete information on different sub-sets, this assessment will not sample for farmers according to crop type or primary irrigation method. Minimum quotas will be set for medium and large farms (defined by number of donums) to provide some information on varying production costs according to farm size. The findings will relate to wheat and barley farmers in assessed sub-districts across in NES (% of farmers as the unit of analysis). Findings will be disaggregated to sub-district, governorate and regional admin levels for showing counts and percentages for categorical responses. Certain numerical indicators may only be presented at higher admin levels based on the sample size and certain indicators will be disaggregated by crop type (irrigation or rainfed) and farm size (land area in donum) at higher admin levels.

3.3 Secondary data review

Secondary source	Purpose of source
IMPACT Research, Wheat production value chain in Northeast Syria , April 2022	Understanding of the wheat production value chain, key actors, and market dynamics impacting producers
iMMAP & WoS FSS, Wheat-to-bread value chain rapid assessment for Northeast Syria, 2020	

⁷ CALP Network, [Glossary of Terms](#)

⁸ FAO World Programme for the Census of Agriculture, WCA, 2020

⁹ CALP Network, [Glossary of Terms](#)

¹⁰ CALP Network, [Glossary of Terms](#)

<p>Mercy Corps, Measuring Agricultural Production, Drought and the 2018 to 2022 growing seasons in Northeast Syria, 2022</p> <p>ACTED, Drought impact assessment post-harvest survey comparing wheat and barley in NES, 2020-2021 and 2021-2022</p> <p>Food and Agriculture Organisation of the United Nations (FAO), Special Report, Crop and Food Supply Assessment Mission to the Syrian Arab Republic, December 2021</p>	<p>Review of quantitative methodologies for assessing agricultural production and factors impacting primary cereal producers.</p> <p>FAO report provides categorization of production cost categories and estimated costs of production per donum for comparison in overlapping areas.</p>
<p>iMMAP, Crop Monitoring and Food Security Situation Update in Northeast Syria 2020/2021 and 2023</p> <p>iMMAP, The Influence of Climate Change of Wheat Production, 2022</p> <p>iMMAP, Wheat to Bread Market Assessment Part 1 and Part 2, 2023</p>	<p>iMMAP has been conducting assessments on wheat producers for the last 3 years in NES. These reports contribute to an understanding of the primary challenges wheat and barley producers have faced in the past years and the implications for wheat and barley production (and in which areas), irrigation/water sources and changes, primary sources of inputs for production, trading norms, and inefficiencies hindering market actors in the wheat value chain.</p> <p>These reports contributed to a narrowing of the scope of the assessment to key indicators for monitoring with the primary aim of guiding financial support to wheat and barley farmers and monitoring potential shortfalls in production. Factors such as the regulatory environment, trade norms, key market actors, sources of inputs, and specifics of the seed market are not expected to change substantially year to year and therefore have not been included in the scope of this assessment.</p>
<p>iMMAP, Wheat-to-Bread Processing Mapping Study for Northeast Syria</p>	<p>Understanding of the extent of reliance on locally produced wheat and implications for availability in markets</p>
<p>REACH, Wheat Seed Security Assessment, April 2022</p>	<p>Provides information about the seed market in NES; it is not expected that seed market conditions (types available, source, quality) fluctuates significantly year to year and therefore will not be included in the scope of the assessment. Majority of the farmers interviewed did not know details about the quality of their seeds. As such farmers will be asked questions about the observed health of the crop and share of germination to provide an indication of seed quality in the current season.</p>
<p>NES Forum Situation Reports</p> <p>Local and international news reports</p>	<p>Includes reports from FSL partners on implications of the Turkish attacks on key infrastructure in October and December 2023. The NGO forum situation reports collate FSL partner reports on factors impacting farmers in specific areas (i.e. water contamination impacting irrigation from Lake Areesha) and these can be used to triangulate against farmers' reports on the health of their plants and factors impacting health.</p>

	Contextual information on factors impacting agricultural production this season. For example, Oil slicks blamed on Turkish strikes blight northeast Syria river - Al-Monitor: Independent, trusted coverage of the Middle East
Syria Land and Water Monitoring	<p>The tool provides an understanding of the climatic conditions this year compared to the previous year. These indicators can be triangulated against farmer reporting on perceived plant health:</p> <ul style="list-style-type: none"> • Standard precipitation index – how much rainfall compared to historical average – useful only at least at sub-district level and trend analysis • Temperature • Crop land area data (2022 data)– shows areas with more or less agricultural activity to support with geographic coverage selection • Surface water monitoring – can be triangulated with reports of flooding • Ground water levels • Vegetation health (NDVI) – can be triangulated with expected yields compared to last season
Joint Market Monitoring Initiative	Monitors changes in the exchange rate from pre-planting period to now and transportation fuel prices and availability data from stations as well as informal street vendors. Dataset also includes bread price monitoring and availability of subsidised and unsubsidised bread in markets.
World Meteorological Organisation, Regional HydroMet Weekly Scan, Syria	Weekly reports on weather events in Syria and key areas affected – shows areas that were impacted by flooding in NES during this cultivation season.
REACH, Humanitarian Situation Overview of Syria	<p>Includes indicator on barriers to accessing livelihoods related to agriculture for households – for triangulation</p> <p>Most common source of meeting basic needs for households – food crop production</p>
<p>Humanitarian Needs Assessment Programme (HNAP), Summer Socio-economic Series, 2022</p> <p>OCHA, Population Task Force, 2023</p> <p>Whole of Syria Food and Agriculture Sector Strategy, 2024</p>	<p>Applying OCHA 2023 population figures to proportion of population relying on agricultural activities (HNAP) to estimate the number of people in NES reliant on agriculture-based livelihoods and impacted by production changes.</p> <p>18% of working age population in NES working in the agricultural sector – majority of whom own their own operations (82%) and 15% informal or temporary workers (only 3% contracted) – implications for vulnerability to shocks in agricultural markets and lack employment security in low seasons.</p>

REACH, Current Situation of the Water Crisis in Northeast Syria and its Humanitarian Impacts , 2023	Supporting context - brings together data from several REACH assessment cycles for analysis on, among other sectors, the impacts of the water crisis on the agricultural sector and agricultural livelihoods. Also includes qualitative data collected from FSL partners to understand the sectoral response to the water crisis and opportunities they see for the future.
Food and Agriculture Organization of the United Nations (FAO), Rural Livelihoods Information System, Technical notes on concepts and definitions used for the indicators derived from household surveys	Guidance on assessing income from crop production.
REACH, crop type assessment data, March 2024	REACH has collected GPS points in 2023 and 2024 to support a remote sensing project aimed at distinguishing between crop types. This short tool includes one indicator on challenges faced this season which will be used for triangulation in areas where there is overlapping coverage (6 sub-districts).
WFP, Sector 5 Irrigation System Rehabilitation, Building resilience for smallholder farmers in Deir-ez-Zor Governorate, April 2022	Support analysis of factors impacting production – characteristics of farming in Deir-ez-Zor (water source, irrigation type etc.)

3.4 Primary Data Collection

FSL partners will collect the data and REACH will be responsible for research design, data cleaning and analysis, and output production. The indicators in the assessment will be developed by REACH in close coordination with the NES FSL Working Group and the AWG. The assessment tool will be created using Kobo Collect, from which enumerators will submit their survey forms directly. Data collection will take place on 18-29 of April, during the growing season for wheat and barley.

Sample sizes for each assessed sub-district will be 60 farmers with a minimum quota of 30 medium-sized farms (10-50 donums) and 30 large farms (>50 donums). Given the lack of farmers' lists and field capacity to conduct random GPS sampling farmers will be identified through purposive sampling and therefore results will not be representative.

Based on estimations gathered by REACH field teams from agricultural experts on the proportional distribution of farm sizes within each sub-district, there is a possibility that teams will not be able to meet minimum quotas for medium and large farms in some areas (i.e. Ar-Raqqa governorate). If that is the case results will still be presented as disaggregated percentages as sampling would be considered more representative of the total sample of medium and large farms in these areas.

The selection criteria for farmers are the following:

1. Farmers growing wheat and/or barley
2. Farmers that are cultivating at least 10 donums of land indicating that the land holding is the primary source of their livelihood
3. Farmers should not be interviewed from partners' beneficiary lists. If a respondent has received assistance this season it is ok to proceed with the interview, however selection of farmers should not be done from beneficiary lists to avoid selection bias.

REACH and partner enumerators, who have wheat and barley farmer contacts that meet the above criteria, will provide a list of known wheat and barley farmers per sub-district to prepare for purposive sampling. Enumerators will conduct snowball sampling from initial interviews to meet the minimum number of interviews per sub-district. Partner organisation focal points will be responsible for monitoring that their own enumerator team meets the minimum sample requirements per sub-district. REACH will provide overall coordination support with partner organisation focal points to check targets are met for the total assessment sample. The tool will collect the respondent's phone number with their consent which will be kept secure and accessible only by the data officer to allow for follow-ups as needed and efforts will be made to interview the same farmers during the post-harvest assessment.

Field teams will be provided with a one-day data collection core training conducted by REACH NES field officers. Following this a one-day training on the assessment objectives, methodology, sampling, and data collection tool will be provided by REACH Amman based staff, including time for enumerators to test the tool and submit dummy data. Enumerators and partner organisation focal points will be required to attend the training to communicate responsibilities for sample size tracking, follow-ups, and coverage coordination. The tool will also be tested prior to data collection to ensure it is working correctly. Follow-ups conducted between assessment staff and field teams will be performed to avoid outliers and data errors and ensure data quality. Findings will be discussed for contextualisation and programmatic relevant with AWG partners. As required a follow up contextualisation session will be held with enumerators on the findings.

3.5 Data Processing & Analysis

All data will be collected by enumerators through Open Data Kit (ODK) and will be uploaded to the REACH Kobo server. The Senior Data Officer (SDO) will clean the raw data daily to account for any duplicates or issues during data collection. The SDO will conduct statistical analysis on the cleaned data set using R. This will be done in accordance with the data analysis plan outlining indicators and tool questions linked to the core research questions outlined in this ToR. Respondent contact information to support follow ups and snowball sampling will be managed in accordance with IMPACT's SOP for personally identifiable information.

Numerical variables will take the median in order to account for extreme outliers. Depending on the sample size, some disaggregations (crop type or farm size) may only be reported at higher administrative levels so as not to risk misrepresentation of findings from small sample sizes. Results will be disaggregated by irrigation method to provide an understanding of reliance on irrigated water and rainfall for an estimated percent of wheat and barley farmers, to be triangulated with rainfall data and water source data for irrigation from previous assessments (iMAP, WFP). Considering the use of mixed methods for irrigation in some areas, data will be disaggregated according to predominant (>60%) irrigation method.

Categorical variables will be aggregated by taking the number and/or percentage of respondents that answered a given answer option. For example, in the case of categorical variables with numerous answer options, whether multiple answer or single choice, this will be reported as the number and/or percentage of assessed respondents that answered a given answer option. At sub-district level in the analysis excel output these will only be reported as counts depending on sample sizes.

Remote sensing data on rainfall and NDVI will be analysed to complement the survey results providing additional information of meteorological conditions and vegetation health this season in comparison to the long-term average. While coverage will aim to cover a range of agro-ecological zones within each assessed governorate it should be noted that other factors beyond rainfall and soil composition will impact productivity such as whether the farm is irrigated or not and access to markets and subsidised goods etc. While environmental conditions are an important factor to consider they will not be the primary frame of analysis to understand different levels of productivity and success rates.

3.6 Limitations

In the absence of reliable and accessible lists showing the number of wheat and barley farmers operating within each sub-district the sampling approach aims to maximise confidence that the findings are indicative of farmer experiences and capture variation between areas of interest to the FSL working group. However purposive sampling can introduce bias to the results and therefore the findings are not representative limiting the extent to which they can be used for localised operational decisions. Moreover, areas with a smaller total number of farms may be overrepresented in the aggregated analysis due to this approach, while areas with comparatively more farmers may be under-represented. This will be accounted for in the analysis of the data by looking at areas (sub-districts with similar results) to understand trends and the different factors that may be impacting production (i.e. areas that mostly irrigate).

Further, this assessment relies on subjective reporting from farmers on factors such as the health and germination rate of their crops. Where possible triangulation with remote sensing data on environmental factors impacting plant health (rainfall, temperature, flooding) will support analysis of these indicators. In addition, local news and NGO reports of incidents such as water contamination will be used to triangulate farmers' perceptions on the growing status of their plants. In addition, reporting on expenditures is inherently difficult especially when asked to estimate the total expenditure over a longer period of time. Respondents will be encouraged to refer to book-keeping to answer these questions if possible and at the end of the survey enumerators will be asked a question about the reliability of the responses based on how difficult it was for the respondent to answer. This will support some interpretation of the results.

4. Key ethical considerations and related risks

The proposed research design meets / does not meet the following criteria:

<i>The proposed research design...</i>	<i>Yes/ No</i>	<i>Details if no (including mitigation)</i>
... Has been coordinated with relevant stakeholders to avoid unnecessary duplication of data collection efforts?	Yes	
... Respects respondents, their rights and dignity (<i>specifically by: seeking informed consent, designing length of survey/ discussion while being considerate of participants' time, ensuring accurate reporting of information provided</i>)?	Yes	
... Does not expose data collectors to any risks as a direct result of participation in data collection?	Yes	
... Does not expose respondents / their communities to any risks as a direct result of participation in data collection?	Yes	
... Does not involve collecting information on specific topics which may be stressful and/ or re-traumatising for research participants (both respondents and data collectors)?	Yes	
... Does not involve data collection with minors i.e. anyone less than 18 years old?	Yes	
... Does not involve data collection with other vulnerable groups e.g. persons with disabilities, victims/ survivors of protection incidents, etc.?	Yes	
... Follows IMPACT SOPs for management of personally identifiable information ?	Yes	

5. Roles and responsibilities

Task Description	Responsible	Accountable	Consulted	Informed
Research design	Assessment Officer	Research Manager	HQ FSL Assessment Specialist and FSL WG Coordinators	AWG partners, IMPACT HQ, and Deputy Country Coordinator
Supervising data collection	Data collection partner focal points	Assessment Officer	FSL WG Coordinators	Research Manager
Data processing (checking, cleaning)	Senior Data Officer	Senior Data Officer	Assessment Officer	Research Manager
Data analysis	Senior Data Officer	Senior Data Officer	Assessment Officer	Research Manager
Output production	Assessment Officer	Research Manager	HQ FSL Assessment, Specialist and FSL WG Coordinators	AWG partners, IMPACT HQ, and Deputy Country Coordinator
Dissemination	Assessment Officer	Research Manager	FSL WG Coordinators	Research Manager, Deputy Country Coordinator
Monitoring & Evaluation	Assessment Officer	Assessment Officer	FSL WG Coordinators, AWG	Research Manager, REACH Syria Project Development Unit
Lessons learned	Assessment Officer	Assessment Officer	FSL WG Coordinators, AWG	Research Manager

Responsible: the person(s) who executes the task

Accountable: the person who validates the completion of the task and is accountable of the final output or milestone

Consulted: the person(s) who must be consulted when the task is implemented

Informed: the person(s) who need to be informed when the task is completed

6. Data Analysis Plan

Available online [here](#)

7. Monitoring & Evaluation Plan

IMPACT Objective	External M&E Indicator	Internal M&E Indicator	Focal point	Tool	Will indicator be tracked?
Humanitarian stakeholders are accessing IMPACT products	Number of humanitarian organisations accessing IMPACT services/products	# of downloads of x product from Resource Center	Country request to HQ	User_log	X Yes
		# of downloads of x product from Relief Web	Country request to HQ		X Yes
	Number of	# of downloads of x product from Country level platforms	Country team		<input type="checkbox"/> Yes

	individuals accessing IMPACT services/products	# of page clicks on x product from REACH global newsletter	Country request to HQ		X Yes
		# of page clicks on x product from country newsletter, sendingBlue, bit.ly	Country team		X Yes
		# of visits to x webmap/x dashboard	Country request to HQ		X Yes
IMPACT activities contribute to better program implementation and coordination of the humanitarian response	Number of humanitarian organisations utilizing IMPACT services/products	# references in HPC documents (HNO, SRP, Flash appeals, Cluster/sector strategies)	Country team	Reference_log	NES FSL Working Group strategy AWG guidance documents
		# references in single agency documents			
Humanitarian stakeholders are using IMPACT products	Humanitarian actors use IMPACT evidence/products as a basis for decision making, aid planning and delivery	Perceived relevance of IMPACT country-programs	Country team	Usage_Feedback and Usage_Survey template	REACH Syria product annual usage survey
		Perceived usefulness and influence of IMPACT outputs			
		Recommendations to strengthen IMPACT programs			
		Perceived capacity of IMPACT staff			
		Perceived quality of outputs/programs			
	Number of humanitarian documents (HNO, HRP, cluster/agency strategic plans, etc.) directly informed by IMPACT products	Recommendations to strengthen IMPACT programs			
Humanitarian stakeholders are engaged in IMPACT programs throughout the research cycle	Number and/or percentage of humanitarian organizations directly contributing to IMPACT programs (providing resources, participating to presentations, etc.)	# of organisations providing resources (i.e. staff, vehicles, meeting space, budget, etc.) for activity implementation	Country team	Engagement_log	X Yes
		# of organisations/clusters inputting in research design and joint analysis			X Yes
		# of organisations/clusters attending briefings on findings;			X Yes

