

PIN's BRIEFING PAPER  
FOR SUPPORTING

# THE RECOVERY OF POOR FAMILIES' LIVELIHOODS

IN IDLIB AND ALEPPO  
GOVERNORATES, SYRIA

Written by INGO People in Need (PIN)  
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A stylized map of Syria is shown in the bottom right corner. The map is divided into several regions. Two regions, Aleppo and Idlib, are highlighted in a dark brown color. The word 'ALEPPO' is written in white capital letters above the highlighted Aleppo region, and the word 'IDLIB' is written in white capital letters to the left of the highlighted Idlib region.

ALEPPO  
IDLIB

## INTRODUCTION

The Briefing Paper was prepared by the Czech INGO People in Need (PIN) for its upcoming support to the livelihoods of vulnerable households residing in the Aleppo and Idlib Governorates in Syria. It responds to an increasing demand from the Syrian households and humanitarian sector stakeholders to support local food and income generation and where relevant, reduce families' dependency on external food aid.

The largely qualitative information intends to contribute to ensuring that the **design and implementation modalities of PIN and other aid agencies' support are relevant to the local realities and achieve maximum impact**. The paper covers four main topics: 1) rapid overview of the agricultural sector before the conflict; 2) current livelihoods-related situation; 3) practical response options; and 4) cross-cutting programming recommendations.

The provided information is based on key informant interviews and focus group discussions with Syrian agronomists and agricultural engineers residing in Aleppo and Idlib Governorates and in Turkey (incl. the members of The Association of Syrian Agricultural Engineers). While maximum effort was done to cross-check the data accuracy, due to limited possibilities for an in-depth field assessment, PIN cannot guarantee its complete precision. Before you use any of the provided data for a major programming decision, verify them from another source and please inform PIN about any inaccuracies.

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## 1. AGRICULTURAL SECTOR BEFORE THE CONFLICT

### GENERAL OVERVIEW

- Agriculture was the main source of income for approx. 90% households living in the rural areas of Idlib and Aleppo Governorates.
- Approx. 85% of farming households farmed on their own land; 15% on rented land.
- Wealthier households farmed on 5-10 hectares of land; better-off households on 1 to 5 hectares; poor households on 0.2 to 1 hectares.

### CROP PRODUCTION, SALE AND HOME-BASED PROCESSING

- Most commonly grown **staple and cash crops** in the target areas were cereals (wheat, barley), cotton, sugar beet, corn, beans, lentils and chickpeas. Poor households tended to grow crops requiring lower investments (in terms of the price and quantity of seeds, fertilizers and pesticides) such as barley, lentils and chickpeas. Wealthier households could afford to grow crops requiring more expensive inputs and irrigation, such as wheat, cotton, sugar beet, potatoes, tomatoes, cucumber, eggplant and pepper.
- For specific cash and staple crops (cereals, cotton, sugar beet, corn, beans, lentils, chickpeas), farmers left part of their production for their consumption (where relevant) and the rest were obliged to sell to the GoS's collection points for prices set during annual conferences (other types of crops were sold in the free market). In the case of cereals, 40% of the collected production was earmarked by the Government of Syria (GoS) for consumption (incl. subsidized bread production) and export while the remaining 60% was stored in GoS's strategic reserves serving as a safety net in case of larger-scale crop failures in the future (part of the stores was also exchanged internationally for quality seeds).
- Wheat stores have been kept for several years (reportedly, in 2015 the remaining 2009 harvest is used) with storages located across different Governorates. The locations of storages in Idlib countryside are: Raa, Sinjar, Tal Togan and Kafar Takharem (all of them reportedly contain 1,500-10,000 tonnes of wheat).
- Before the conflict, virtually all farming households grew vegetables, fruits or herbs. Their **horticultural production** focused mainly on olives, onion, grapes, fig, garlic, okra, zucchini, cucumber, tomatoes, fava beans, eggplant, pepper, parsley, peppermint, spinach and peas. Among less common vegetables and fruits were carrot, cabbage, broad beans, cauliflower, arugula, radish, cress, lemons, oranges, cherries, grapefruits, quince and nuts.
- Among the most common **fruit and vegetable processing practices** at the household level was: drying garlic and onion; pickling cucumbers and eggplant; producing tomato paste and fruit jams.

### CROP IRRIGATION

- On average, approx. 30% of agricultural land was irrigated while 70% was rain-fed (however, there were significant differences from one area to another).
- Orchards were irrigated depending on the types of grown trees: olive and fig trees could (but didn't have to) be irrigated only twice per year (July-August) while grapes and pomegranates required intensive irrigation.
- The main source of water for irrigation in the target areas was Ain Azraqua spring supplying the **Ain Azraqua dam** (irrigating the land of approx. 13 villages).
- Another commonly used source of water were 150-400m **deep wells** which, however, due to high fuel costs weren't used to their full potential. Deep wells were (also due to their high costs) used primarily by the better off farmers with at least 2 hectares of land.
- In a limited number of villages, farmers also used **shallow wells** supplied by underground water reservoirs (starting from 20 meters depth) – however, due to their lower capacity (1-2 hours per day; depending on the previous winter's rains), they weren't suitable for an area larger than 1 hectare.
- The use of **irrigation sprinkles** was common in the target areas, especially by the better-of households.
- **Drip irrigation** was less common than using irrigation sprinkles; however, it was still relatively popular, especially due to: 1) GoS's interest-free loans for its purchase; 2) drip irrigation's benefits: higher productivity and profitability resulting from higher water efficiency, lower labour requirements, reduced fertilizer and nutrient loss due to localized application, reduced weed growth, reduced fuel costs (as compared with fuel/ electricity demanding irrigation systems). Drip irrigation was used for larger commercial projects (from 5,000 m<sup>2</sup>), households' agricultural production (from 1,000 m<sup>2</sup>) and small-scale home gardening (50-300 m<sup>2</sup>), irrigating mostly cotton, potatoes, vegetables, olive and grape vines. Due to lacking off-season access to water, **poor households used drip irrigation at a very limited scale only**.

### PLASTICULTURE

- Plastic materials were used primarily for **plastic tunnels** (over 1m wide and approx. 0,7m high) commonly used for the production of cucumbers, eggplants and tomatoes. Farmers used light plastic (with a durability of 1-2 years only) supported by iron 6mm rods. Among the main perceived advantages were an extended production season and a more protected environment. The use of plastic mulch film wasn't common.

## ANIMAL RAISING

- The most commonly raised animals were poultry, sheep, goats and cattle. Poorer households commonly owned only female sheep/ goats/ cows and for insemination used rams/ bucks/ bulls from other households.
- In the opposition-controlled rural areas of Idlib and Aleppo countryside, pastoralism wasn't common.
- Women played an important role in taking care of the animals and preparing a range of products – milk, cheese, butter, yoghurt and other dairy products.
- The vast majority of farmers regularly vaccinated their cattle; while sheep, goat and poultry vaccination was less common. Veterinary services were widely available.

## GOVERNMENT'S SUPPORT

### Subsidies

- Farmers license by the Syrian Government could purchase agricultural inputs subsidized by the Government (see below).
- Subsidies were provided for staple and cash crops only, not for vegetable production.
- Approx. 25-30% of farmers in Idlib and Aleppo Governorates are estimated to have benefited from the system; the remaining farmers purchased agricultural inputs at commercial prices.
- Licenses were granted usually primarily to households farming on irrigated land; only a very limited number of farmers with rain-fed land had access to subsidies.

COMPARISON OF PRE-CONFLICT SUBSIDIZED AND FREE MARKET PRICES OF KEY AGRI INPUTS					
AGRICULTURAL INPUT	UNIT	SUBSIDIZED PRICE	FREE MARKET PRICE	% DIFFERENCE	NOTE
diesel	1 litre	20 SYP	20 SYP	0%	* all fuel prices were regulated by the Government
chemical fertilizer	50 kg	400 SYP	500 SYP	25%	
potato seeds	1 kg	20 SYP	100 SYP	400%	* subsidized potatoes were from Syria whereas free market potatoes were imported, mostly from Belgium and Netherlands
wheat seeds	1 kg	15 SYP	18 SYP	20%	
olive trees	1 tree	50 SYP	100 SYP	100%	
cotton seeds	1 kg	40 SYP	60 SYP	50%	

### Agricultural Counselling

- GoS operated a wide network of agricultural extension points (Irshadia Ziraia) staffed with qualified agronomists providing visiting farmers with on-demand counselling.
- An incomplete list of their locations include:
  - Idlib: Harem, Qurqania, Aldana, Hazzano, Madretmasrin, Zardana, Teftandz, Idleb city, Ariha, Maaret Noman, Saraqeb, Jisr Alshoghon (and other locations)
  - Aleppo West: Ibin, Kafar Karmin, Alatareb, Abzemo, Orem (and other locations)

### Seasonal Loans

- GoS supported provision of low-interest bank loans enabling farmers to access sufficient inputs (fertilizers, seeds, fuel) for the upcoming season. The loans were expected to be repaid after the harvest. If a loan wasn't repaid, the interest rate would gradually grow (farmers were thus motivated to repay their loans in a short period of time and avoid long-term indebtedness).
- The system helped to prevent an existing situation where farmers had sufficient know-how, could access shops selling agricultural inputs (albeit in a limited quantity), most of them could access land; however, lacking financial capital prevented them from growing a sufficient quantity and diversity of crops (note: this is not to understate other equally influential constraints such as insecurity or drought).

## WOMEN'S ROLE IN AGRICULTURAL PRODUCTION

- In 2010, women represented 60.7% of the agricultural labour force, engaging mainly in labour intensive work (planting, weeding, harvesting legumes and vegetables, and caring for small livestock). Men were in charge of mechanized work or usually did better paid jobs in the construction sector. In the past decade, the social stigma against women's work outside the home has been waning (esp. due to increased need of labour and income) though it is still relatively common ([ICARDA](#); 2014).

## 2. EXISTING SITUATION & RESPONSE OPTIONS

This chapter outlines practical options for specific interventions which implementing agencies can further assess, propose for funding and implement in order to support the livelihoods of primarily poor households.

### 2.1 ACCESS TO LAND

#### CURRENT SITUATION

- Families with no or the most limited access to land are Internally Displaced Persons (IDPs) from Aleppo city and other areas.
- Women can work on (especially more distant) agricultural land if accompanied by a child or a male relative.
- Land for **seasonal lease** is available (starting from approx. 6,000 – 7,000 SYP per 1,000m<sup>2</sup>), however, only at the beginning of the production season (starting from September/ October).
- In Aleppo city, the availability of soil for small-scale vegetable production is limited; however, smaller quantities of soil (e.g. for balcony or backyard production) can be transported from the peri-urban areas.

#### RESPONSE OPTIONS

- Families with a limited access to land (and required skills) can be assisted by paying the costs of the seasonal lease of land (however, it is important to bear in mind that ensuring access to land may not be enough – poorer families may find it difficult to afford the costs of fertilizers and other required inputs).
- For support to urban gardening (incl. securing soil), see section 2.5 below.

### 2.2 AGRICULTURAL INPUTS SUPPLY

#### CURRENT SITUATION

- **Organic fertilizer:** availability of farmer-prepared, manure-based fertilizer decreased due to smaller numbers of animals; shops reportedly don't sell organic fertilizers; crop-based compost reportedly isn't very well known or used.
- **Chemical fertilizers:** sold by a limited number of shops and in a limited quantity (imported from Turkey, Lebanon, Ukraine or Russia).
- Fertilizers and seeds are currently the most unaffordable and at the same time most required agricultural inputs (fertilizers are crucial especially for wheat production and other crops grown during winter).
- **Materials for plastic tunnels:** sellers don't sell plastics or if they do, in a small quantity only; if shops start selling them, it is estimated that approx. 25% of farmers could afford them.
- **Fuel:** available though poorly refined (often at the household level); **price increased by 500%**
- **Spare parts for irrigation pumps, hoses for drip-irrigation:** limited availability.
- **Seeds:** a range of seeds is available in local shops though in smaller quantities.
- Shops stock lower seeds quantities in order to reduce the potential financial losses caused by theft or shelling; most of the shops are able to order larger quantities if requested and paid in advance (however, it isn't recommended to supply very large quantities of seed through local shops).
- The **seeds prices are high – up to over 100% increase** (it wasn't possible to sufficiently verify why – some informants claim that sellers misuse the current situation; others explain it by an insufficient supply and increased supply costs; another factor is the changed USD/ SYP exchange rate).
- Reportedly, approx. **80% of families have to take loans to buy seeds** (as opposed to 40% before the war).
- For imported seeds varieties (largely from Turkey), farmers buy new seeds before each season; for local seeds, farmers largely currently use (due to lacking money) seeds from the previous season.
- Among the most unaffordable seeds are: tomatoes, cucumber, zucchini, watermelon and potatoes.
- Shops sell both local and imported vegetable seeds; local seeds can be purchased per kg (weighted) whereas imported seeds only in their original, unbroken packaging (package volume is usually determined by the number of seeds, not their weight).
- **Shops** are located in the following locations and numbers:
  - **Idlib countryside:** Hazzano (1), Killi (1), **Zardana** (larger supply), Ram Hamdan (2 – able to order more seeds); Maaret Masrin (2 – able to order more seeds), SaraKeb (4, 2 able to order more seeds)
  - **Aleppo countryside:** Alatareb (3, 1 able to order more seeds), Batbu (1), Aldana (1), Aljina (1), Kafar Karmin (1), Abzemo (1), **Azaz** (larger supply); well-supplied markets with seeds and fodder are also located in currently ISIS-control areas of Tedef and Maskana (Aleppo West)
- With several exceptions (see below), **farmers prefer using local vegetable seed varieties**. Their availability (as of early 02/2015) in Idlib Governorate is indicated below. Further details (time of sowing, farmers' preferences, need of irrigation) on these and a range of further crops is provided in the **Annex**.

SOLD SEEDS	LOCAL VARIETY		IMPORTED VARIETY	
	Preferred?	Available?	Preferred?	Available?
chard	Yes	Yes	no	No
tomatoes	No	Yes	yes	limited scale
cucumber	No	Yes	yes	Yes
zucchini	Yes	Yes	yes	Yes
eggplant	Yes	Yes	no	No
watermelon	No	No	yes	limited scale
spinach	Yes	Yes	no	limited scale
lettuce	Yes	Yes	yes	limited scale
radish	Yes	Yes	no	No
onion	Yes	Yes	no	No
pepper	Yes	Yes	no	limited scale
foul beans	Yes	Yes	no	No
peas	Yes	Yes	no	limited scale
okra	Yes	Yes	no	No
broad beans	Yes	Yes	yes	limited scale
cress	Yes	Yes	no	No
arugula/ rucola	Yes	Yes	no	No

## RESPONSE OPTIONS

- Improving households' access to essential agricultural inputs should be at the core of NGOs' livelihoods assistance. However, this seemingly simple type of support has a range of risks and factors which need to be taken into account. PIN provides the following recommendations:
  - **Be Clear with Your Goals:** supporting poor households in increasing their food production for home consumption will require a different approach from supporting better-off farmers in increasing the supply of crops for the local markets. While the main focus should be on supporting the most vulnerable families, ensuring that local markets are well supplied needs to remain among the priorities.
  - **Prefer and Promote Subsidized, Not Free Distributions:** given the existing situation where local suppliers are offering essential inputs, **free of charge distributions can significantly damage local markets**. PIN recommends considering the following implementation modalities:
    - 1) **Subsidized Vouchers:** An implementing agency in close cooperation with the Local Councils can agree with local, well-supplied shops on a voucher system which enables the voucher holders to purchase specified agricultural inputs for subsidized prices (e.g. 30-40% discount). The shops will then charge the implementing agency the financial value of the provided subsidies. Input prices should be specified in a contract and provided to the intended beneficiaries.
      - *advantages:* no risk of damaging shops' businesses; less demanding logistics; supported families can choose the inputs they need; families are used to purchasing inputs in shops
      - *downsides:* prices charged by the sellers are relatively high; lower control over provided inputs' quality and quantity; system may be disrupted if another aid agency starts providing free inputs distributions; need to ensure good monitoring; shops may require pre-financing
    - 2) **Provision of In-Kind Loans:** An implementing agency can propose to its donors and the intended beneficiaries a system where the beneficiary pays a certain percentage of the provided agricultural inputs' value (20-50%); however, the money shouldn't be returned to the agency but to a community fund supporting extremely vulnerable households or small-scale community development projects identified by local residents (water supply repair; waste management). This option requires 1) reaching a clear agreement with the Local Councils and residents on its rationale and conditions; 2) very good financial/ asset mismanagement control system.
      - *advantages:* farmers are used to the seasonal loan system; higher cost-effectiveness; reduced risk of supporting aid dependency; empowers local residents to help their community
      - *downsides:* organizationally more demanding option; risk of financial/ asset mismanagement; system may be disrupted if another aid agency starts providing free inputs distributions
    - 3) **Direct In-Kind Distributions** should be provided on a very limited scale and to specific groups only (e.g. to households growing vegetables in Aleppo city; or to extremely poor households).
      - *advantages:* lower risk of excluding the most vulnerable; relatively easy to implement
      - *downsides:* if implemented on a larger scale, NGOs will cause sellers to lose business; higher risk of supporting aid dependency; lower cost-effectiveness; needs to be well-explained why some households receive free inputs and others need to pay

- **Ensure Correct Timing:** All crops have a specific timing for when they should be planted. Some crops can be planted also at other times (e.g. if irrigation is available); however, farmers may not like to do so. Therefore, **make sure that your seed distributions are in line with the seasonal calendar** (see Annex).
- **Follow Farmers' Seed Preferences:** For certain types of crops (see Annex), Syrian farmers are used to using local seed varieties while for the others they prefer using imported ones. Respect these preferences; otherwise you risk farmers not using donated crops due to their concerns of risking major financial and food losses should the harvest of unknown seeds fail (it certainly doesn't apply that for the farmers it is better to receive unknown than no seeds).
- **Consider the Nutritional Benefits of Supported Crops:** When deciding on what seeds to provide, in addition to respecting farmers' preferences, consider also the crops' nutritional value – see 3.2.
- **Consider Providing Organic Fertilizers:** Together with seeds, fertilizers are the most required agricultural inputs. Organic fertilizers (OF) have a number of advantages: 1) OF are suitable for agricultural production in the target areas; 2) farmers have experience in using home-prepared OF (though they may not be familiar with the commercial ones supplied from Turkey); 3) the benefits of OF for the soil quality are much longer-lasting than in the case of chemical ones; 4) OF have considerably better environmental impacts; 5) **as opposed to very specific types of chemical fertilizers, OF can't be used for the production of explosives.** On the other hand, the less positive aspects of using OF are: 1) lack of farmers' experience with purchased OF may decrease their potential benefits; 2) compared to the chemical fertilizers, OF need to be applied in a much higher volume (= higher transportation costs). Discuss with your agronomists and intended beneficiaries the pros and cons of providing OF and if they prove to be feasible and in-demand, prefer them to the chemical ones.
- See further recommendations in chapter 3.

## 2.3 LOCAL SEEDS PRODUCTION

### CURRENT SITUATION

- **Local seeds** are supplied by agribusinessmen from Khan Toman village (Aleppo South), Abzemo village (Aleppo West), Azaz (Aleppo North), Koures (Aleppo South) and Orem AlKubra (Aleppo West) who secure them from local farmers and sell further. Only some types of seeds (pumpkin, cucumber) are treated. Further supplies are reported to come from GoS-controlled places.

### RESPONSE OPTIONS

- Currently, all informants reported local shops selling a range of local and imported seeds. At the same time, part of the key informants claimed that the currently high prices are caused by limited seed supply, indicating that if their supply increases, the prices may reduce. It is recommended that a more in-depth assessment on the quantity and prices of local and imported seeds is conducted.

In the case that such an assessment identifies an insufficient volume of local seed production and availability, the implementing agencies can a) support existing seed multipliers in increasing their seed supply or b) support a limited number of the most experienced and motivated existing seed sellers in starting seed multiplication businesses. Such intervention would require primarily 1) provision of initial capital and know-how; 2) promotion support among seed sellers, farmers and INGOs willing to purchase seeds from these suppliers; 3) coaching and supervision of new seed multipliers in order to ensure the sustainability of their businesses. Syrian agronomists (both residing in Turkey and in Syria) are very likely to have a sufficient know-how and should be engaged in ensuring the technical quality of such assistance. If possible, the location of the seed multipliers should be spread over different areas of the agencies' intervention (in order to maximize households' physical access).

## 2.4 STAPLE AND CASH CROPS PRODUCTION

### CURRENT SITUATION

- Most cultivated staple crop is wheat. Vegetables are grown primarily for home consumption; production for the local market is limited. The predominant focus on wheat production in the past 3 years (with little if any intercropping) is likely to have had a negative impact on the soil quality.
- For inputs availability, see 2.2.

### RESPONSE OPTIONS

- Consider providing larger farmer-supplying local markets with the support described in sections 2.2 and 2.6. It is recommended that aid agencies don't provide any free inputs/ supplies to better-off farmers – supporting subsidized inputs is to the local situation much more relevant and due to its lower costs can reach a considerably higher number of local farmers.
- In order to improve the soil quality, consider support to intercropping with nitrogen-fixing crops.

## 2.5 HORTICULTURAL PRODUCTION

### CURRENT SITUATION

- The proportion of rural families growing vegetables has decreased significantly (from close to 100% before the war to an estimated 30% as of now), especially due to damaged irrigation, droughts, lack of money for key inputs and insecurity. The type of grown vegetables hasn't changed significantly since before the war. Vegetables are currently grown on a limited scale (for family consumption); the production for local market has decreased significantly. Fruit production has decreased, among other reasons due to damaged irrigation infrastructure.
- In the past 2-3 years, the majority of families weren't able to replace their old plastic tunnels, drip irrigation and other materials with a limited durability.
- Currently, the main need of poorer rural households engaged in the horticultural production is improved financial access to fertilizers and seeds.
- Urban vegetable gardening in Aleppo city is slowly starting (both thanks to external projects as well as people's initiatives) though there is yet unmet potential for upscaling.

### RESPONSE OPTIONS

- **Rural-based homestead vegetable production:** Implementing agencies should support poor families with preferably organic fertilizers and seeds (as described in section 2.2). Households with limited labour and water availability can be supported by small-scale drip irrigation schemes (in order to prevent households not having enough water for irrigation, recommended irrigated area is 100 to 150m<sup>2</sup>). Drip irrigation covering 100 m<sup>2</sup> of land is reported to cost approx. 5,000 SYP. Furthermore, drip irrigation can also be considered when supporting poor families with small scale grape or pomegranate orchards. Low-cost **plastic tunnels** will enable households to extend the production period and improve pest control. Bear in mind that on their own, women cannot work on especially more distant vegetable fields.
- **Urban crop production:** Small-scale crop gardening can contribute to addressing food shortages prevalent in eastern Aleppo city. Even on a very small area of land (e.g. 6-50m<sup>2</sup>) families can grow more resistant and less-input-demanding crops rich in micronutrients/ protein/ carbohydrates such as parsley, spinach, legumes, pepper, onion and potatoes. Integrating nitrogen fixing crops and promoting organic compost can partially address the need of fertilizers. The gardens can be located on balconies, manufactured multi-level shelves, house roofs, backyards, damaged abandoned houses and other places with **nearby access to water** and a lower risk of theft or damage (vegetable growing in the public parks, unless well protected, isn't recommended). Low-cost plastic tunnels will enable households to extend the production period and improve pest control.

In addition to providing subsidized seeds, supporting agencies should (due to water shortages affecting Aleppo city) also provide small scale drip irrigation (investment of up to 15 USD per household is sufficient). Families with no or limited previous experience will require a very practical training with – if possible – a series of follow-up visits. These could be provided by ex-agronomists from the agricultural extension points (Irshadia Ziraia). The majority of families doesn't have soil nearby their households – however, soil for small gardens can be transported from peri-urban areas.

Before any agency embarks on supporting urban gardening, it is highly recommended that its Syrian agronomists 1) consult this option with the intended beneficiaries in order to assess their interest and needs; and 2) visit families already practicing urban gardening and ask them to share the key lessons and recommendations for scaling the gardening up to other areas of the city (currently, it is estimated that at least several dozen families in Aleppo city grow vegetables).

## 2.6 IRRIGATION

### CURRENT SITUATION

- The biggest irrigation scheme (supplied by the Ain Azarqa dam) was damaged and largely isn't operating; the only two sources of water for off-season irrigation are wells and drinking water supply (suitable for very small scale irrigation only).
- Water from both deep and shallow wells is used to a limited extent due to very high fuel prices (110 SYP as opposed to 20 SYP before the conflict) and reported limited availability of spare parts for water pumps.
- Drinking water supply is used for irrigating only small areas of land (100-150m<sup>2</sup>), mainly vegetable gardens.
- Damage to the irrigation systems affected pomegranate and grape orchards – while most of the trees didn't perish, they didn't produce any fruits; olive and fig orchards were affected to a smaller extent.
- Materials for drip irrigation are available in a limited scale only.



## RESPONSE OPTIONS

- Supporting repairs of larger irrigation schemes currently isn't an option.
- When considering support to irrigation schemes supplied by deep wells, it is important to bear in mind that:
  - Wells are owned primarily by wealthier households and so this type of assistance can therefore have only limited benefits to the most vulnerable groups.
  - Building new wells, if not done to good technical quality (esp. if wells are too deep) can result in negatively affecting the groundwater levels. It is recommended to prefer to focus on the repairs (or subsidized provision) of **irrigation pumps** and **irrigation sprinkles**.
- The most recommended option is to support poorer households with small-scale (up to 100m<sup>2</sup>) drip irrigation connected to drinking water supply (avoid 100% free donations with no form of beneficiary contribution) – see also section 2.5.

## 2.7 AGRICULTURAL TRAINING

### CURRENT SITUATION

- Approx. 75% employees of the agricultural extension points (Irshadia Ziraia) were dismissed; the remaining staff remained employed and are paid by the GoS; however, they reportedly don't provide any services in the opposition controlled areas. Therefore, currently there are no official agricultural extension services available (however, advice on the use of specific seeds or fertilizers is provided by their sellers).
- Training for farmers from the rural areas generally isn't among the main needs as farmers largely have sufficient know-how.
- Most of the residents in the Aleppo city and IDPs who were previously engaged in non-farming activities have a limited know-how on agricultural production and if engaged in agricultural production will require training with follow-up support (don't rely on one-off trainings).

### RESPONSE OPTIONS

- Training would be required in the case of supporting **urban vegetable gardening** in Aleppo city as some of the residents don't have experience with vegetable growing. Practical trainings could be provided by agronomists (ex-employees of the agricultural extension points) who have remained resident in or relatively nearby Aleppo city.

## 2.8 ANIMAL RAISING

### CURRENT SITUATION

- Due to insecurity (leading to higher mobility and need of cash), many households in the target areas had to sell most or all of their animals (sheep, goats, cattle, poultry), often for extremely unfavourable prices (e.g. at 10% of their value). Currently, due to improved security, families are gradually purchasing new animals, albeit on a limited scale only (poor families purchase mainly poultry, sheep and goats). The vast majority of larger chicken farms aren't operating, mainly due to incurred damages (from shelling and theft), lack of fodder and electricity.
- The single highest priority for households raising animals is **securing sufficient fodder quantity**. Its poor accessibility was caused by 1) inaccessible grazing lands due to insecurity; 2) low agricultural production resulting in low fodder production; 3) increase in the fodder prices at the local markets. Natural fodder is usually available until June when their availability starts decreasing.
- Veterinarians are generally available and have access to a limited quantity of medicine (this is especially due to low demand – reportedly, supply can be increased). However, **vaccines aren't available** due to lacking electricity (resulting in a lacking cold storage).

### RESPONSE OPTIONS

- Three main options should be considered:
  - **Provision of Subsidized Sheep for Dairy Production:** Compared to other animals, sheep are the most resistant and at the same time relatively easy to care for animals (have low labour requirements). Their dairy products (milk, cheese, yoghurt, butter) are a good source of required nutrients. In order to ensure that families can ensure sufficient, year-round fodder availability, implementing agencies shouldn't provide more than 1-2 sheep per household (this amount is also financially bearable – pregnant sheep/ sheep with 2 young lambs reportedly cost 35,000/ 60,000 SYP (provision of sheep which will not produce milk for an extended period of time isn't recommended).
  - **Production of Fodder Crops:** Before the conflict, fodder crops were commonly produced and most of the farmers are familiar with them. By supporting the production of fast-growing fodder crops such as Alfalfa (mainly through improving access to seeds), implementing agencies can enable households to address the shortages of fodder for domestic animals.

- **Supporting Vaccination Campaign:** Cattle and sheep currently aren't vaccinated and are at a higher risk of diseases and mortality. Since most cattle are currently owned by better-off households, the direct benefits for poorer households are likely to be limited; however, they may benefit through an improved availability of dairy products at the local markets. Poor households would therefore benefit most if vaccination campaigns focus also on sheep vaccination. If any agency decides to support local veterinarians in a vaccination campaign, the key needs are purchasing and transporting vaccines while keeping them at the required temperature (i.e. portable coolboxes and fridges with generators would be essential). Costs for vets' labour can be paid by the farmers. It is essential that such action is prepared and implemented in very close cooperation with the Local Council, Syrian veterinarians and FAO. Preceding vaccinations with a much needed **deworming campaign** would further enhance the benefits of the provided support.
- Support to **small-scale poultry production** can be considered; however, be aware of the risk of high poultry mortality due to diseases (ensure that only vaccinated poultry is provided) and the need for imported feed (if more poultry is raised). Considering the extent of the damages, support to commercial chicken farms is likely to be very expensive and isn't included among the main priorities.

## 2.9 NON-FARMING LIVELIHOODS SUPPORT

### CURRENT SITUATION

- Among the most vulnerable groups (see 3.1) are a number of people for whom crop production isn't a feasible livelihoods option (due to lacking skills, physical handicap, low labour availability, cultural factors). These groups of people currently make their living from daily labour work, small businesses/petty trade, humanitarian aid, support of their family members and of a wider community.

### RESPONSE OPTIONS

- It is recommended that implementing agencies support the establishment of small-scale "businesses" providing especially poor female-headed households, people with a handicap and other **extremely vulnerable households** with an income generating opportunity (such as small shops or tailoring). This can be done through the following process:
  - 1) Engaging the community members in defining the most vulnerable groups and selection of specific eligible households. Be very careful and thorough during this stage – those people who most need help (poor female-headed households, people with a handicap) may easily **end up being excluded due to their limited physical access, lower status or even just due to feeling too shy.**
  - 2) Informing the eligible groups on the possible types of support an agency can provide and on the criteria according to which the supported households will be selected (financial feasibility and sustainability, qualification for running the "business", vulnerability level/ extent to which the household can secure income from elsewhere, etc.). Local families have extensive experience with a range of different income and food generating options and the **choice of the livelihoods activities proposed for an INGO's support should be left up to them.**
  - 3) Support should be provided on a competitive basis by asking people to prepare simple business plans. However, bear in mind that less assertive households such as poor widows may need extra attention and assistance with formulating their "business plans", otherwise they'll end up excluded despite being those most in need of help (don't provide assistance just to those who are most vocal – level of vulnerability and feasibility should rank the highest).
  - 4) The reasons for (not) supporting particular households should be clearly explained to all stakeholders. When selecting the businesses to be supported, bear in mind their financial feasibility – for example, if a larger number of new shops or tailors are established in the same village, none of them is likely to generate a larger income.
- Considering the trauma which some of the most vulnerable Syrians experienced (loss of a spouse; sexual violence with all its social and psychological consequences; injuries resulting in a severe handicap), consider and discuss with the intended beneficiaries the possibility of supporting smaller groups of people (especially women) in larger joint livelihoods activities such as selling specific services (Internet cafe; tailoring) or goods (olive soap production; dairy products of raised sheep). If the demand for such cooperation is high and the risk of later disputes and unsustainability low, such support could have a very **positive added value of enabling women to provide each other with a much needed psychosocial support.**
- It is recommended that such an approach is first piloted on a smaller scale (e.g. 50-100 households) and only after reviewing is the experience scaled up.

### 3. CROSS-CUTTING PROGRAMMING RECOMMENDATIONS

The previous section outlined specific options for supporting the recovery of the agricultural sector in the target areas. This section provides further **practical recommendations which – if applied – will increase the relevance and overall benefits of your assistance.**

#### 3.1 BENEFIT THE MOST VULNERABLE

- While the conflict has had a negative impact on the entire population in the target areas, there are significant differences between the extent to which households were affected and are able to cope with the situation. Farmers with more land (e.g. 1.5 hectares/ 15 dunams) or larger savings have a significantly better coping ability than the most vulnerable groups. Since the amount of support which aid agencies can provide is limited, it is recommended to ensure that provided **livelihoods assistance targets primarily vulnerable households while also supporting larger food producers** in ensuring sufficient food availability at the local markets. The most vulnerable households have the following (often overlapping) characteristics:
  - **Families with children at-risk of moderate or severe undernutrition:** acute malnutrition is among the most precise indicator of severe food insecurity. Relatively easy-to-conduct MUAC screening (see next page) can help you to identify malnourished children (or those at risk of malnutrition) and to include their families in your assistance.
  - **Widows** and female-headed households if not assisted: according to UNHCR's report (2014/08), 85.1% of the conflict's victims were men, while 9.3% were women (the sex of the victim wasn't identified in a little more than 5% of cases). The wives of deceased men – especially if not sufficiently assisted by their (husband's) family members or if lacking means for ensuring their higher financial autonomy - are among the most vulnerable groups. At the same time, considering how many men were killed during the conflict, the number of widows is very large.
  - **People with a handicap or serious illnesses:** people with serious health conditions or handicap (lost limb, paralysis, cancer, HIV/AIDS) without sufficient assistance from their families or the wider community are among the most vulnerable groups.
  - **Income-dependent households:** households of employees dismissed by the GoS, daily labourers, IDPs and other largely non-farming households whose main source of income was severely affected are among the most vulnerable groups (esp. also since some of them aren't likely to benefit from agricultural assistance which is the main planned type of INGOs' livelihoods support).
  - **Farming households with less than 2 dunams of non-irrigated land:** unless the households have another major source of income, their small land holding and inability to cultivate crops during the dry period ranks them among the most vulnerable groups (note: previously wealthier households which had had smaller, but year-round irrigated, land holdings may also belong among this group).
  - **Poor households with limited labour availability,** such as female-headed households with younger children, may belong among the most vulnerable groups.
  - **Poor households with a large number of dependants** have higher expenditures and may therefore have a lower coping capacity.
  - **People with a decreased social status:** women who were sexually abused by the combatants are an example of a group of conflict-affected persons whose vulnerability can be significantly decreased due to lower social status and a partial exclusion from the community.
  - **Heavily indebted households:** often small farmers who lost their additional income from currently non-existent supplementary jobs (taking 40-50,000 SYP worth of loans each month).
- At the same time, agencies shouldn't assume that the residents of assisted villages will automatically accept that only some (albeit poor) people receive assistance while the others don't. In order to prevent aid agencies fuelling conflicts within and with the assisted communities, their staff need to always 1) discuss with the village residents and representatives the reasoning behind the selection of specific households; 2) ensure that they **understand why agencies' assistance intends to benefit only specific groups of people;** and 3) engage them in the selection of the eligible beneficiaries.

## 3.2 MAINSTREAM NUTRITION-SENSITIVE IPIN APPROACH

- In addition to generating income, the main purpose of agriculture is to keep people well-nourished and healthy. While agricultural assistance usually manages to improve households with access to food, this often doesn't translate into ensuring adequate nutrition and reducing the risk of poor-nutrition-related illnesses. **Supporting food production without considering its nutritional impacts makes as little sense as if a farmer provides his land with whatever fertilizers he has without considering what nutrients the land actually needs** (and thus inefficiently uses his resources and receives smaller benefits).
- Furthermore, the **assumption of “Syrians not having a problem with malnutrition” isn't correct** – as the overview of nutrient deficiencies shows, nutrient deficiencies among children under 5 years were common even before the war and there is little reason to think that the conflict made the situation any better.

Deficiency	deficiency's impacts	pre-conflict	source
<b>Iron</b>	Causes anaemia; impairs children's mental development; increases child delivery-related risks.	40%	<a href="#">MD/UNICEF</a>
<b>Vitamin A</b>	Compromises immune system; makes children more vulnerable to diseases; causes blindness.	8%	<a href="#">MD/UNICEF</a>
<b>Iodine</b>	Causes mental impairment, reportedly affects 40,000 Syrian children per year.	8%	<a href="#">MD/UNICEF</a>
<b>Stunting</b> (chronic lack of nutrients)	Weakens children's immune system; impairs mental and physical growth.	27.5%	<a href="#">MoH, GoS</a>
<b>Wasting</b> (low weight for height)	Child 'wastes' his fat stores and muscles; becomes vulnerable to health and life-threatening diseases.	11.5%	<a href="#">MoH, GoS</a>

Considering the damage caused by the presented micronutrient deficiencies, **aid agencies have a very good reason and also opportunity to ensure that their (agricultural) programming positively impacts on children's nutritional status**. PIN's Integrated Programming for Improved Nutrition (IPIN) approach and its toolkit ([download here](#)) can provide you with practical guidance for doing so. In brief, among the most effective and **easy-to-implement options** that agencies' food security programs have are:

- **PROMOTE NUTRITIOUS CROPS:** If intended for home consumption, support the production of those crops which are **well-accepted by the local families** and have a high content of essential nutrients, such as:
  - leguminous plants: beans, lentils, chickpeas (very rich in protein and iron)
  - dark green leafy vegetables: spinach, kale, arugula (rich in vitamin C, folate, iron and calcium)
  - yellow fleshed vegetables: pumpkin, carrot (rich in vitamin A)
- **PROMOTE CROPS PROCESSING:** The majority of Syrian families in the countryside have experience in preserving produced fruits and vegetables by drying, pickling, processing into jams, preparing vegetables spreads and other practices. These practices enable households to increase the diversity of their diets, especially during the off-season. Implementing agencies should therefore identify the main constraints which local families are facing in preserving their food and if feasible, provide required support.
- **AVOID UNINTENTIONAL HARM:** When assisting women in labour-demanding activities (e.g. vegetable production), consider providing them with a **labour-saving support** such as drip irrigation. Women may otherwise need to engage in their livelihoods activities at the expense of not having enough time for taking care of their children - a key precondition for ensuring good child nutrition.
- **SUPPORT REGULAR MUAC SCREENING OF AT-RISK CHILDREN:** Using simple tapes measuring Mid-Upper Arm Circumference (MUAC) is a very easy and non-expensive way to identify children at risk of wasting. It requires setting up a system where local volunteers regularly (e.g. once in 2 months) screen children below 5 years and identify those which are acutely undernourished (i.e. with MUAC below 125mm) or those which are at risk of acute undernutrition (with MUAC below 130mm). Families of identified children can then report to the agency's staff who can assess their situation and if eligible, include them among its food aid or livelihoods program beneficiaries (in addition to referring children with MUAC below 115mm or complications to a health facility – this can be done directly by the volunteers). *Note for PIN: PIN's Senior Advisor for Nutrition can provide comprehensive support with the design of such system, staff training and other requirements.*
- **INTEGRATE WASH AND FOOD SECURITY PROGRAMMING:** Food security assistance usually focuses on increasing the quantity and quality of the consumed food. However, existing evidence shows that even if people consume nutrient-rich foods, it doesn't necessarily improve their health and nutritional status. Among the main reasons are **diarrheal diseases decreasing the body's ability to effectively utilize the consumed nutrients**. According to REACH's 07/2014 Aleppo Governorate Assessment Report, diarrheal diseases (alongside acute respiratory infections and

maternal health issues) account for 75% of the most reported health issues. REACH's 08/2014 report for informal settlements identified diarrheal diseases as the most reported health issue, affecting 31% children. **Diarrhoea is clearly a significant health/ WASH problem which is decreasing the health benefits of provided food security support.**

In order to ensure that agencies' food security support has a better impact on especially children's health, their food security programs should cooperate with their or other agencies' WASH programs on the prevention and management of diarrhea. The very minimum which each agency can do is **to include awareness raising on 1) the importance and ways of preventing diarrhea; and 2) simple recommendations for its treatment.** Such awareness raising events can take as little as 30 minutes (supported by practical written information) and can take part in food aid/ agriculture-related events. Furthermore, if an agency decides to set-up MUAC screening system (which isn't anything complicated), volunteers ensuring screening can be trained on basic counseling skills (the basics of diarrhea prevention and management aren't anything too complicated). *Note for PIN: PIN's Senior Advisor for Nutrition and Syrian health professionals can provide you with all the support you may need.*

### 3.3 FURTHER PROGRAMMING RECOMMENDATIONS

- **TAKE ADVANTAGE OF THE LOCAL EXPERTISE:** Before the conflict, in the target areas lived hundreds of agronomists, irrigation experts, health staff and other professionals with substantial practical experience and education (masters to PhD level). A large part of them (both those residing in Syria and Turkey) can be contacted and consulted (or even contracted) when designing and implementing food security interventions. **The Association of Syrian Agricultural Engineers** (based in Gaziantep) has contacts for dozens of agricultural professionals in Turkey and Syria while a number of other experts can be reached through word of mouth (e.g. through agencies' staff in Syria or other NGOs and UN agencies). Taking advantage of the local know-how can significantly increase the relevance and impact of agencies' assistance. It is therefore recommended **that agencies' key programming decisions take maximum account of the technical and contextual know-how of the Syrian professionals** while considering their programming experience and priorities.
- **BUILD ON WHAT ALREADY EXISTS:** Agencies' food security assistance is likely to be most (cost)effective if it always makes **sufficient investments in understanding the current situation in Syria and how they can built on it.** This concerns a wide range of factors – the services and goods already provided by the private sector; the existing know-how (and other strengths) of local households; or the differences between poor and wealthier households' agricultural production. Assessing the current situation takes time but generously pays-off in terms of much better relevance and overall impact of the support aid agencies provide.
- **USE SMART INDICATORS:** In order to be able to **prove not only what goods & services agencies deliver but also what changes they achieve**, it is recommended to use the following indicators, where relevant:
  - % of households benefiting from agencies' food security support which fall into the most vulnerable categories (assesses to what extent agencies' support benefits those most in need)
  - Individual Dietary Diversity Score ([IDDS](#)) of children under 5: key indicator assessing whether an improved access to food translates into better diets
  - average number of grown crops (Farm Diversity Score): useful for assessing the diversity of agricultural production
  - yields of supported staple crops
  - prevalence of children aged 6-59 months with by MUAC identified Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM) + number of children screened (per month or quarter)
  - % of children under 5 years with diarrhoea in the last 7 days + % of parents using recommended diarrhoea treatment for their children
  - for non-farming support: % of supported "businesses" providing at least the minimum (pre-set) income (DON'T measure the exact income – it is usually very difficult, sensitive and usually not precise)
  - for urban gardening support: % of households which X months after the initial support grow vegetables (if you have the capacity, assess also which vegetables)
  - for the provision of animals: % of households whose donated animals are alive X months after their provision and benefiting the households
- **FOR PIN'S MISSION: KEEP TAKING ADVANTAGE OF PIN'S ADVISORY SUPPORT:** Senior Advisors at PIN's headquarter are ready to provide you with on-demand assistance with the design of specific projects; development of M&E systems; technical, methodological and programming-related consultations on specific activities; staff training (e.g. on **nutrition-sensitive programming**); reviews of completed/ ongoing projects; publishing generated lessons; and other support you may need.

## ANNEX: AGRICULTURAL CALENDAR INCLUDING SEED PREFERENCES

#	crop	المحصول	variety preferred	النوع المفضل	kg per 1000m <sup>2</sup>	كغ / دونم	1	2	3	4	5	6	7	8	9	10	11	12
1	wheat	القمح	local	المحلي	20 - 25 kg	20 - 25 كغ												
2	barley	الشعير	local	المحلي	12 - 14 kg	12 - 14 كغ												
3	lentil	العدس	local	المحلي	12 - 14 kg	12 - 14 كغ												
4	chickpeas	الحمص	local	المحلي	15 kg	15 كغ												
5	bean	الفاصولياء	local	المحلي	15 - 18 kg	15 - 18 كغ												
6	peas	البازلاء	local	المحلي	2 - 3 kg	2 - 3 كغ												
7	beans	الفاصولياء	local	المحلي	3 kg	3 كغ												
8	bean/lubia	اللوبيه	local	المحلي	1.5 - 2.5 kg	1.5 - 2.5 كغ												
9	okra	البامياء	local	المحلي	1 kg	1 كغ												
10	cucumber	الخيار	imported	مستورد	100 g	100 غ												
11	marrow	الكوسا	imported	مستورد	150 g	150 غ												
12	yellow watermelon	البطيخ الأصفر	imported	مستورد	100 g	100 غ												
13	red watermelon	البطيخ الأحمر	imported	مستورد	125 g	125 غ												
14	watermelon	العجور	local	المحلي	100 g	100 غ												
15	cucumber 2	القت	local	المحلي	100 g	100 غ												
16	potatoes	البطاطا	imported	مستورد	300 kg	300 غ												
17	cotton	القطن	local	المحلي	8 kg	8 كغ												
18	cumin	كمون	local	المحلي	3 - 4 kg	3 - 4 كغ												
19	spinach	السيباخ	local	المحلي	1 kg	1 كغ												
20	lettuce	الخس	local	المحلي	65 g	65 غ												
21	radish	الفجل	local	المحلي	1 kg	1 كغ												
22	onion	البصل	local	المحلي	800 g	800 غ												
23	garlic	الثوم	local	المحلي	30 kg	30 كغ												
24	tomatoes	البندورة	imported	مستورد	15 g	15 غ												
25	eggplant	الباذنجان	local	المحلي	25 g	25 غ												
26	pumpkin 1	القرع سراحي	local	المحلي	150 - 250 g	150 - 250 غ												
27	pumpkin 2	القرع الرومي	local	المحلي	100 - 200 g	100 - 200 غ												
28	kale	اللفت	local	المحلي	1 kg	1 كغ												
29	chard	السلق	local	المحلي	1 kg	1 كغ												
30	parsley	البقدونس	local	المحلي	2.5 - 3 kg	2.5 - 3 كغ												
31	peppermint	النعناع	local	المحلي	100 g	100 غ												
32	cress	الرشاد	local	المحلي	2.5 kg	2.5 كغ												
33	pepper	فلفل	imported	مستورد	0,8 - 1,2 kg	0,8 - 1,2 كغ												
34	beetroot	جذر الشمندر	imported	مستورد	20 - 30 kg	20 - 30 كغ												
35	arugula/ rucole	الجرجير	local	المحلي	2.5 kg	2.5 كغ												

sowing
  growing
  harvesting