

Wheat to Bread Facility Mapping and Functionality Overview

October 2024 | Northwest Syria

Context & Rationale

Syria remains one of the world's most complex humanitarian crises, significantly affecting the production and supply of its staple food, bread. The combined and ongoing effects of the crisis have impacted wheat production, milling, and bread availability, posing a serious threat to food security and the overall well-being of the population. In addition to reduced wheat production, vital food security infrastructure—including bakeries, mills, and silos—has suffered extensive damage since the conflict began. Furthermore, supply chain disruptions, high levels of inflation and rising costs, and shortages have all presented acute challenges for wheat-to-bread market actors in securing adequate quantities of key inputs. Due to these combined factors, humanitarian actors have been supporting the wheat-to-bread supply chain through the rehabilitation of infrastructure and provision of key inputs to ensure bread is available in communities throughout Northwest Syria (NWS).

This Situation Overview builds on previous studies carried out by iMMAP and was co-designed with the NWS Food Security and Livelihoods Working Group. It primarily aims to assess the number, operational status, and production levels of key wheat-to-bread facilities (i.e. bakeries, mills, and silos), as well as identify key challenges they are facing. The findings of this report and the corresponding datasets are intended to inform prioritization and planning decision-making by humanitarian actors active in bread and bakery support programming in NWS.

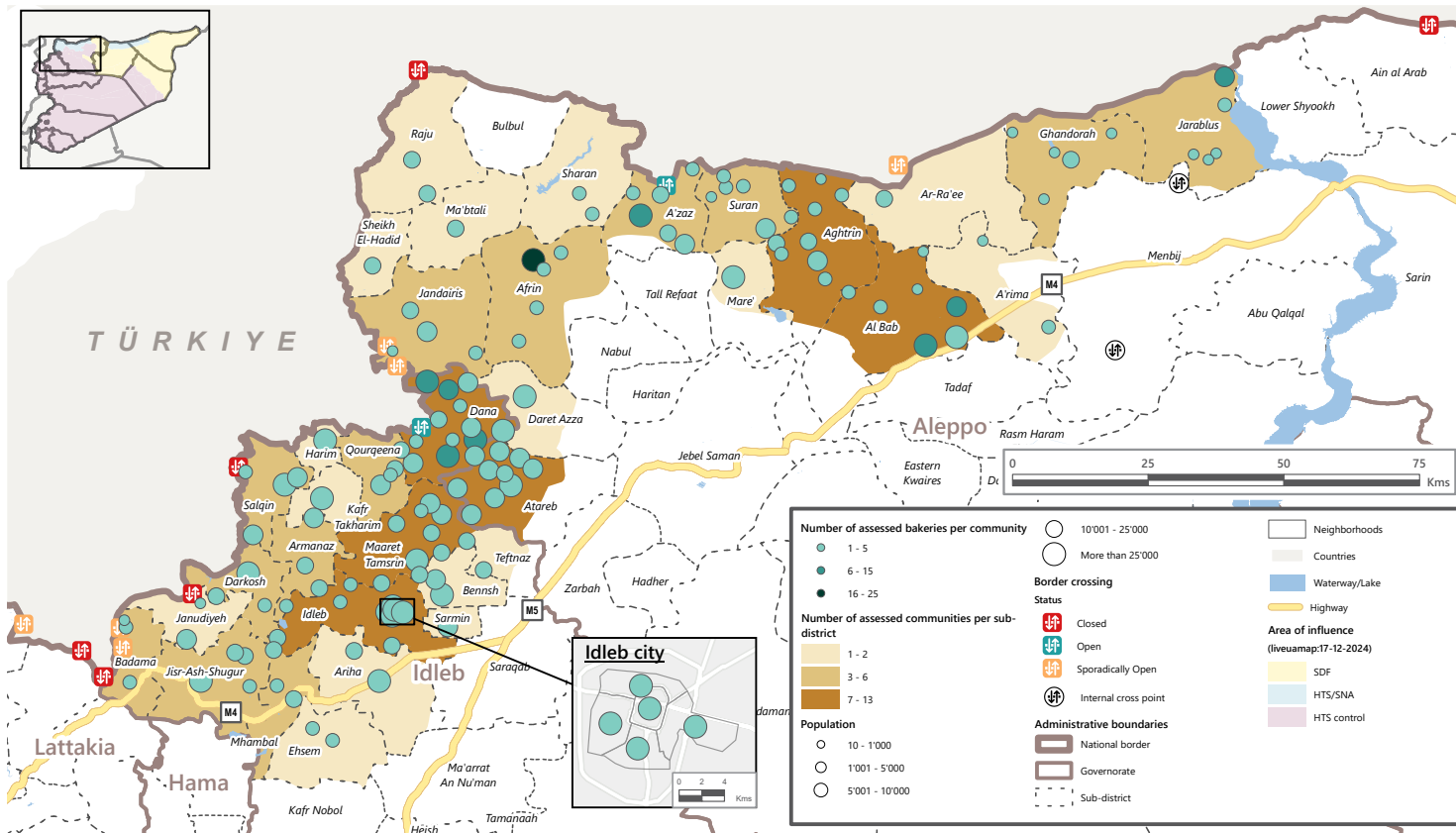
Methodology Overview

This assessment utilized Key Informant Interviews (KIIs) at the sub-district level as the primary data collection method. Enumerators based in NWS conducted interviews with one KI for each facility, either in person or remotely (via phone). KIs were selected based on their specific knowledge of the facilities. Data was collected between October 20 and November 3, 2024, using three distinct tools tailored for bakeries, mills, and silos. Unless otherwise stated, all indicators refer to the situation prior to the data collection period.

Key Messages

- **Operational challenges in bread production:** While **most assessed bakeries, silos, and mills are operational or partially operational**, they require urgent machinery upgrades and additional input support to enhance efficiency, extend working hours, and meet supply demands. Additionally, **many KIs reported insufficient or lacking support from local authorities**, particularly for operational costs and maintenance, **further limiting production and contributing to higher bread prices or smaller bundle sizes.**
- **Declining wheat yields:** In NWS, **58% of wheat farmers reported lower yields in 2023-2024**, particularly in Idleb and Hama. The main cause, cited by 54% of KIs, **was financial and market barriers limiting access to essential inputs, negatively impacting the overall production cycle.** This decline threatens to reduce bread availability, drive up prices, and worsen food insecurity in NWS over the next year, **as many farmers may be forced to cut back cultivation or stop wheat production altogether.**
- **Bread production output in relation to population needs:** At the regional level, the combined output of assessed bakeries **falls short of meeting population needs.** The **largest production gaps** were recorded in **Aleppo and Idleb governorates**, with **Dana sub-district in Idleb** experiencing the **greatest shortage** relative to its population size. Additionally, **63% of KIs reported that people struggle to afford enough bread**, highlighting uneven access and disruptions in the supply chain.

Bakeries geographical coverage map



Bakeries key findings

- In total, 306 bakeries across 35 sub-districts and two governorates were assessed. **Of these, 33 bakeries were non-operational, 180 were fully operational, and 93 partially operational.** The vast majority of bakeries produce regular unsubsidized bread (90% in Aleppo, and 98% in Idleb).
- Based on current bread production reported across all assessed bakeries, at the regional level, **weekly production (7031.5 MT) falling to fulfill the daily bread needs of the population (8865 MT)*, however, this is uneven across governorates, with a gap of 105 MT and 1893 MT of bread reported in Aleppo and Idleb governorates respectively.**
- The primary reasons reported for limited functionality of assessed bakeries **was the demand in the area does not require full capacity, lack of access to support and high operational costs.** KIs frequently emphasized these challenges, highlighting the urgent need for reliable support and machinery repairs. Many bakeries were operating with outdated and deteriorating equipment, some of which had been impacted by the ongoing conflict.
- The most commonly reported source of flour for assessed bakeries was imported flour,** with the majority coming from Türkiye. In contrast, bakeries relying on locally produced flour primarily sourced it from the Al-Afran Foundation.

- Most KIs (79%) reported that most bakeries do not receive support.** Among those that do, flour and yeast were the primary forms of assistance provided by local authorities and the Disaster and Emergency Management Authority (AFAD). **However, many emphasized that the high cost of bread bundles is largely due to the lack of support and imposed taxes.**

Weekly bread production

Full Capacity: **11,594.1 MT**
Actual: **7,031.5 MT**

Expectations of change in production capacity over next 3 months

Yes **14%**
No **62%**
Don't know **24%**

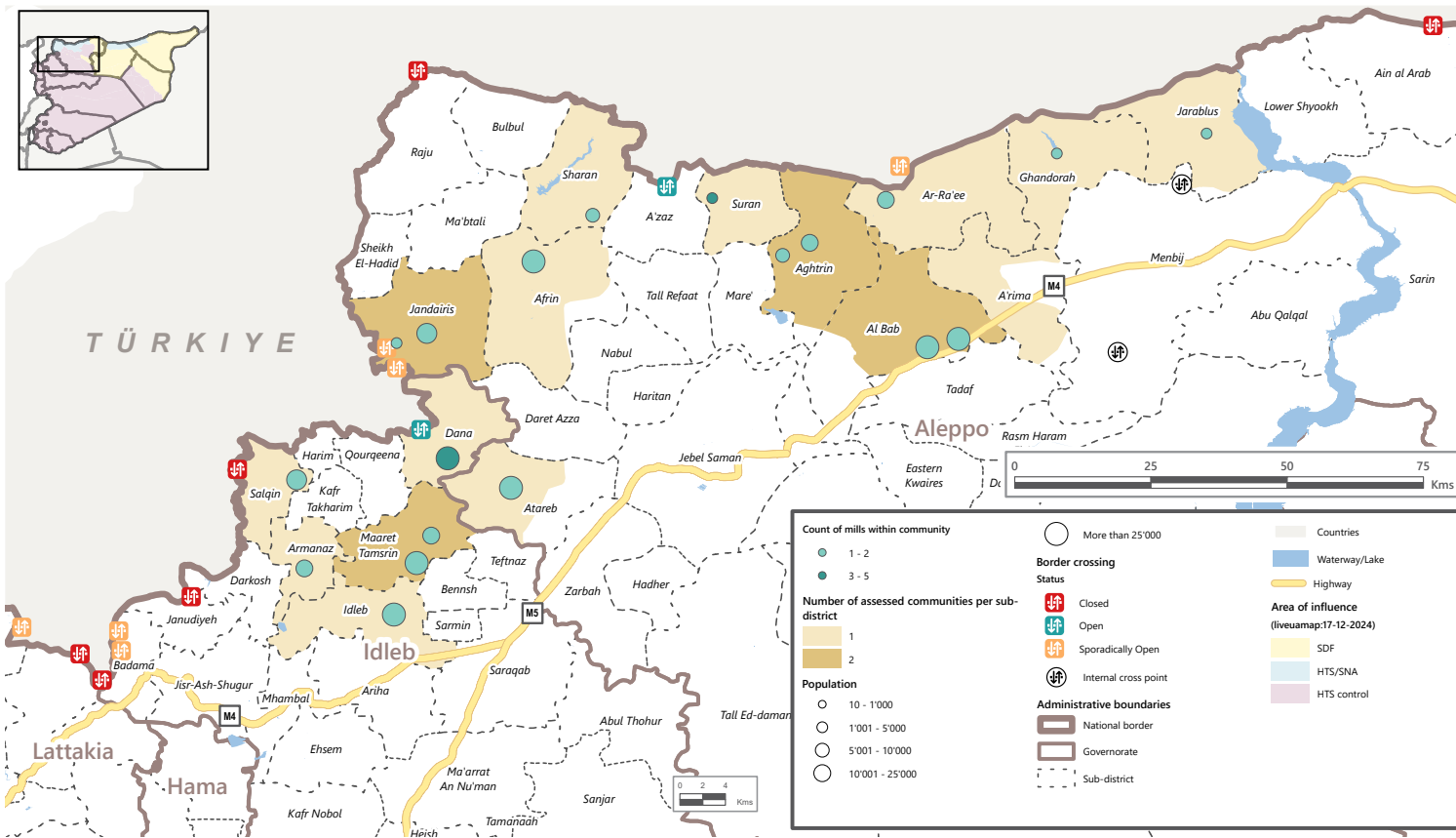
Type of production change by KIs that answered yes

Increase: **69%**
Decrease: **31%**



* Refer to the tables in page 5 & 6.

Mills geographical coverage map



Maximum and current weekly production

Ability to increase production if needed

Flour availability in the area

Maximum weekly production: **6,606 MT**

Current weekly production: **2,481.8 MT**

Yes **18/23**

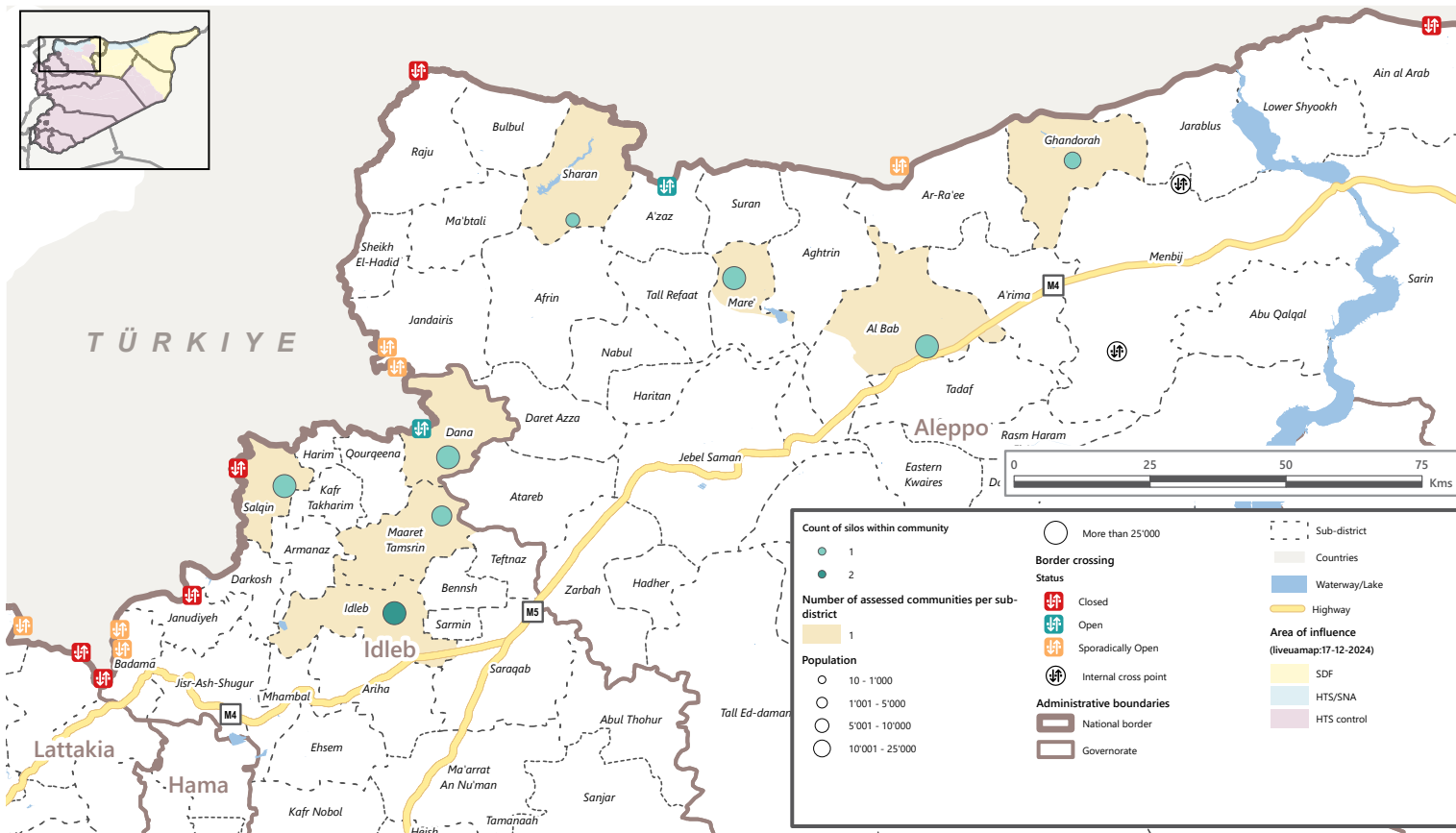
No **5/23**

Always available **23/23**

Mills key findings

- In total, 29 mills were assessed across 16 sub-districts in two governorates of NWS. **Of these mills, 6 were non-operational, 8 were fully operational, and 15 were partially functional.**
- The majority of assessed mills in Idleb and Aleppo governorates were either non-operational (6/29) or only partially operational (15/29).**
- Among the mills assessed in NWS, **23 were privately owned, with profits going directly to the owners, while the number of publicly owned mills was relatively low (6).** The management structure of the mills also varied, with the most common being an independent management system operated by the individual owner, accounting for (16/23) of the assessed mills. This was followed by mills managed by a staff member at (3/23), with the remaining mills falling under other management structures.
- The main reasons reported for limited functionality for assessed mills were the need for machine maintenance and high operational costs.** These issues were highlighted by (5/14) of KIs, who stressed the importance of increased support and maintenance for engines and machinery.
- The most commonly reported sources of wheat grain for each mill facility were directly from farmers (14/23), followed by wheat trader (10/23), and General Establishment for Grains (9/23). **Notably, KIs reported that wheat grains are always available (21/23) of the time, while (2/23) indicated that they are sometimes available at the time of data collection.**

Silos geographical coverage map



Silos key findings

- A total of 9 silos were assessed across 8 sub-districts in two governorates of NWS. **Of these, 2 silos were non-operational, 5 were fully operational, and 2 were partially operational.** Notably, 5 of the silos were located in Idleb governorate, with 2 of them using the piling method.
- All assessed silos were publicly owned by local authorities,** highlighting their critical role in the wheat-to-bread supply chain in NWS.
- The main reasons reported for **limited functionality** were wheat shortages, high operational costs, and lack of financial liquidity. **For closures,** factors such as the need for machine maintenance, building rehabilitation, and damage from bombing and shelling were noted. **A key distinction was made regarding closures,** highlighting that the poor condition of the physical structure and outdated machinery were significant drivers for silo shutdowns.
- Although the majority of KIs (6/7) reported that the security situation in the area is stable,** those who mentioned instability highlighted bombing as a security risk, reflecting the mention of bombing and shelling as a reason for silo closures.

Total silos storage capacity

Maximum capacity: **1,394,50 MT**

Ability to increase storage if needed

Yes **5/7**

No **2/7**

Wheat storage actors

General Establishment for Grains **6/7**

Humanitarian organizations **1/7**

NWS bread needs and production gap analysis, October 2024

Sub-district	Total population*	Weekly bread needs of population in MT	Total weekly bread production in MT	Bread production gap in MT per week	Number of assessed bakeries	Number of supported bakeries***	Number of unsupported bakeries	
Aleppo	Atareb	261,755	458	313.5	145	13	0	11
	Daret Azza	85,224	149	66	83	2	0	2
	Al Bab	231,558	405	1024	-619	25	12	8
	Ar-Ra'ee	26,912	47	No data	No data	3	No data	No data
	A'rima	42,870	75	31.4	44	2	1	1
	Afrin	295,932	518	583	-65	33	1	32
	Jandairis	111,196	195	150	45	10	0	10
	Raju	65,724	115	46	69	3	0	3
	Sharan	80,126	140	16.4	124	2	0	2
	Sheikh El-Hadid	28,686	50	28	22	1	1	0
	Ma'btali	39,898	70	36	34	3	0	2
	A'zaz	322,458	564	335.5	229	17	3	13
	Aghtrin	116,418	204	190	14	12	5	7
	Mare'	72,447	127	142	-15	3	1	2
	Suran	97,227	170	122.4	48	12	1	10
	Jarablus	91,330	160	322	-162	11	6	3
Ghandorah	27,132	47	148	-101	8	7	1	

* Population estimates are based on July 2023, population task force.

** [Syria HNO 2024](#)

*** Only asked for operational bakeries.

NWS bread needs and production gap analysis, October 2024

Sub-district	Total	Weekly bread needs of population in MT	Total weekly bread production in MT	Bread production gap in MT per week	Number of assessed bakeries	Number of supported bakeries***	Number of unsupported bakeries	
Idleb	Idleb	302,862	530	363	167	15	0	13
	Bennsh	56,370	99	107	-8	4	0	4
	Teftnaz	17,712	31	18	13	1	1	0
	Maaret Tamsrin	377,532	661	421.5	239	19	4	14
	Sarmin	14,800	26	10	16	1	0	1
	Harim	75,681	132	61	71	3	0	3
	Dana	1,262,641	2,210	1165.5	1,044	52	0	43
	Salqin	195,765	343	234	109	10	1	6
	Kafr Takharim	36,034	63	50	13	2	2	0
	Qourqeena	113,868	199	90.5	109	6	1	3
	Armanaz	79,207	139	144	-5	5	2	3
	Jisr-Ash-Shugur	126,380	221	183	38	7	0	7
	Badama	52,081	91	94	-3	3	1	2
	Darkosh	86,931	152	84	68	4	1	2
	Janudiyeh	61,430	108	33	75	3	0	3
	Ariha	110,734	194	322	-128	6	5	1
Ehsem	56,622	99	67	32	2	0	2	
Mhambal	41,605	73	29.5	43	3	0	3	

* Population estimates are based on July 2023, population task force.

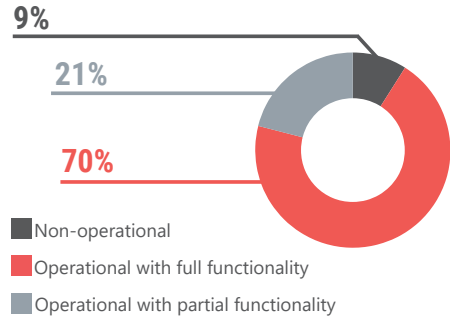
** [Syria HNO 2024](#)

*** Only asked for operational bakeries.

Aleppo

Bakeries 160

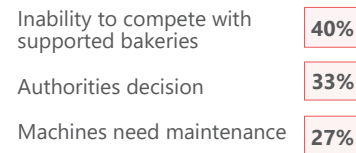
Bakeries operational status



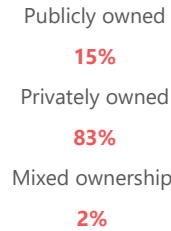
Permanent closure (if non-operational)



Reasons for closure



Ownership

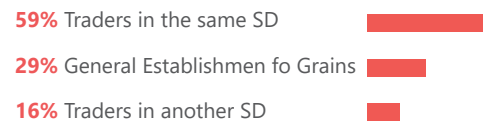


Availability

	Bread	Yeast	Local flour	Imported flour	Fuel
Always available	100%	99%	99%	98%	100%
Sometimes available		1%	1%	1%	
Not available				1%	

Main source of flour for production

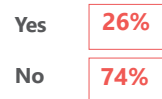
Local flour 39%



Imported flour 81%



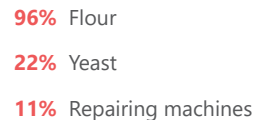
Support status



Support source



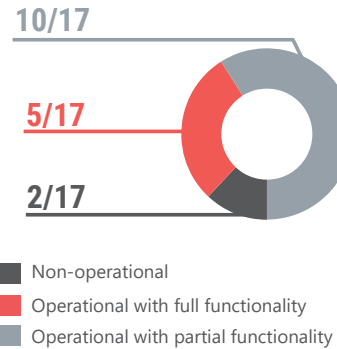
Type of Support



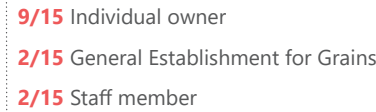
* On average

Mills 17

Mills operational status

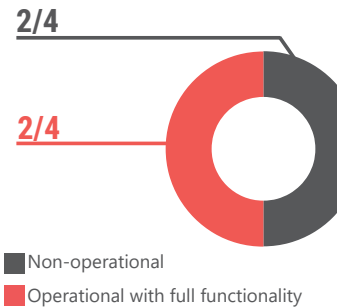


Management

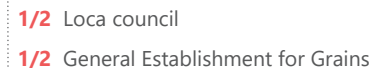


Silos 4

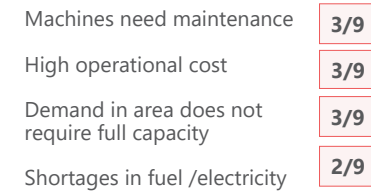
Silos operational status



Management



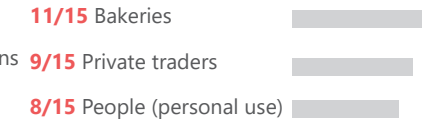
Reasons for limited functionality



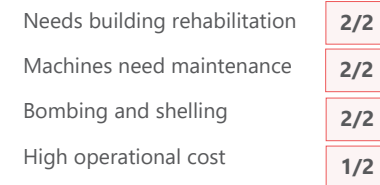
Main source of wheat for production



Market Actors Supplied Through



Reasons for closure



Source of wheat



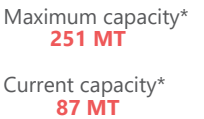
Wheat origin



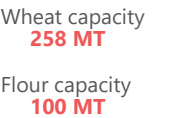
Ownership



Weekly production



Stocking capacity



Ownership



Stored wheat type



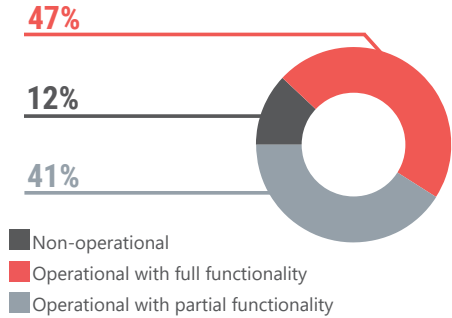
Storage capacity*



Idleb

Bakeries 146

Bakeries operational status

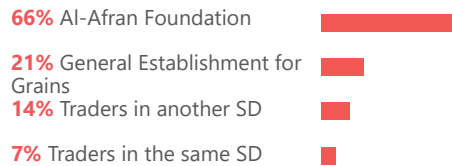


Availability

	Bread	Yeast	Local flour	Imported flour	Fuel
Always available	100%	99%	99%	98%	99%
Sometimes available		1%	1%	2%	1%

Main source of flour for production

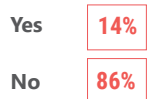
Local flour 94%



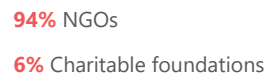
Imported flour 100%



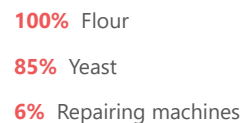
Support status



Support source



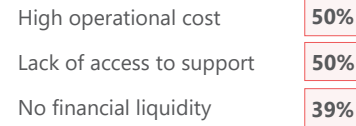
Type of Support



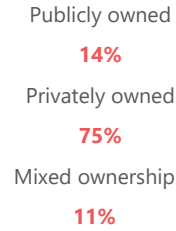
Permanent closure (if non-operational)



Reasons for closure

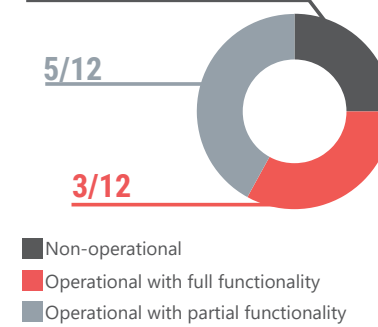


Ownership

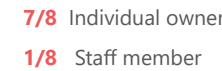


Mills 12

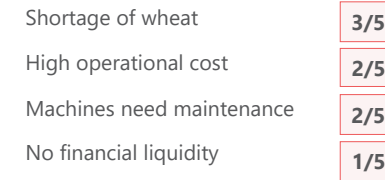
Mills operational status 4/12



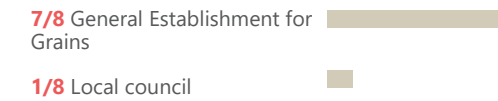
Management



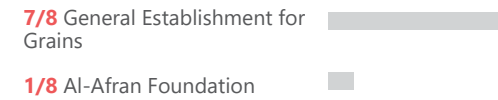
Reasons for limited functionality



Main source of wheat for production

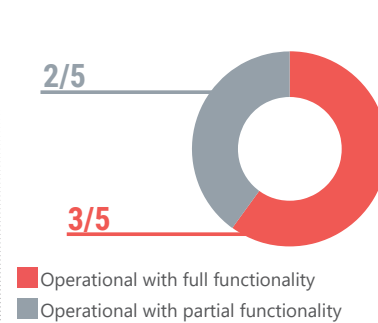


Market Actors Supplied Through

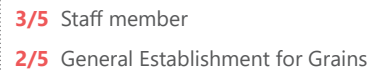


Silos 5

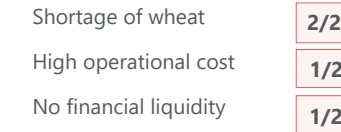
Silos operational status 2/5



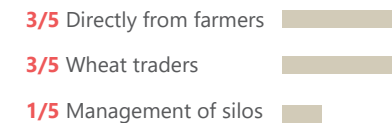
Management



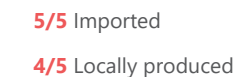
Reasons for limited functionality



Source of wheat



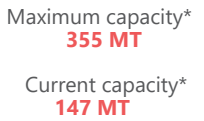
Wheat origin



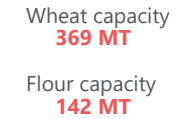
Ownership



Weekly production



Stocking capacity



* On average

Enumerators and training

The data is collected by field staff who are well-acquainted with the conditions on the ground, ensuring a thorough understanding of the local context. Before initiating data collection, these staff members receive comprehensive training on the methodology and tools provided by REACH to ensure accuracy and consistency in the process. The data collection itself is conducted using the KOBO Collect mobile application, a robust tool that facilitates efficient and reliable data gathering in the field.

Data cleaning and analysis

After data collection, REACH compiles and cleans all data, standardizing prices, cross-checking outliers, and calculating the median cost of prices in each assessed location. Follow-ups are initiated with field teams to address data queries, including outliers, missing data, and incorrect entries.

Aggregation

The published data is presented at the sub-district, district, governorate, and regional levels. At each aggregation level, the median of all prices collected within the unit of analysis is calculated. For example, at the regional level, the median of all prices collected for a specific product in the entire region is calculated, while at the governorate level, the median of all prices collected in that governorate is calculated, and so forth. All price index and weight calculations utilize this method.

Challenges and limitations

- Price data reflects only the specific timeframe in which it was collected. Variations may occur between data collection rounds.
- With current coverage, data is mostly collected from accessible facilities, which may not be representative of rural areas.
- As the output is coverage-dependent, the data reflects only the conditions of the assessed facilities and may not be representative of all facilities within that sub-district.

About REACH

REACH Initiative facilitates the development of information tools and products that enhance the capacity of aid actors to make evidence-based decisions in emergency, recovery and development contexts. The methodologies used by REACH include primary data collection and in-depth analysis, and all activities are conducted through inter-agency aid coordination mechanisms. REACH is a joint initiative of IMPACT Initiatives, ACTED and the United Nations Institute for Training and Research - Operational Satellite Applications Programme (UNITAR-UNOSAT).