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# Introduction

Bread is a crucial wheat-based food that serves as a staple in Syria. However, the earthquake that struck Türkiye and NW Syria on February 6th inflicted significant damage on numerous bread production facilities.

In partnership with USAID-BHA collaborators, members of the Northwest Syria (NWS) Food Security and Livelihood (FSL) Cluster, Implementing Partners (IPs), and the NWS Bread and Bakery Technical Working Group (BBTWG), iMMAP FSL unit conducted an extensive mapping and monitoring study of both public and private facilities involved in the wheat-to-bread processing and production across NWS. This initiative, carried out 9 months after the earthquake, aimed to evaluate its medium to long term impact on the region's bread production facilities and the bread's availability.

The Wheat to Bread Processing Facilities Mapping assessment, conducted in February/March 2023<sup>1</sup>, provided a thorough evaluation of the damage sustained by bread production facilities due to the earthquake. It encompassed assessments of building structures, equipment, infrastructure, and supply storage. Across the evaluated districts, 44% of bakeries reported damage to their building structures, 38% to their equipment, 3% to their infrastructure, and 2% to their supply storage. Mills and silos also reported varying degrees of damage. These findings guided the FSL cluster and its implementing partners in extending support to these damaged facilities for their rehabilitation.

Several months post-assessment, the FSL cluster and the BBTWG emphasized the necessity for a second round of monitoring to evaluate the current state of infrastructure in the bread production facilities across NWS. This aims to compare the earthquake-induced damages with the present rehabilitation requirements of these facilities, offering better insights into the effectiveness of interventions and aiding in future program planning to support these facilities. The primary objectives of this assessment are as follows:

- Map the wheat-flour to bread value chain actors, plans and achievements in NWS.
- Comparative assessment of the level of structural and operational damages of the bread production facilities post-earthquake to evaluate actual interventions and future needs.

- Assess the capacity and functionality of the wheat-flour to bread processing facilities in NWS.
- Assess availability, accessibility and affordability of flour and bread in NWS (including local, imported, and fortified flour)
- Identify production gaps to meet the bread needs of the local population.
- Identify the main wheat-flour to bread production challenges and the needed support to overcome them.
- Provide a clear end-to-end view of the bread supply chain in NWS.

# **Geographical Coverage of the Study**

The fourth² round of the Wheat-flour to bread processing facilities mapping exercise in NWS was conducted in October/November 2023. 37 sub-districts were assessed across 4 governorates: 17 sub-districts in Idleb governorate, 17 sub-districts in Aleppo governorate, 2 in Ar-Raqqa governorate, and 1 in Al-Hasakeh governorate. Partners mapped the existing wheat-flour to bread processing facilities and collected data from 298 facilities: 255 bakeries, 30 mills, and 13 silos. It is worth noting that not all bakeries were reassessed since owners may have refused to take part, or were unavailable, or were located in inaccessible sub-districts.

Limitations: The primary limitation in this assessment is the reduced number of facilities assessed compared to the previous quarter. While 360 facilities underwent assessment in March 2023, the current round only covered 298 facilities. This decline was due to several factors, including owners' refusal to participate, their unavailability, facilities not being located within the specified communities, or closure without traceable ownership. Moreover, as this assessment aims to be comparative, it specifically targeted the same facilities as in March 2023, disregarding others that were usually included in the Wheat to Bread Facility Mapping assessment pre-earthquake but were inaccessible at that time. This further constricted the scope and representation of the study. Consequently, this reduction in assessed facilities is expected to impact the quantitative data presented, notably in areas such as production levels, support volumes, and the fulfillment of bread production needs of the population.

# **Key Findings**

# Operational Status of Bakeries

The study assessed a total of 255 bakeries across 11 districts, with the highest number of bakeries in Afrin, A'zaz, Harim, and Idleb districts. Of the bakeries assessed, 87% (n=221) were operational, while 13% reported non-operation. The primary reasons cited for non-operation included high operational costs, limited access to support, the inability to compete with supported bakeries, and a lack of financial liquidity. Following Ras Al Ain and Tell Abiad districts, Al Bab district in Aleppo governorate recorded the highest percentage of non-operational bakeries at 43%, this is mainly attributed to insufficient access to support for flour distribution or funds for operational costs, resulting in heightened expenses for bread production. The study also revealed that only 6% of the non-operational bakeries were still temporarily closed due to earthquake-related damages to buildings and equipment, a significant decrease from 27% in March 2023.

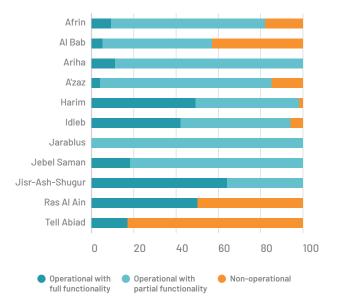


Figure 1. Operational Status of Bakeries

Post-Earthquake Wheat-Flour to Bread Processing Facilities Mapping - February 2023. The latest February 2023 report can be accessed through this link.

<sup>2</sup> Since 2019, iMMAP published ten Wheat-Flour to Bread Processing Facilities Mapping reports for NWS have been published by iMMAP, the latest February 2023 can be accessed through this link.

# Damages and Rehabilitation Needs – Summary of Bakeries

As previously mentioned, this study assessed the damages of bread production facilities and compared them to the last round of data collection to evaluate rehabilitation progress. For this, a comprehensive assessment of the damage incurred by bread production facilities following the earthquake was conducted covering building structure, equipment, infrastructure, and supply storage. The level of damage was categorized into three categories: Total Damage, Severe Damage, and Partial Damage:

- Total Damage: indicates the total destruction of the assessed area leading to its complete non-operation.
- Severe Damage: indicates the critical damage of the assessed area disrupting its operation and leading to a higher risk of further damage.
- Partial Damage: indicates slight damage to the assessed area that does not necessarily disrupt its operation.

## **Bakeries**

In March 2023, 44% of bakeries reported damage to their building structures, 38% to their equipment, 3% to their infrastructure, and 2% to their supply storage, most of which was partial damage. Mills and silos also reported varying degrees of damage. During this round, 35% of the bakeries reported residual rehabilitation needs to their building structure, 30% to their equipment, and 2% to their infrastructure. The table below provides information on the bakeries that were reevaluated, including those that suffered earthquake-related damage, those that have undergone either full or partial rehabilitation, and those that still require further rehabilitation, along with estimated costs for the remaining rehabilitation efforts required.

**Table 1.** Summary of Damages

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	117	52	89	\$ 277,100
Equipment	103	66	77	\$ 350,550
Infrastructure	9	6	4	\$20,000

Key notes on the different types of damages of bakeries:

# **Structural Damages**

- Out of all the damaged bakeries, 44% (n=52) underwent rehabilitation for their structural damages.
- The primary reasons for bakeries not opting for structural rehabilitation were insufficient financial liquidity, limited access to support, and, to a lesser extent, minimal damage not requiring repair.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, and repairing cracked or collapsed walls.
- Among the rehabilitated bakeries, 19% (n=10) received support from NGOs for structural repairs, with an estimated cost of \$194,400, while the remaining bakeries (n=42) had to self-finance their rehabilitation costs amounting to an estimated total of \$103,600.
- NGO interventions targeted fewer bakeries prioritizing those requiring
  more extensive rehabilitation while considering the rehabilitation costs
  and the number of bakeries. However, this does not necessarily include
  all NGO interventions that were provided to bakeries post-earthquake,
  since as reported earlier, one of the main limitations of this assessment
  is the reduced number of bakeries included in the study.
- 76% of all damaged bakeries still require additional rehabilitation, while the remaining bakeries have fully addressed their structural damages.
- The remaining damages include cracked walls, leaky roofs, damaged floors, and tiles.
- Among the bakeries in need of further rehabilitation, 33% indicated they have no plans to repair the damages due to a lack of support and limited financial resources. In contrast, the remaining bakeries are interested in repairing the damages, estimating the total rehabilitation costs at \$277,100.

# **Equipment Damages**

- Out of all the bakeries with equipment damage, 64% (n=66) underwent maintenance or replacement efforts for their equipment.
- The primary reason for bakeries not opting for equipment maintenance or replacement was their insufficient financial liquidity and the high costs of maintenance or replacement of equipment.
- The primary rehabilitation efforts were directed towards oven houses, cooling path equipment, and compressor maintenance or replacement.
- Out of the bakeries that underwent rehabilitation, only 3% (n=2) received financial assistance from the Local Council for equipment repairs, amounting to approximately \$12,000, while 12% (n=8) received support from NGOs, totaling an estimated cost of \$98,000. In contrast, 88% of bakeries (n=58) had to self-finance their equipment rehabilitation, with a total estimated cost of \$215,600.
- 75% of bakeries with equipment damage still require further rehabilitation, while the remaining bakeries have fully addressed their equipment damage.
- The remaining damage includes equipment like fermentation equipment, cutting machines, oven houses, compressors, and cooling path equipment.
- Among the bakeries in need of additional rehabilitation, 22% indicated that they do not plan to repair the damages due to limited financial resources. Conversely, the other bakeries are interested in addressing the damages, estimating the total cost of rehabilitation at \$350,550.

## **Infrastructure Damages**

- Out of all the bakeries with infrastructure damage, 67% (n=6) underwent infrastructure rehabilitation.
- The primary reason for bakeries not opting for infrastructure rehabilitation was their insufficient financial liquidity.
- The primary rehabilitation activities focused on repairing fuel tanks, electricity, or water pipelines.
- Among the bakeries that underwent rehabilitation, only one bakery received assistance from NGOs for infrastructure repairs, while the remaining bakeries (n=5) had to fund their own rehabilitation efforts, amounting to an estimated total cost of \$8,600.
- This suggests that even though NGO interventions targeted fewer bakeries, they aimed at those requiring more extensive rehabilitation when considering the rehabilitation costs relative to the number of bakeries.

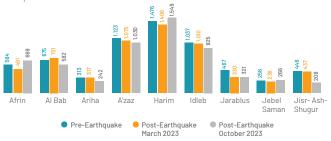
- 44% of all bakeries with infrastructure damage still require additional rehabilitation, while the remaining bakeries have fully addressed their infrastructure damage.
- The remaining damage also includes the repair of fuel tanks and electricity or water pipelines.
- Among the bakeries in need of further rehabilitation, 75% indicated that they have no plans to repair the damage due to limited financial resources. In contrast, the other bakeries are interested in addressing the damage, estimating the total rehabilitation costs at \$20,000.

The details of mills and silos rehabilitation needs will be elaborated on a district level analysis.

# **Bread Production**

The study found that the operational bakeries assessed in Aleppo and Idleb governorates have a maximum production capacity of 14,108 metric tons (MT) of bread per week. However, these bakeries are currently producing only 5,800 MT of bread per week, utilizing 41% of their maximum capacity. The districts of Harim, A'zaz, and Idleb reported the highest bread production quantities, as depicted in figure 2.

Furthermore, as illustrated in figure 2, most bakeries experienced a reduction in bread production after the earthquake, as reported in March 2023. However, overall productivity levels remained relatively consistent during this period, with minor fluctuations across the districts. Notably, Afrin, Harim, and Jebel Samaan districts were the only ones that saw an increase in productivity between March 2023 and October 2023, while the other districts maintained similar or slightly lower production levels compared to March 2023.



Despite the fact that bread production has remained relatively steady compared to March 2023, the current levels of bread productivity are still insufficient to meet the bread needs of the total population. In Aleppo governorate, the total bread production only covers 76% of the population's needs, while in Idleb governorate, it only covers 44%. Furthermore, the individual daily bread portion currently stands at 250g in Aleppo governorate, only slightly higher than the Q1 2023, and 144g in Idleb governorate, which is 7% less than what was reported in Q1 20234. These quantities still fall below the local standard for the minimum bread quantity needs per person, which is 330g.

Cavananata	Individual Daily Portion of Produced Bread					
Governorate	Q1 2023	Q3 2023	% Change			
Aleppo	248.8	250.1	<b>↑</b> 0.5%			
ldleb	156.2	144.1	<b>↓ -7</b> %			

Despite efforts to make subsidized and free NGO bread available, the accessibility and affordability of bread in Aleppo and Idleb governorates continue to be challenging. The weekly production of subsidized and free NGO bread was recorded at 1,800 MT in Aleppo and 636 MT in Idleb governorates. This production accounts for 63% of the total weekly bread production in Aleppo governorate and 22% in Idleb governorate. These percentages have remained consistent in Aleppo governorate but have notably decreased in Idleb governorate from 36% to 22% when comparing the portion of subsidized and NGO bread from total production since Q12023.

# **Current Support and Needs**

Many of the assessed operational bakeries reported the production of subsidized bread (44%, n=98), accounting for approximately 84% of their total production levels. Additionally, 12% (n=27) of the bakeries reported the production of free NGO bread, accounting for an average of 60% of their production levels. Furthermore, more than half of the assessed operational bakeries anticipated changes in their production levels in the next three months, with the majority (95%) expecting an increase. The main drivers for this expected growth include the potential for new contracts with NGOs, increased support, and a rising demand for bread.

Furthermore, 48% of the assessed operational bakeries are currently receiving various forms of support, with different sources providing this aid. In detail, 55% of the support is provided by AFAD, 31% by NGOs, and 14% by Local Council (LC). Most of the aid consists of flour and yeast distributions, while only a few bakeries receive support for structural renovations or equipment maintenance.



Figure 3. Support Sources

These bakeries face a range of challenges affecting their operations, productivity, and the support they receive. The primary challenges are the inconsistency of support and a lack of financial assistance for both production and rehabilitation. Rising raw material costs, particularly fuel, scarcity and high cost of equipment replacement parts, and increased labor wages, exacerbated by labor shortages during conflicts, all pose significant obstacles for bakeries. The bakeries' insufficient financial resources prevent them from addressing these challenges and competing with supported bakeries selling bread at subsidized prices.

Overall, bakeries primarily reported requiring financial support, equipment and building maintenance, and a larger supply of high-quality flour to address their challenges. Upgrading equipment parts that affect their productivity and expanding oven houses are essential for improving bread production. Moreover, bakeries reported the need for fuel support, electricity systems, stable water sources, and solar panels to enhance their operational efficiency. Finally, bakeries mostly reported the need for increased support in the form of higher quality flour allocations which they consider crucial for boosting production levels.

Figure 2. Weekly Productivity Changes of Bakeries (MT/Week)

# Availability, Sources, and Prices

The availability of bread was predominantly reported as consistent across NWS, with only 5% of the assessed bakeries indicating fair availability. Respondents who reported limited bread availability cited various factors, including insufficient allocated and distributed flour, a population increase due to the influx of IDPs, and limited support that hinders their production capacity.

In terms of bread production ingredients, fuel, yeast, and imported flour were generally accessible without issues. However, 12% of bakeries reported fair availability of locally milled flour. Respondents attributed the limited availability of local flour to reduced wheat production caused by lower rainfall levels, which in turn restricted the local flour supply in the area.

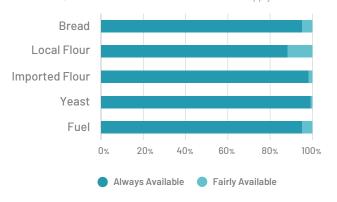


Figure 4. Availability of Bread and Raw Materials

Furthermore, it's worth noting that 74% of the flour used in production is imported from Turkey, while 24% is locally milled, and only 2% of the flour used is fortified. Most locally milled flour was sourced from Al Afran Foundation (38%), followed by public or private mills (20%), and the Syrian Public Establishment for Grain (SPEG) (19%). Imported flour primarily came from traders (58%), followed by AFAD (28%) and NGOs (5%).

The reported average selling price of 1 kg of subsidized and unsubsidized bread increased in comparison to Q1 2023, with subsidized bread now sold at 5.8 TL/kg (up from 4.4 TL/kg) and unsubsidized bread at 11.8 TL/kg (up from 9.7 TL/kg). Notably, bread prices were lower in Aleppo governorate than in Idleb governorate, with subsidized bread being significantly cheaper in Aleppo. This price discrepancy may be due to the higher percentage of bakeries in Aleppo governorate currently receiving support (66%), while only 22% of bakeries in Idleb reported receiving support.

On the other hand, both locally milled and imported flour recorded price decreases between Q1 2023 and Q4 2023. Locally milled flour prices decreased by 30%, from 410 USD/MT in Q1 2023 to 300 USD/MT in Q4 2023, while imported flour prices also decreased by 30%, from 436 USD/MT in Q1 2023 to 320 USD/MT in Q4 2023. These price decreases may be attributed to the seasonality of wheat, as it is now considered the post-harvest season when wheat and flour are more readily available at lower prices.

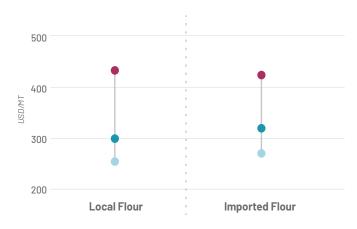


Figure 5. Prices of Flour (USD/MT)



Figure 6. Prices of Subsidized and Unsubsidized Bread (TL/Kg)

# **District Level Assessment**

## **Afrin District**

Table 2. Summary of Damages in Afrin District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	16	9	12	\$ 5,500
Equipment	21	13	17	\$ 87,000
Infrastructure	2	2	1	\$ N/A

#### **Bakeries**

- 34 bakeries were mapped in Afrin district, out of which 82% are currently operational.
- 37% of the bakeries reported currently receiving support with NGOs being the primary source of support, followed by AFAD and the Local Council. The support mainly comes in the form of flour and yeast distributions, whereas a few reported receiving operational cost and machine maintenance support.

Weekly Total Bread	Weekly Subsidized and	
Production	NGO Bread Production	
↑ 672 MT	↓ <b>210 MT</b>	
% of Population Bread Needs Covered ↑ <b>62</b> %	% of PiN Bread Needs Covered  ↑ 105%	

#### **Building Structure**

- Out of the damaged bakeries, 56% (n=9) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken
   The primary rehabilitation activities focused on repairing electricity doors, windows, and repairing cracked or collapsed walls.
- All of the bakeries that underwent rehabilitation had to fund the entire repair costs themselves, resulting in an approximate total cost of \$20,100.
- 75% of damaged bakeries still require additional rehabilitation, while the remaining bakeries have fully addressed their structural damages.
- The remaining damage includes cracked walls, leaky roofs, damaged floors, and tiles.
- Among the bakeries in need of further rehabilitation, 67% indicated they have no plans to repair the damage due to a lack of support and limited financial resources. In contrast, the remaining bakeries are interested in repairing the damage, estimating the total rehabilitation costs at \$5,500.

#### Equipment

- Out of all the bakeries with equipment damage, 62% (n=13) underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses, fermentation equipment, and compressor maintenance or replacement.
- All of the bakeries that underwent rehabilitation had to fund the entire equipment repair costs themselves, resulting in an approximate total cost of \$67,700.
- 81% of bakeries with equipment damage still require further rehabilitation, while the remaining bakeries have fully addressed their equipment
- · The remaining damage includes equipment like fermentation equipment, cutting machines, oven houses, compressors, and cooling path equipment.
- Among the bakeries in need of additional rehabilitation, 53% indicated that they do not plan to repair the damage due to limited financial resources. Conversely, the other bakeries are interested in addressing the damage, estimating the total cost of rehabilitation at \$87,000.

#### Infrastructure

- All of the bakeries with infrastructure damage underwent infrastructure rehabilitation.
- and sewage systems.
- All of the bakeries that underwent rehabilitation had to fund the entire infrastructure repair costs themselves, resulting in an approximate total cost of \$850.
- 50% of bakeries (n=1) with infrastructure damage still require additional rehabilitation, while the remaining bakeries have fully addressed their infrastructure damage.
- The remaining damage includes the repair of telecommunication and internet lines; however, the bakery owner is waiting for local authorities to repair the damage in the area.

#### Mills

- Only one operational mill was mapped in Afrin district, located in Jandairis sub-district.
- The mill has a maximum weekly capacity of 600 MT, but currently operates at only 50% capacity, with a current output of 300 MT per week. The productivity of the mill increased from Q1 2023, where it stood at 150 MT per week.
- The mill is currently not receiving any support and it has not addressed the structural or equipment damage resulting from the earthquake. Due to financial constraints, there are no immediate plans for repair or maintenance.

## Al Bab District

Table 3. Summary of Damages in Al Bab District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	4	1	4	\$ 15,200
Equipment	2	2	2	\$ 25,000
Infrastructure	0	0	0	\$ N/A

#### **Bakeries**

- 21 bakeries were mapped in Al Bab district, out of which 57% are currently operational.
- All of the operational bakeries reported currently receiving support with the Local Council being the primary source of support, followed by AFAD and NGOs. The support mainly comes in the form of flour and yeast distributions, whereas a few reported rehabilitation and machine maintenance support.

Weekly Total Bread	Weekly Subsidized and	
Production	NGO Bread Production	
↓ 581 MT	↓ <b>532 MT</b>	
% of Population Bread Needs Covered ↓ 111%	% of PiN Bread Needs Covered  \$\square\$ 184%	

#### **Building Structure**

- Out of the damaged bakeries, 25% (n=1) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, and repairing cracked or leaning walls.
- The bakery that underwent structural rehabilitation received support from NGOs to conduct the repairs at an approximate total cost of \$30,000.
- All of the damaged bakeries still require additional rehabilitation for their structural damages.
- The remaining damage includes cracked walls, leaky roofs, damaged floors, and tiles.
- Among the bakeries in need of further rehabilitation, 50% indicated they have no plans to repair the damage due to a lack of support and limited financial resources. In contrast, the remaining bakeries are interested in repairing the damage, estimating the total rehabilitation costs at \$15,200.

#### Equipment

- All of the bakeries with equipment damage underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses, fermentation equipment, and cooling path maintenance or replacement.
- Most of the rehabilitation efforts were funded by NGOs at an estimated total cost of \$50,000, whereas the remaining rehabilitation efforts were funded by bakery owners themselves at an approximate cost of \$3,000.
- All of the bakeries still require additional machine maintenance primarily for their cutting machines and yeast fridges.
- Among the bakeries in need of additional rehabilitation, all of them indicated their interest in addressing the damages, estimating the total cost of maintenance at \$25,000.

#### Infrastructure

No damage was reported to the infrastructure.

#### Mills

- Only two operational mills were mapped in Al Bab district, located in Al Bab sub-district.
- The mills have a maximum weekly capacity of 1,750 MT, but currently operate at only 10% capacity, with a current output of 170 MT per week.
- Only one of the mills is receiving support from the Syria Recovery Trust Fund (SRTF) in the form of wheat grains and labor wages.
- The mills have not sustained any damage to their facilities.

- One partially operational silo was mapped in Al Bab district, located in Ar-Ra'ee sub-district.
- This silo has a maximum storage capacity of 12,000 metric tons, with the current stock of wheat grains standing at 700 metric tons.
- During the first quarter of 2023, the silo was non-operational due to high operational costs, low financial liquidity and lack of support and wheat grains.
- The silo is now only partially operational due to the low demand in the area that does not require full capacity and acts as storage facility for humanitarian organizations.

# A'zaz District

Table 5. Summary of Damages in A'zaz District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	46	21	37	\$ 68,500
Equipment	43	29	34	\$ 288,900
Infrastructure	0	0	0	\$ N/A

#### **Bakeries**

- 59 bakeries were mapped in A'zaz district, out of which 85% are currently operational.
- 75% of the bakeries reported currently receiving support with AFAD being the primary source of support, followed by NGOs and the Local Council.
   The support mainly comes in the form of flour distributions, whereas a few reported receiving rehabilitation and machine maintenance support.

Weekly Total Bread	Weekly Subsidized and	
Production	NGO Bread Production	
<b>↓ 1,036 MT</b>	↑ 812 MT	
% of Population Bread Needs Covered ↓ <b>79</b> %	% of PiN Bread Needs Covered  ↓ 139%	

## **Building Structure**

- Out of the damaged bakeries, 46% (n=21) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, and repairing cracked or collapsed walls and roofs.
- 24% (n=5) of the bakeries that underwent structural rehabilitation received support from NGOs to conduct the repairs, at an approximate total cost of \$83,000, whereas the remaining bakeries personally funded the rehabilitation costs at an estimated total cost of \$32,400.

- 80% (n=37) of the damaged bakeries still require additional rehabilitation for their structural damages.
- The remaining damage includes cracked walls, leaky roofs, damaged floors, and tiles.
- Among the bakeries in need of further rehabilitation, 35% indicated they have no plans to repair the damage due to a lack of support and limited financial resources. In contrast, the remaining bakeries are interested in repairing the damage, estimating the total rehabilitation costs at \$68,500.

#### Equipment

- 67% of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses, compressors, and cooling path maintenance or replacement.
- These rehabilitation efforts were partly supported by NGOs at an estimated total cost of \$27,025, partly by the Local Council at an approximate cost of \$12,000, and another part was funded by bakery owners at an approximate cost of \$80,900.
- However, these bakeries still require further machine maintenance primarily for the maintenance of their cutting machines, fermentation equipment, cooling paths, oven houses, and dough mixing machines.
- Among the bakeries in need of additional rehabilitation, 82% indicated their interest in addressing the damages, estimating the total cost of maintenance at \$288,900.

#### Infrastructure

· No damage was reported to the infrastructure.

#### Mills

- Four mills were mapped in A'zaz district, out of which three are currently operational in A'zaz and Mare' sub-districts.
- The mills have a maximum weekly capacity of 910 MT, but currently operate at only 61% capacity, with a current output of 555 MT per week.
- Two mills are currently receiving support from NGOs and the Local Council in the form of rehabilitation and wheat distributions.

#### **Building Structure**

- The structural rehabilitation of the mills was funded by NGOs, at an approximate cost of \$22,000, while the Local Council contributed an estimated \$500 for rehabilitation support.
- Some mills still require additional rehabilitation, addressing issues like cracked walls, roofs, and leaning walls, with an estimated cost of \$6,500.

#### Equipment

- Maintenance efforts for equipment in the mills, including washing machines, destoners, and wheat peelers, were mainly funded by mill owners at an approximate amount of \$500, and partly supported by the Local Council at an approximate cost of \$2,000.
- There is an additional requirement for the maintenance of generators, with an estimated cost of \$3,000.

#### Infrastructure

- Infrastructure maintenance, including water pipelines and electricity, was carried out with the support of NGOs, incurring an approximate cost of \$1.650.
- No further rehabilitation is needed for the mills' infrastructure.

- One fully operational silo was mapped in A'zaz district, located in Mare' sub-district.
- This silo has a maximum storage capacity of 11,000 metric tons, with the current stock of wheat grains standing at 5,800 metric tons.
- During the first quarter of 2023, the silo suffered some infrastructure damage due to the earthquake, necessitating \$2,000 for repairs.
- With the assistance of NGOs, these repairs were completed at a total cost of \$2,800, which encompassed the removal of old insulation and the installation of new external insulation for the silo.

# Jarablus District

Table 6. Summary of Damages in Jarablus District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	18	8	14	\$ 44,800
Equipment	7	4	6	\$12,350
Infrastructure	4	2	2	\$20,000

## **Bakeries**

- 19 bakeries were mapped in Jarablus district, all of which are currently operational.
- 95% of the bakeries reported receiving support with AFAD being the primary source of support, followed by the Local Council. The support mainly comes in the form of flour and yeast distributions.

Weekly Total Bread	Weekly Subsidized and	
Production	NGO Bread Production	
<b>↓ 315 MT</b>	↑ 273 MT	
% of Population Bread Needs Covered ↓ 115%	% of PiN Bread Needs Covered  ↓ 188%	

#### **Building Structure**

- Out of the damaged bakeries, 44% (n=8) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken The primary rehabilitation activities focused on repairing fuel tanks doors, windows, and repairing cracked or collapsed walls.
- All of the bakeries that underwent structural rehabilitation personally funded the rehabilitation efforts, at an approximate total cost of \$23,800.
- 78% (n=14) of the damaged bakeries still require additional rehabilitation for their structural damages.
- The remaining damage includes broken doors, windows, cracked walls, leaky roofs, damaged floors, and tiles.
- Among the bakeries in need of further rehabilitation, 21% indicated they have no plans to repair the damage due to a lack of support and limited financial resources. In contrast, the remaining bakeries are interested in repairing the damage, estimating the total rehabilitation costs at \$44,800.

#### Equipment

- 57% of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses, compressors, and cutting machine maintenance or replacement.
- These rehabilitation efforts were fully funded by bakery owners at an approximate cost of \$17,200.
- However, 86% of these bakeries still require further machine maintenance mainly for their oven houses.
- Among the bakeries in need of additional rehabilitation, 83% indicated their interest in addressing the damages, estimating the total cost of maintenance at \$12,350.

#### Infrastructure

- 50% of the bakeries with infrastructure damage underwent infrastructure rehabilitation.
- and water tanks/pipelines.
- All of the bakeries that underwent rehabilitation had to fund the entire infrastructure repair costs themselves, resulting in an approximate total cost of \$5,700.
- 50% of bakeries (n=2) with infrastructure damage still require additional rehabilitation, while the remaining bakeries have fully addressed their infrastructure damage.
- The remaining damage includes the repair of electricity, sewage systems, and water pipelines at an estimated cost of \$20,000.

#### Mills

- One operational mill was mapped in Jarablus district specifically in Ghandorah sub-district.
- The mill has a maximum weekly capacity of 200 MT, but currently operates at only 8% capacity, with a current output of 15 MT per week.
- · The mill does not receive any form of support.
- · No damages or rehabilitation needs were reported by the mill.

- One fully operational silo was mapped in Jarablus district, located in Ghandorah sub-district.
- This silo has a maximum storage capacity of 12,000 metric tons, with the current stock of wheat grains standing at 700 metric tons.
- During the first quarter of 2023, the silo was non-operational due to earthquake damage that was not identified.
- The silo is supported by the Syrian Public Establishment for Grain (SPEG) in Aleppo, receiving assistance in terms of rehabilitation, maintenance of access roads, the supply of wheat, and other forms of support, enabling its reoperation.

# Jebel Saman District

Table 7. Summary of Damages in Jabel Saman District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	2	1	1	\$10,000
Equipment	3	3	0	\$ N/A
Infrastructure	0	0	0	\$ N/A

## **Bakeries**

- 11 bakeries were mapped in Jebel Saman district, all of which are currently operational.
- Only one of the bakeries reported currently receiving support from NGOs in the form of buying bread at unsubsidized prices for free distribution.

Weekly Total Bread	Weekly Subsidized and
Production	NGO Bread Production
↓ <b>266 MT</b>	↑7 MT
% of Population Bread Needs Covered ↓ 44%	% of PiN Bread Needs Covered  ↓ 61%

#### **Building Structure**

- Out of the two damaged bakeries, only one underwent rehabilitation for its structural damage.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, floors, staircases, and repairing cracked walls.
- The rehabilitation was conducted through the support of NGOs at an estimated cost of \$400.
- The other damaged bakery still requires additional rehabilitation for its structural damages, mainly in the form of repairing cracked walls and roofs and with an estimated total repair cost of \$10,000.

#### Equipment

- All of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards dough mixing equipment, cooling path equipment, and fermentation tanks, or yeast fridge maintenance or replacement.
- These rehabilitation efforts were fully funded by bakery owners at an approximate cost of \$550.
- · No further equipment maintenance needs were reported.

#### Infrastructure

· No damage was reported to the infrastructure.

### Mills

- One operational mill was mapped in Jebel Saman district specifically in Atareb sub-district.
- The mill has a maximum weekly capacity of 120 MT, but currently operates at only 29% capacity, with a current output of 35 MT per week.
- The mill does not receive any form of support.
- No damage or rehabilitation needs was reported by the mill.

# **Ariha District**

Table 8. Summary of Damages in Ariha District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	5	0	5	\$ 19,500
Equipment	3	0	3	\$12,000
Infrastructure	0	0	0	\$ N/A

## **Bakeries**

- 9 bakeries were mapped in Ariha district, all of which are currently operational.
- Only one of the bakeries reported currently receiving support with NGOs being the primary source of support, mainly in the form of flour distributions and operational costs.

Weekly Total Bread	Weekly Subsidized and
Production	NGO Bread Production
↓ <b>245 MT</b>	↓ 14 MT
% of Population Bread Needs Covered ↓ <b>57</b> %	% of PiN Bread Needs Covered  ↓ 88%

#### **Building Structure**

- None of the bakeries with structural damages underwent any rehabilitation due to their low financial capabilities and the limited rehabilitation support available.
- The required structural rehabilitation for these bakeries primarily involves addressing issues such as cracked walls, roofs, as well as broken windows and doors.
- All of the bakeries are interested in repairing the damages, estimating the total rehabilitation costs at \$19,500.

#### Equipment

- None of the bakeries with equipment damages underwent any rehabilitation due to their low financial capabilities.
- The required equipment maintenance for these bakeries primarily involves addressing issues with their oven houses and their cutting machines.
- All of the bakeries are interested in repairing the damages, estimating the total rehabilitation costs at \$12,000.

#### Infrastructure

• No damage was reported to the infrastructure.

No operational Mills were mapped.

# **Harim District**

Table 9. Summary of Damages in Harim District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	12	10	4	\$7,600
Equipment	10	6	4	\$ 19,300
Infrastructure	0	0	0	\$ N/A

### **Bakeries**

- 47 bakeries were mapped in Harim district, 99% of which are currently operational.
- 21% of the bakeries reported currently receiving support with NGOs being the primary source of support, mainly in the form of flour and yeast distributions.

Weekly Total Bread	Weekly Subsidized and
Production	NGO Bread Production
个 1,554 MT	↓ 378 MT
% of Population Bread Needs Covered <b>40</b> %	% of PiN Bread Needs Covered  ↑ 48%

#### **Building Structure**

- Out of the damaged bakeries, 83% (n=10) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, and repairing cracked walls.
- Most of the bakeries that underwent structural rehabilitation personally funded the rehabilitation efforts, at an approximate total cost of \$27,300, whereas only one bakery was supported by NGOs at an estimated cost of \$21,000.
- 33% (n=4) of the damaged bakeries still require additional rehabilitation for their structural damages mainly in the form of cracked walls and roofs.
- Among the bakeries in need of further rehabilitation, 25% indicated they
  have no plans to repair the damages due to a lack of support and limited
  financial resources. In contrast, the remaining bakeries are interested in
  repairing the damages, estimating the total rehabilitation costs at \$7,600.

#### **Equipment**

- 60% of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses.
- These rehabilitation efforts were fully funded by bakery owners at an approximate cost of \$18,700.
- However, the remaining bakeries still require machine maintenance mainly for their oven houses.
- Among the bakeries in need of additional rehabilitation, 75% indicated their interest in addressing the damages, estimating the total cost of maintenance at \$19,300.

#### Infrastructure

· No damage was reported to the infrastructure.

#### Mills

- One operational mill was mapped in Harim district specifically in Dana sub-district.
- The mill has a maximum weekly capacity of 500 MT, but currently operates at only 30% capacity, with a current output of 150 MT per week.
- The mill does not receive any form of support.
- No damage or rehabilitation needs was reported by the mill.

## **Idleb District**

Table 10. Summary of Damages in Idleb District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	7	2	5	\$ 19,000
Equipment	9	5	8	\$ 70,000
Infrastructure	2	1	1	\$ N/A

#### **Bakeries**

- 31 bakeries were mapped in Idleb district, 94% of which are currently operational.
- 26% of the bakeries reported currently receiving support with NGOs being the primary source of support, mainly in the form of flour and yeast distributions.

Weekly Total Bread	Weekly Subsidized and
Production	NGO Bread Production
↓ <b>924 MT</b>	↓ 259 MT
% of Population Bread Needs Covered ↓ <b>57</b> %	% of PiN Bread Needs Covered  ↓ 92%

#### **Building Structure**

- Out of the damaged bakeries, 29% (n=2) underwent rehabilitation for their structural damage.
- The main rehabilitation activities conducted focused on fixing broken doors, windows, foundations, and repairing cracked walls or roofs.
- The bakeries that underwent structural rehabilitation were supported by NGOs at an estimated cost of \$60,000.
- 71% (n=5) of the damaged bakeries still require additional rehabilitation for their structural damages that are mainly in the form of cracked walls and roofs.
- Among the bakeries in need of further rehabilitation, 60% indicated their interest in repairing the damage, estimating the total rehabilitation costs at \$19,000.

#### Equipment

- 56% of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses, fermentation equipment, compressors, or cutting machines.
- These rehabilitation efforts were mostly funded by bakery owners at an approximate cost of \$16,000, whereas two bakeries received support from NGOs at an estimated cost of \$17,000.
- However, the majority of bakeries (89%) still require machine maintenance mainly for their oven houses.
- Among the bakeries in need of additional rehabilitation, all of them indicated their interest in addressing the damages, estimating the total cost of maintenance at \$70,000.

#### Infrastructure

- Among the bakeries surveyed, only two reported infrastructure damages.
   One of them, with damage to fuel tanks, received rehabilitation assistance from NGOs. The estimated cost for this repair, including both structural and fuel tank damages, amounted to \$40,000.
- The second bakery, however, reported that rehabilitation was unnecessary, as the bakery owner relocated to a different area.

#### Mills

- Two operational mills were mapped in Idleb district specifically in Maaret Tamsrin sub-district.
- The mills have a maximum weekly capacity of 840 MT, but currently operate at only 50% capacity, with a current output of 420 MT per week.
- The mills do not receive any form of support.

- One partially operational silo was mapped in Idleb district, specifically in Idleb sub-district.
- This silo has a maximum storage capacity of 110,000 metric tons, with the current stock of wheat grains standing at 45,000 metric tons.
- During the first quarter of 2023, partial damage to the warehouse building structure was reported by the silo, which required an estimated cost of \$4,000 for repair.
- Due to financial constraints and lack of support, the silo has not undergone any rehabilitation. Furthermore, the needs of the silo expanded to include roof insulation to address leaks and additional maintenance for its summer section equipment.

# Jisr-Ash-Shughur District

Table 11. Summary of Damages in Jisr-Ash-Shugur District

Type of Damage	# of Damaged Bakeries in March 2023	# Rehabilitated Bakeries by October 2023	# Bakeries in Need of Additional Rehabilitation	Estimated Remaining Rehabilitation Costs (USD)
Structural	7	0	7	\$87,000
Equipment	5	4	3	\$16,000
Infrastructure	0	0	0	\$ N/A

## **Bakeries**

- 14 bakeries were mapped in Jisr-Ash-Shughur district, all of which are currently operational.
- 21% of the bakeries reported currently receiving support with NGOs being the primary source of support, mainly in the form of flour and yeast distributions.

Weekly Total Bread	Weekly Subsidized and
Production	NGO Bread Production
↓ 210 MT	<b>↓ 21 MT</b>
% of Population Bread Needs Covered	% of PiN Bread Needs Covered  ↓ 54%

#### **Building Structure**

- None of the bakeries with structural damages underwent any rehabilitation due to their low financial capabilities and the limited financial support.
- The required structural rehabilitation for these bakeries primarily involves addressing issues such as cracked or destroyed walls and roofs.
- All of the bakeries are interested in repairing the damaged, estimating the total rehabilitation costs at \$87,000.

#### Equipment

- 80% of the bakeries with equipment damages underwent maintenance or replacement efforts for their equipment.
- The primary rehabilitation efforts were directed towards oven houses or dough mixing machines.
- These rehabilitation efforts were mostly funded by bakery owners at an approximate cost of \$11,500, whereas one bakery received support from NGOs at an estimated cost of \$4,000.
- However, 60% of bakeries still require further machine maintenance mainly for their oven houses.
- Among the bakeries in need of additional rehabilitation, all of them indicated their interest in addressing the damages, estimating the total cost of maintenance at \$16,000.

#### Infrastructure

• No damage was reported to the infrastructure.

No operational Mills were mapped.

Aleppo NOVEMBER 2023

N/A

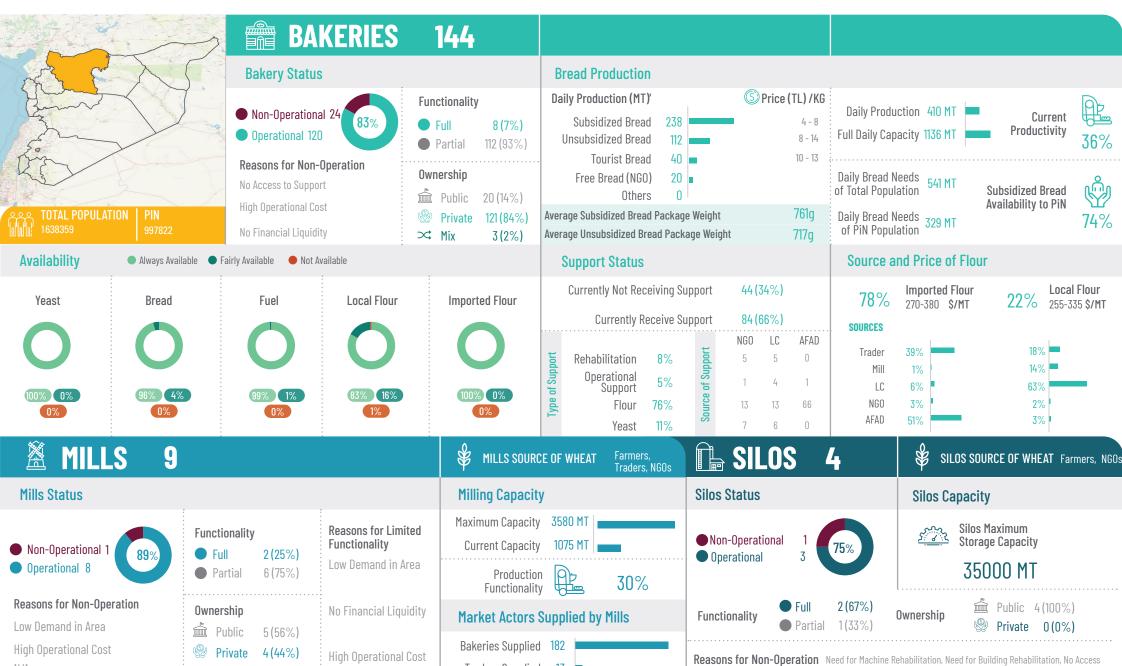
Mix

0(0%)



to Support





Idleb NOVEMBER 2023

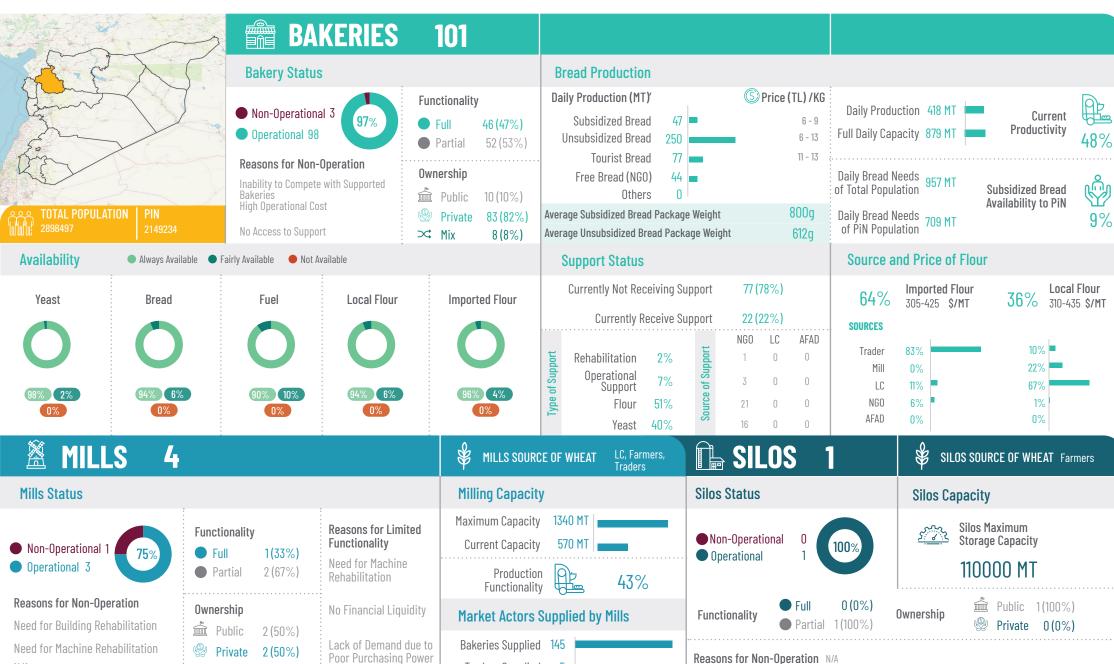
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or Displacement







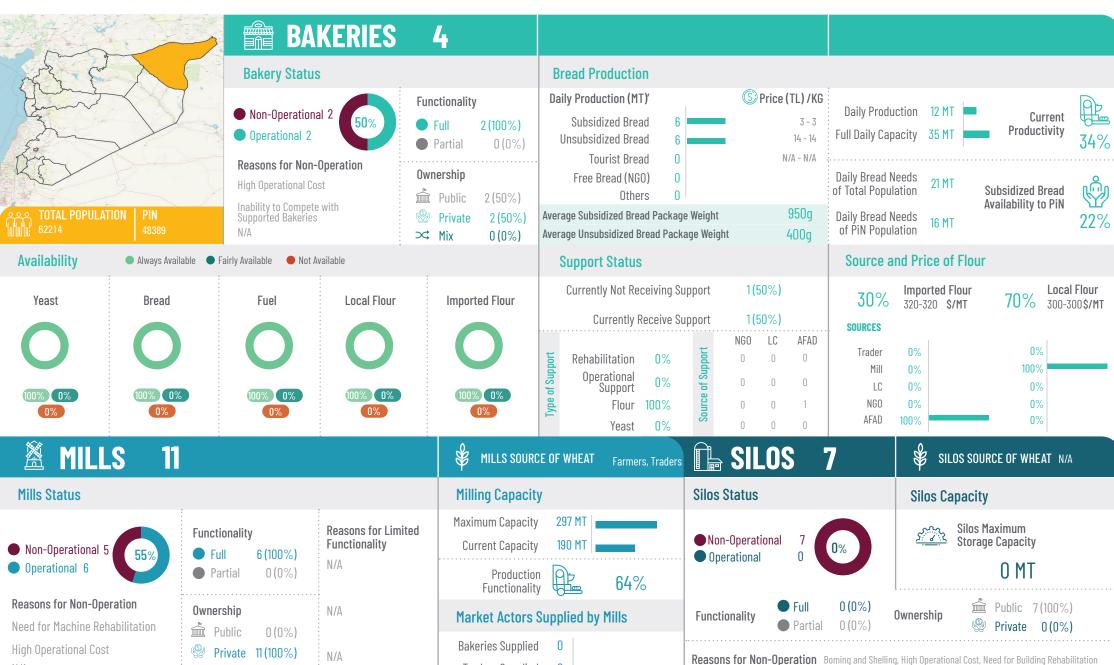
Al-Hasakeh NOVEMBER 2023

0(0%)

N/A







Ar-Raqqa NOVEMBER 2023

High Operational Cost

0(0%)





