

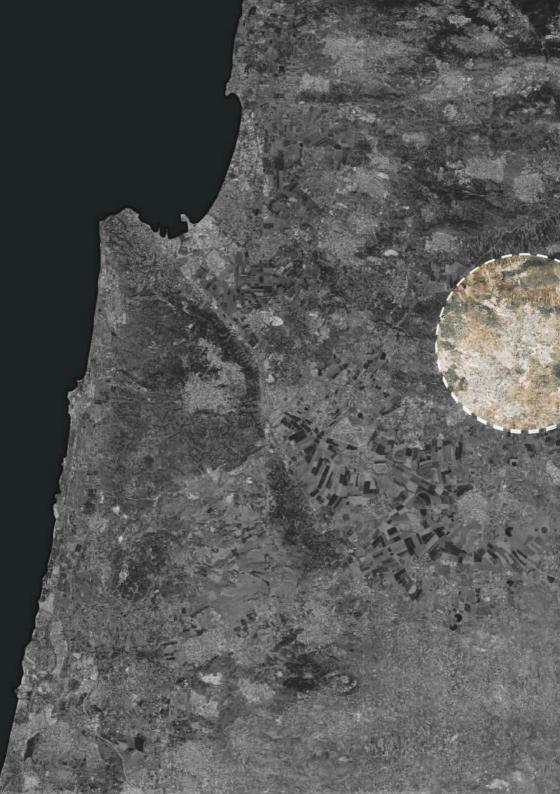
Leen Bsul Cultural Cultivation

Final Project
Proactive Studio
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The Architectue Program
Faculty of Architecture and Town Planning, Technion
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Picking Olives. Sliman Mansour . 1988. *oil on canvas*

"The olive tree is more than a tree in our region, it is a heartbeat, a witness, a rooted elder holding centuries in its branches. When forces and settlers tear these groves from the face of the earth, it is not only roots that are severed, but memory, heritage, and the quiet dreams of generations. Yet even uprooted, the olive carries a stubborn truth: that belonging cannot be erased, and that the land remembers those who loved it."

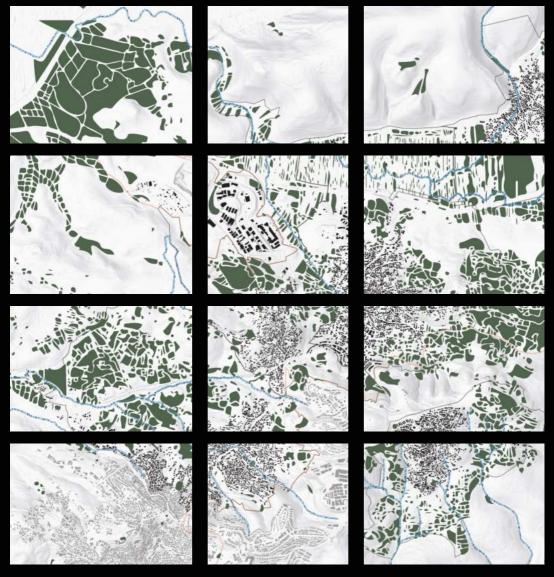
Abstract

Within the folds of time lies an era of unparalleled culture, enshrined within a canvas painted in the colors of family ties, a connection to the land and soil, and the scent of a stolen identity. This memory, framed by a deep-rooted love for the land and its precious gifts, continues to be a legacy passed down from generation to generation, not only in action, but in thought.

This era stands in stark contrast to the modern world that has since taken over our lives. The effects of globalization and the local struggle for expansion have also driven us away from traditional agricultural practices, including the cultivation and harvesting of olives. This shift represents a significant change in our way of life, the integration of nature in our housing developments, and our relationship with the land and traditional farming methods.

This research explores the transformation of Arab towns in the Lower Galilee through the case study of Reineh, where urban growth increasingly collides with agricultural heritage. Historically sustained by olive cultivation, Reineh's land-scape has long shaped its cultural and social life. Today, however, pressures of densification, land expropriation, and unregulated construction threaten both the ecological environment and the continuity of communal traditions.

The project examines Reineh's landscape, its historical and typological development to understand how olive groves and agricultural practices can be reinterpreted within a growing urban context.



Olive Tree Groves and Built Areas in the Lower Galilee

Introduction

The towns of the Lower Galilee have historically flourished through their relationship with agricultural landscape, particularly olive cultivation. The olive harvest season. shared across Arab villages and cities, reflects not only economic activity but also a deeply rooted cultural and social tradition. Reine. like other towns in the region, is characterized by this agricultural identity. where olive groves shape both the land and the rhythm of communal life.

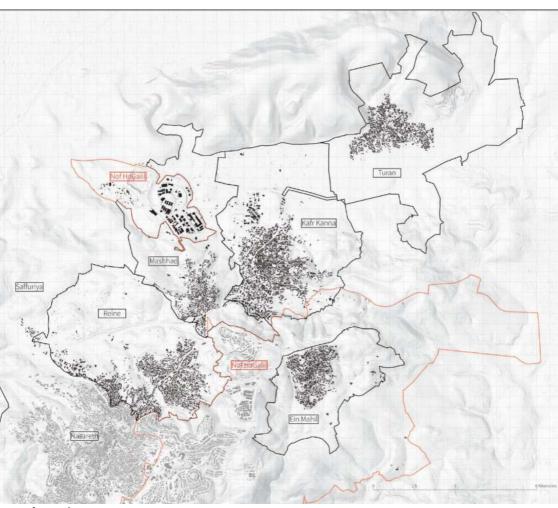
Today, these communities struggle to find balance. On one hand, there is a pressing need to expand and densify in the face of economic political restrictions. unregulated construction. land expropriation, and poor infrastructure management.

On the other. the disappearance of agricultural practices threatens the erosion of cultural identity, distancing future generations from the values embedded in their landscape. This raises internal question: how will the landscape evolve in the coming years? Will agricultural heritage remain central to urban life. or will expansion override it?

This research takes Reine as a case study, uncovering its layers of historical and cultural development, while examining its typological features and the collective practice of olive picking.

Rising from the current situation of the Lower Galilee's landscape, the project emphasizes the importance of reinterpreting agricultural identity in the context of urban growth.





ment in Arab Towns

It ultimately seeks to foster a dynamic relationship between the ecological and built layers of Reine, creating "threshold spaces" where interaction, negotiation, and shared responsibility shape urban life.

This approach raises the central question: What planning strategies can be implemented to effectively balance the integration of urban typologies in Arab towns while preserving and strengthening the rural and agricultural landscape as commons?

Grounded in Lefebvre's assertion that "space is not a mere container but a product of social relations and practices," the project calls for an adaptable urban form — one that avoids rigid structures and instead allows for continuous reinterpretation, and reappropriation by its inhabitants.

By integrating ecological and built elements, the town can cultivate a shared environment that is both inclusive and resilient.

This integration not only preserves the agricultural heritage of olive groves but also embeds them within the fabric of urban life, allowing households to remain connected to the land while benefiting from urban development.

Such a framework strengthens cultural identity, supports local economies, and promotes ecological sustainability.

In doing so, Reineh can serve as a model for towns in the Lower Galilee, where growth is not achieved at the expense of heritage but through its reinforcement.



Agricultural Lai

¹ Lefebvre H. The Production of Space, 1991, (p. 26).



ndscape Remaining Plots





The Town

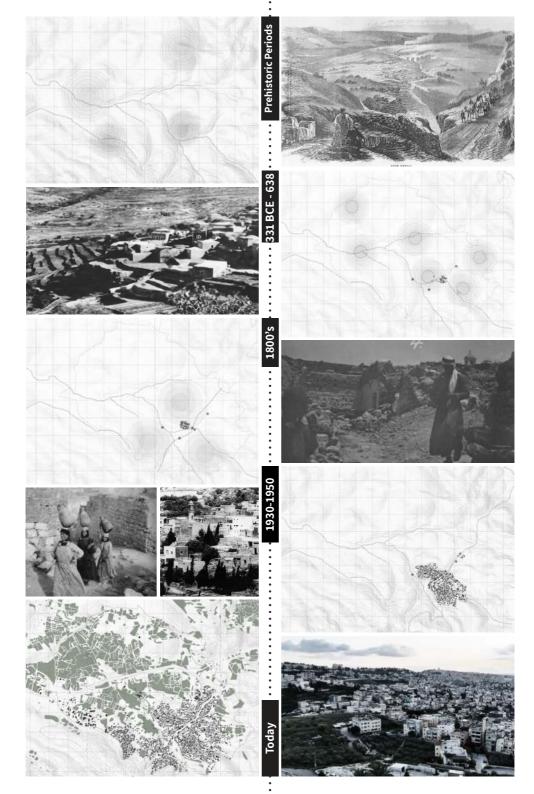
The research is based on Reine, a town in the lower galilee rich with agricultural plots that are privately owned and marked as areas with no building permits and a stream which once was the natural water resource for its inhabitants

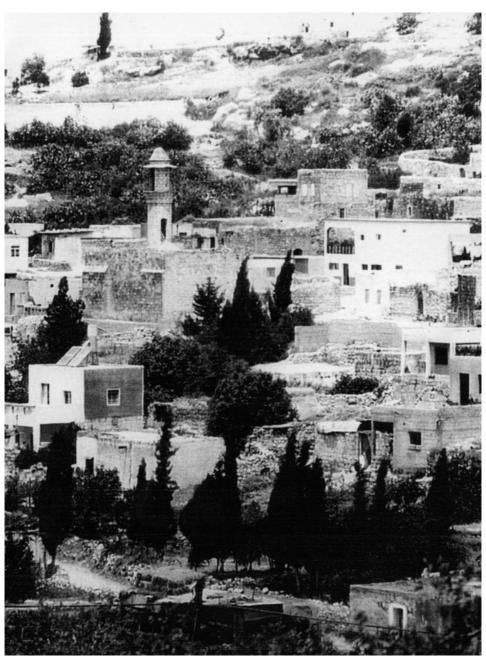
With an examination of its history, it is shown that this area has gone through many different phases and types of agriculture, depending on the period, the remains of this rich environment are the olive trees, the orchards and the dried up stream - Wadi Al-Mulk that leads to Saffuryia, (Zippori) that once consisted of many springs.

Arabs who settled there have managed to keep and maintain this natural environment before and after 1948.

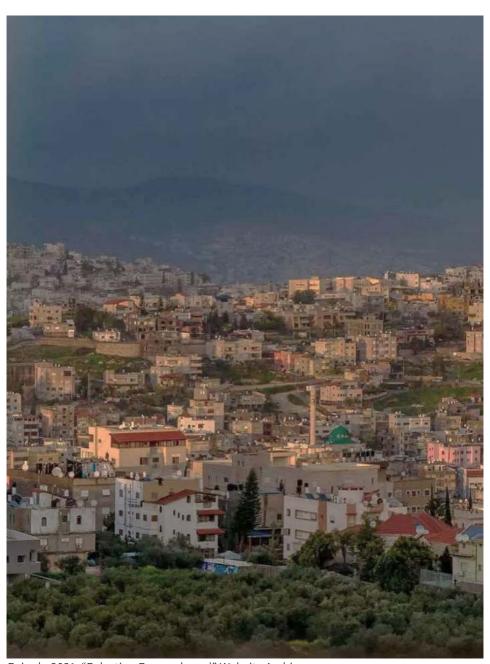
Today, olive trees are the remaining cultural significance for arabs, their importance is reflected through their existance in backyards, and it privately owned plots that are filled with family members and friends during the olive picking season.

The starting point of this project is the natural resources that this town evolved around, the stream that connects Reine with Saffuryia and the mosaic of olive groves - the remains of flourishing agriculture in this town and many other arab towns agriculture was a source of income that surrounded the town, however, the external transformation of agricultural lands, the shift in types of labor after 1948, and the accelerated growth of housing have caused a distance between people and the comprehension of their land.





Reineh. 1965. From the book "Reineh, History, Memory and Reality" by Dr. Johnny Mansour



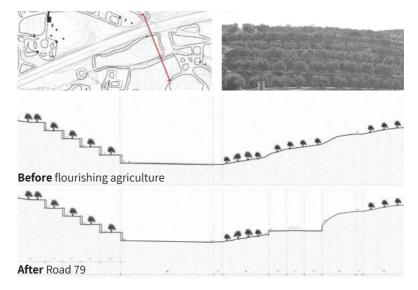
Reineh. 2021. "Palestine Remembered" Website Archive

Olive Groves and Housing

The people of Reine established their dwellings on privately owned plots, either inherited or purchased from other residents. To understand the current shaping of the town, an interview was conducted with one of the elderly landowners.

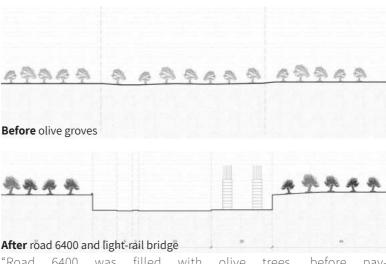
In an interview with one of the town's elderly citizens, Ghanem Bsoul described the agricultural life of Reineh in the past and stressed the central role of olive trees: "There were agricultural plots for each landowner, and the large families would pass this land on to their children."

According to Bsoul, the houses were located close to one a nother. Each family typically built two rooms: one for sleeping and another for daily activities. The land was cultivated with mulberry, almond, and citrus trees, while wheat and other seeds were planted in between. Built structures were modest, while the land remained open and available for use by all.



Bsoul then proceeds and recalls the distinquished elements of the town, explaining how in the outskirts, on hills, people would build terraces for almonds (later used for olive trees), and on flat surfaces there would be fields of wheat and vegetables, then comes the process of harvest, where everyone participates. These harvests were collected from the towns to later be sold in Nazareth at the market place.

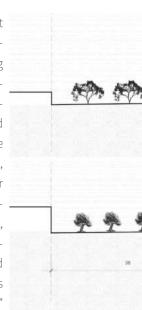
Dr. Ali Nassouh Al-Tahir, in his historical writings based on agricultural research carried out between 1930 and 1946, emphasized the importance of olive groves in the Nazareth district of the Lower Galilee. According to Al-Tahir, "The best olive groves in this district are those located in the lands of the villages of Reine, Kafr Kanna, and Ein Mahel, all of which lie to the east and northeast of Nazareth. The farmers are considered to be the most active, caring, and constructive people in this district."

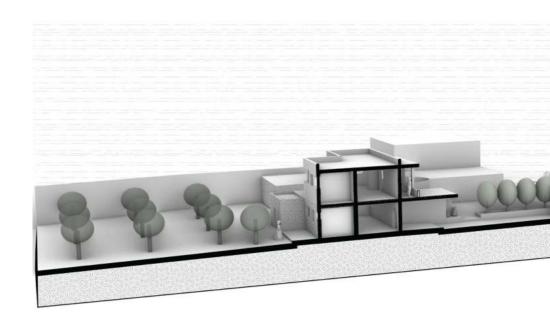


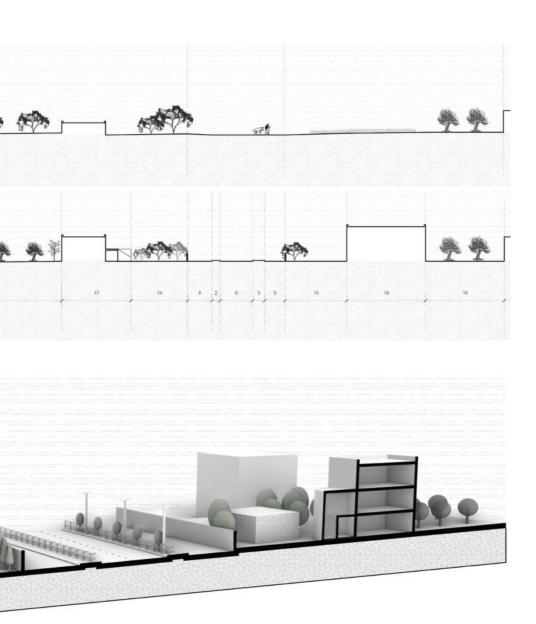
"Road 6400 was filled with olive trees, before paving the way to Nazareth Illit, it was either you uproot your trees, or they will do it for you, and you'll have to pay"



"Before the establishment of the state, the field of agriculture was flourishing and benefited every family. Iter they arrived, agriculture weakened, and there was no committee representing the villagers, and there was no labor force. Workers were needed to pave the streets, and people stopped taking care of the crops, and no one could find budgets to support agriculture."





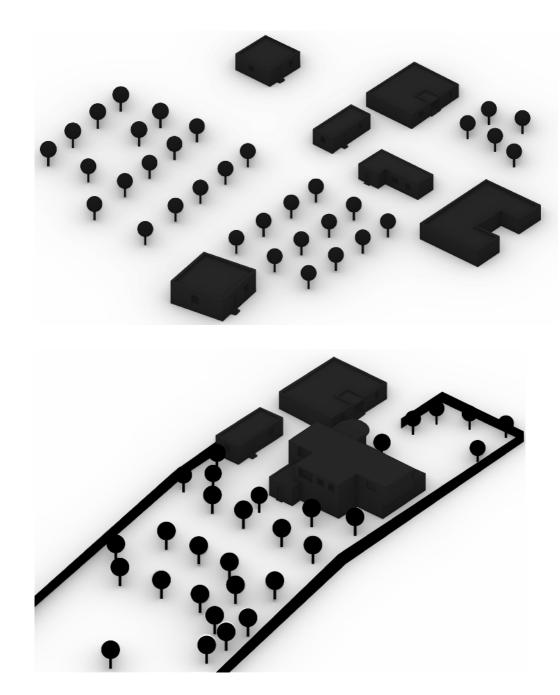


Olive Groves Housing Olive House

The typologies observed across Reineh are characterized by varying proportions of olive tree complexes, which serve as a defining feature of the region's harvesting culture. This phenomenon, common in many Arab towns, extends beyond cultural heritage, functioning also as a marker of private land ownership. The interstitial spaces between dwellings, populated with olive groves, create a thriving landscape that holds potential as a model for landscape-based urban development.

This agricultural—residential mosaic not only reflects the deep-rooted connection between the inhabitants and their environment but also represents a distinctive form of socio-economic organization. Moreover, the olive tree complexes in Reineh and similar villages illustrate a unique intersection between traditional agricultural practices and modern land-use patterns. Integrating olive cultivation within residential areas offers valuable insights for sustainable urban planning, particularly in regions with similar climatic and cultural contexts.

By preserving these agricultural spaces within urban frameworks, communities may sustain their cultural identity while adapting to contemporary development needs.



"We had approximately 90 dunams of Olive Trees, they were planted by my grandfather, my father, and my uncles. They brought them from Jabal Al Jarmaq (Mount Meron). They used to cut the branch of a stump, bring it and plant it here. Why olive trees? Because it is a blessed tree and produces oil, it is resilient, its wood is strong and rich" 1





Intangible Heritage Olive Picking Season

"The tradition of olive harvesting is probably the last still standing, a last string connecting us to the past, creating memories and moments that are identical to those shared by our forefathers. And so, entire families — men, women, and children — equipped with ladders, bags, mats, and sheets, wake up early to march proudly and expectantly towards their trees."

An annual tradition is held upon every family after the first rain of october, starting from cleaning the plot and removing bushes the day before, to then waking up to a celebratory day of preparing tools, bags, mats, and food for the whole day, then driving or walking to the private plot and picking olives in different ways.

This ritual could be held for days, and it is a cultural heritage that has been passed down Ggeneration after the other.

These practices can be translated to common spaces that function publicly and privately in a wider scope, studying these practices could generate urban typologies that are effective, functional and familiar to the site. Stavrides (2016) asserts that "common space should not be reduced either to an idealized beyond or to a realistic opportunity for the betterment of social life. We have practices that produce common spaces in today's capitalism and struggle to keep them alive against the forces of the market and the capitalist state2"

¹Bishara M. Olive Tree in Palestinian Culture (2021)

²Stavrides, S. Common Space, The City as Commons. 2016, (p. 262).

Olive Picking Week(s)

Essentials

حضري حالك يا ستي اليوم بدنا ننزل على الزتون سيدك حرث الارض منقدر نفرد شوادر

هاتو الكرسي اهونلي اقعد واقطف من الشجرة يا بنات غو الزتون من الغصون وين المنخل يا ستي ناوليني اياه

وصلها ببطارية السيارة يا سيدي وقرب السيارة لجؤا اكثر

تعالو تغذّوا، اقعدو هون ع الحصير ة فش شوك

وين القهوة؟

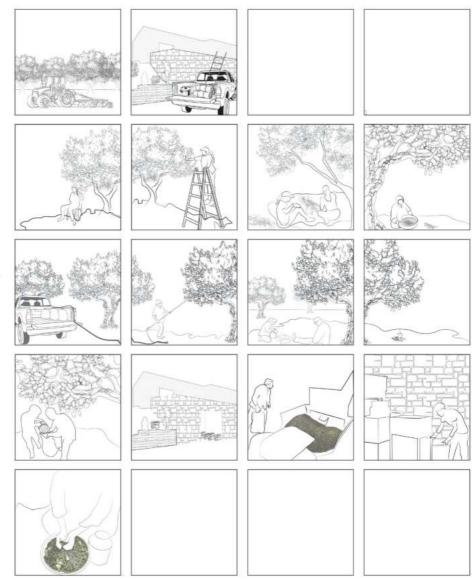
انت امسك الشوال اقتحلي اياه مليح وانا بدير الزتونات بالسطل

حطيناهن بالمخزن عمي وفتحنا الشوالات ليتهوَّى الزتون

حط يا سيدي شوالاتنا هون، تعال يا ولد رقَّمهن بلاش نضيَّع مليان ناس غيرنا بدها تعصر

بعملو ست سبع تنكات؟

هدول للكبيس يا ستي هاتي اقلك بدي احطهن بالعلب والقنائي







Olive Press Significance

In 1990, the residents of Reineh owned about 600 dunums of agricultural land, mainly planted with olive trees and seasonal crops. Agriculture was once a central source of livelihood, but land confiscation gradually led to the decline of this sector. As a result, agriculture lost its role as a primary income source for the village.¹

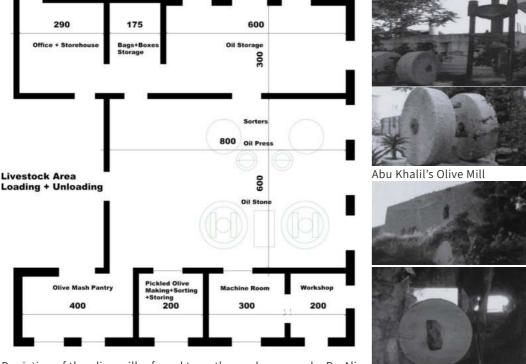
With limited local opportunities, most of the workforce shifted to wage labor. The village also lacks professional offices. meanresidents must travel to Nazareth to access such services. This situation has contributed to a persistently high unemployment rate.

The olive oil industry in Reineh reflects this broader economic transformation. In the past, the village hosted two traditional olive mills, one owned by the Khoury family and the other by the Abu Khalil family. Each mill occupied around 90 square meters and was equipped with pressing machinery, storage rooms, and a small office.

These spaces were not only functional but also welcoming, providing room for workers, visitors, and even livestock. Over time, both mills closed, marking the end of this traditional stage of production. Later, Tatour's family took over the business and introduced modern equipment to serve the olive harvest season.

Unlike the older mills, however, the new facility is located next to the family's home and occupies only a small area. During the harvest, the space becomes crowded and operates under more constrained conditions compared to the spacious, traditional mills of the past.

¹Mansour J. Reineh, History, Memory and Reality, 2007, (p. 333).



Depiction of the olive mill referred to as the modern press by Dr. Ali Nassouh Al Tahir



Three dimensional representation of the existing olive mill in Reineh today

Khoury's Olive Mill

Intangible Heritage The Stream

An integral element of the agricultural landscape is the existing stream that descends from the mountains and passes through the town. Historically active, it once served as the primary water source for both the land and its inhabitants.

The now-dry stream—known as Wadi al-Mulk or the Saffuriya Stream, which flows toward Saffuriya (Zippori)—was formerly characterized by numerous springs. The Arab communities that settled in the area succeeded in sustaining this natural environment both before and after 1948. Reineh itself was established in its present location due to the abundance of these springs and the Saffuriya Stream, which originates in the town. Community life in Reineh was closely tied to these water sources, a connection that gradually disappeared with processes of urbanization and the covering of springs and streambeds.

Recently, however, the stream has begun to undergo a revival: a section on the western side of the town, situated within the site of a planned new neighborhood, is currently being uncovered and restored as part of a public park project designed for the benefit of residents.



Town Center. Ahmad Abbas. Oil on canvas

Al-Marah (Rest) Square. The current location of the local council building and its surroundings, which used to be the vital center and main artery of the village.

(The Church) The construction of the church began on July 27, 1917. Its building was halted due to the well-known earthquake that occurred at that time. The construction and erection of the church was later resumed and completed.



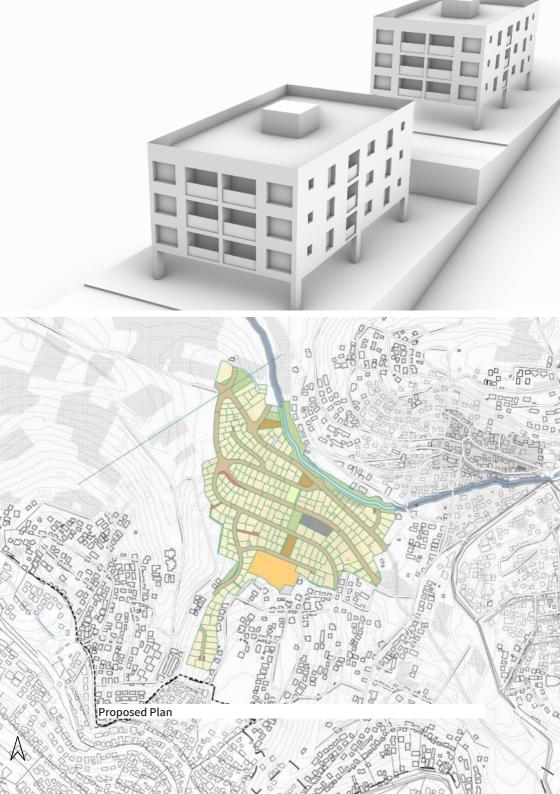
Typical Planning Attempts

The growing need for housing and development in towns has led to a rapid, profit-driven approach to urban planning. This approach often results in generic, dense plans that prioritize financial gain over environmental and social benefits. As Henri Lefebvre noted, this creates an "abstract space" where capitalism shapes our urban areas, leading to "fragmented and fractured" spaces.

A clear example of this is the "union and division without consent" plan proposed for the western part of the town. This plan suggests building residential units and allocating space for education and public institutions. However, it lacks open spaces and doesn't consider landscape diversity or the preservation of existing olive trees. his approach aligns with what Lefebvre called "dominated space," where technology and economic practices transform

urban areas without considering their social and ecological value.

In essence, the project aims to challenge the current way of producing urban spaces. It advocates for a more comprehensive approach that includes ecological considerations, social practices, and cultural heritage in urban planning. This aligns with Lefebvre's call for a "unitary theory of space" that combines physical, mental, and social aspects, aiming to create urban environments that are not only economically viable but also socially enriching and environmentally sustainable.



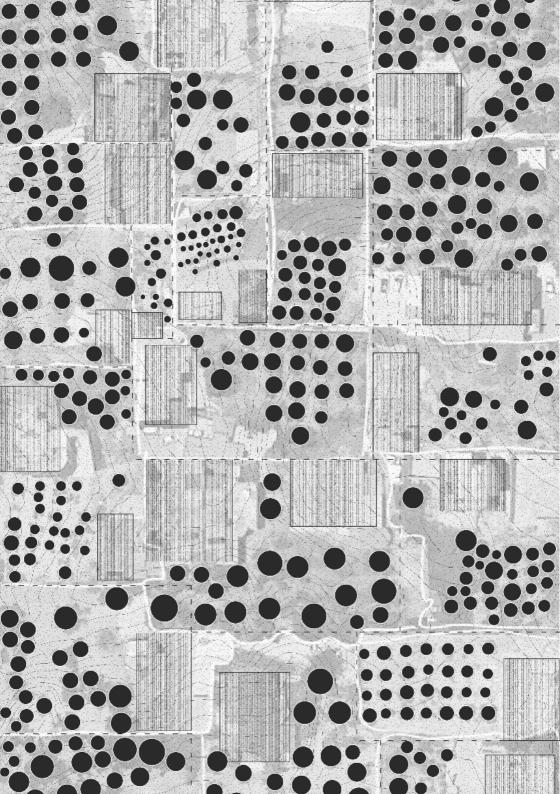
Theoretical Methodology

The natural elements of this town can be found in other towns in the lower galilee, these distinquished elements are a key for a successful urban development. However, the privatization of land is an expression of ownership that Arabs clinged on as part of their fight for existence. At some point, the towns will outgrow their territoreal borders marked by the state, and will demand the use of agricultural plots for its development.

The town requires a rearrangement of its built fabric by creating an alternative for the typical suggested planning by re-learning from the past of common spaces and utilizing their principles, As Stavrides (2016) argues, common spaces are not merely physical entities but are "produced through collective practices" that challenge dominant spatial hierarchies.

This will enable future generations the right to access, use, and enjoy the town's resources, develop a sense of belonging to the land, create an organic order, and provide precise locations for residential developments that are based on learning from the past of common spaces and utilizing their principles.

This rearrangement can be studied by approaching the town in the context of bottom-up observation while taking the typical topdown solutions into question, dismantle them and pitching a far more delicate and precise solution for housing that functions well with the landscape.





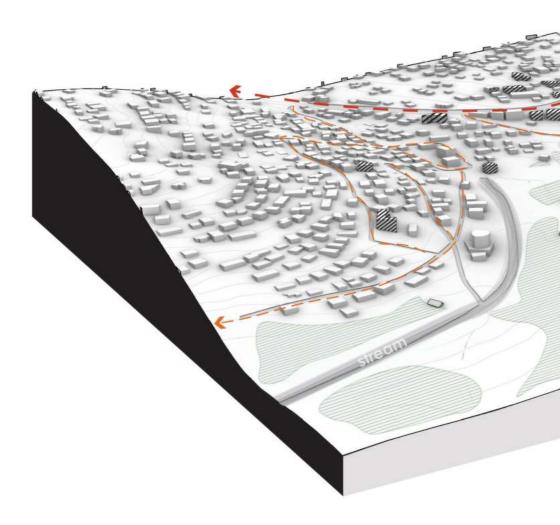


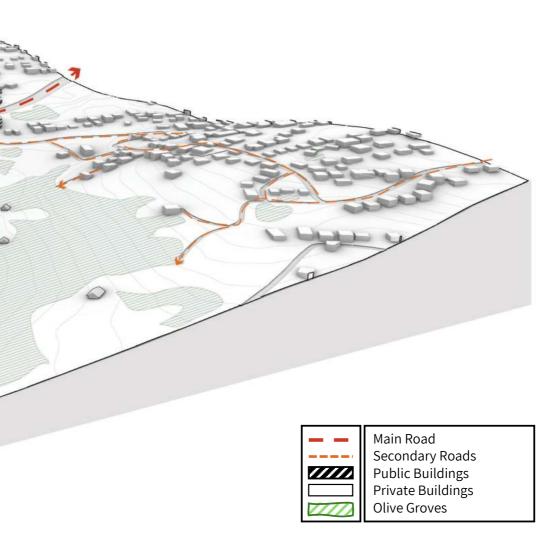


Intervention

Olive Groves Neighborhoods

Reineh, West Site | Current Situation





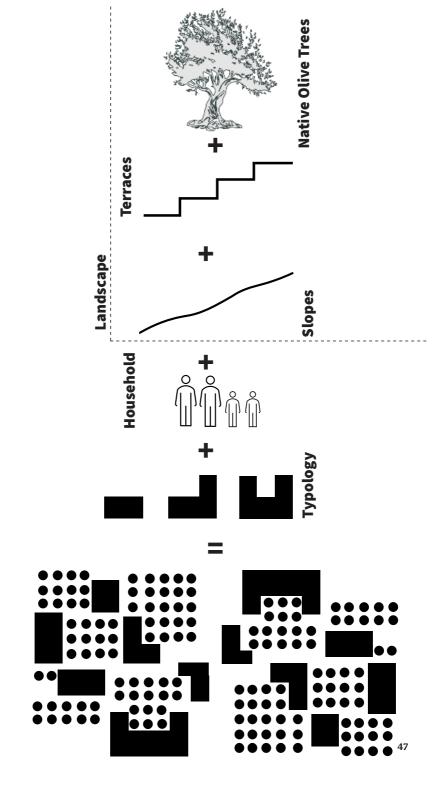
Planning Strategies

Living within defined communities shapes urban development, and strengthening this approach can lead to successful outcomes. In Reineh, most households reside on privately owned land, yet almost every home shares a common element: olive groves.

These groves symbolize a shared landscape that, if reinterpreted through history, agriculture, and dynamic, landscape-sensitive typologies, can inspire a new model of urban development. The main challenge, however, is that most plots remain privately owned and cultivated.

Integrating new development into this existing fabric requires careful consideration of the landscape and established building typologies. Planning strategies are based on developing a system that relates to space according to its characteristics: stablishing a continuum that extends from the olive tree to the inhabited house.

The strategies are divided into several steps, each building on the previous one. The first three focus on the landscape, ensuring a careful understanding of each site and adapting olive trees to its specific characteristics, whether by creating terraces or redesigning slopes. The next step involves calculating each household's need for olive oil and distributing trees accordingly. Finally, the process concludes with the development of typologies that respond to the growth and sustainability needs of the olive tree.



Planning Strategies Native Olive Trees

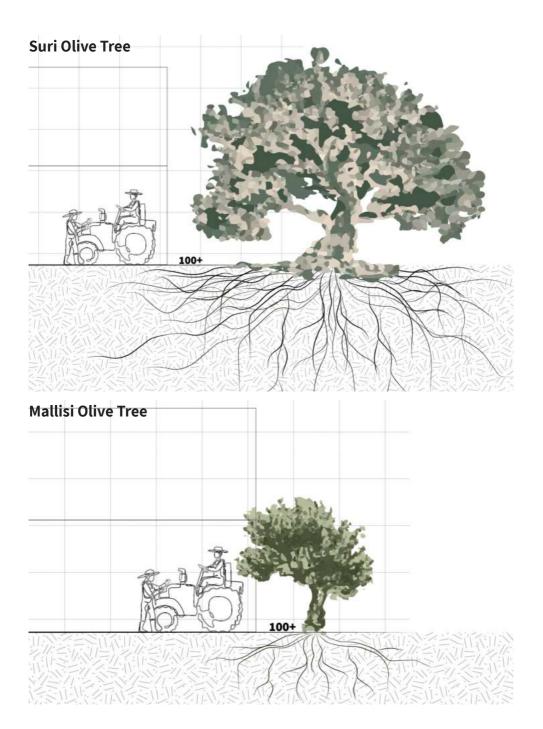
The first strategy relies on understanding the landscape, by learing the olive tree: according to the book written in 1947 "The Olive Tree: Its History, Cultivation, Diseases and Industry" by Dr. Ali Nasuh Altahir, in which a scan and analysis of the history and characteristics of the olive tree in cities in the land and Europe was done, there are three types of olive trees in the village of Reineh, Suri, Nabali and Malisi, the Suri and Nabali are the largest in number, the Suri yields more olives and olive oil, and the Malisi is relatively small and can be planted in soil that reaches 2 meters deep and yields olives in good quantity.

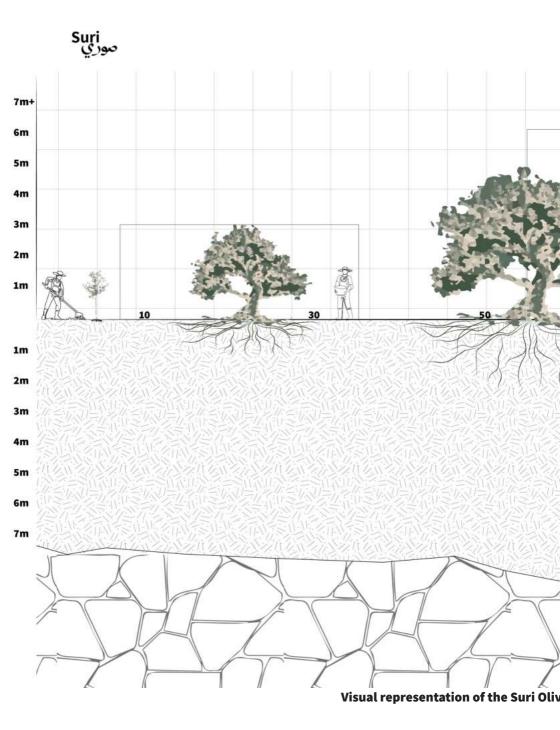
In the fifties, the big families in Reineh would shift from wheat and tobacco cultivation to the investment in olive trees, these families would turn this investment into a tradition that glorifies the deep connection to their privately owned plots and underlines the comprehension of cultivation and agriculture as a common act amongst family members.

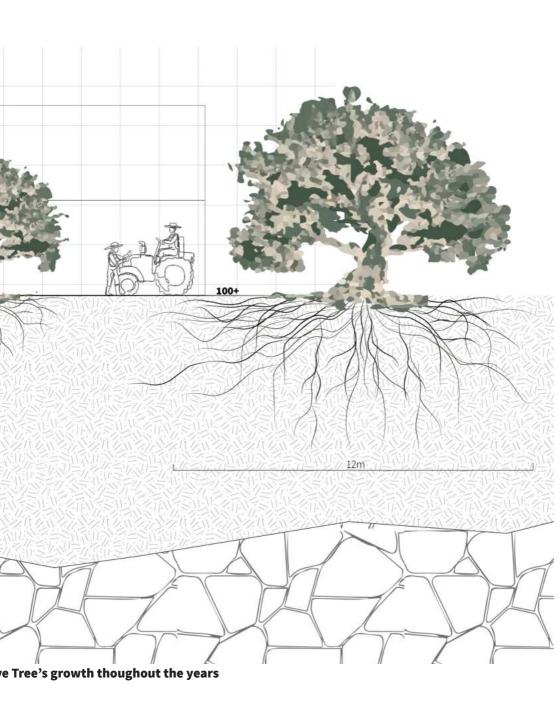
Shatwat Tishreen (October's Rain), the first rain after summer, is the most important seasonal sign in this region, heralding the beginning of the olive picking season. In the local culture, this is a blessed time of abundance, during which most of the domestic supply of oil is produced.

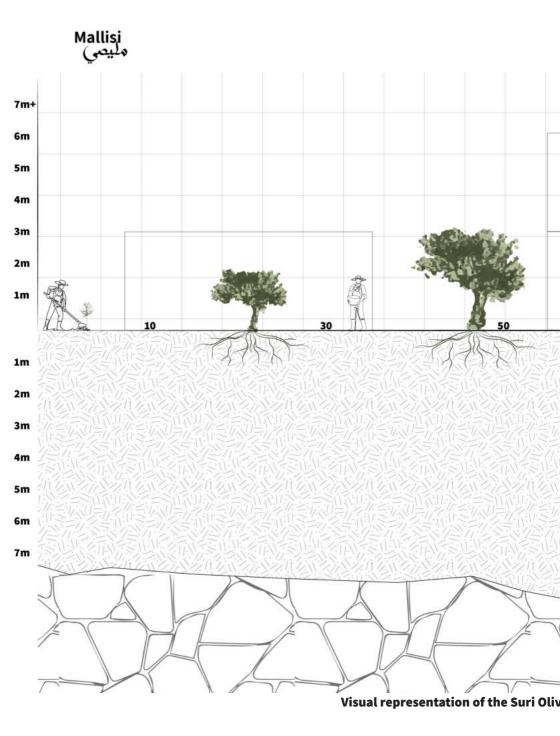
Olive trees are resilient, their water consumption is scarce and it is tied to the season, therefore, the seasonaly rain is enough for their sustainability.

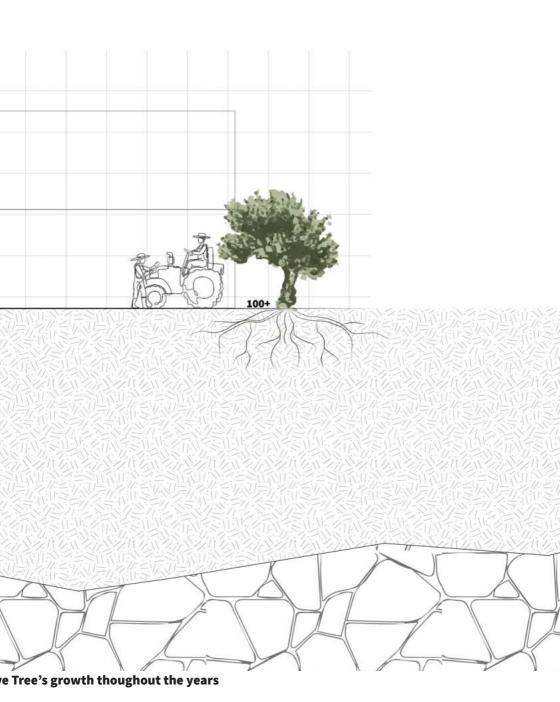
This annual tradition ties people to their landscape, and transforms the process of cultivation into a heritage that is passed through generations.











Planning Strategies Household | Olive Tree Harvest and Goods Distribution.

The second strategy is concerned with the household scale. Its objective is to form residential clusters organized around households in relation to the distribution of trees.

Therefore, the proposed residential typologies are directly informed by this distribution, ensuring that the design of each building form incorporates designated spaces for olive trees.

As agricultural plots—particularly those containing olive trees—progressively disappear, residents are often compelled to sell or relinquish their trees due to the expansion of housing on these lands.

In this way, every housing unit is conceived not only as a dwelling unit but also as a site of cultivation, reinforcing the continuity between household life and agricultural heritage.

This raises the question of establishing a mechanism that enables conservation while reintegrating olive cultivation into the domestic sphere.

For instance, two Suri olive trees are sufficient to provide a household with approximately 16 kilograms of olive oil, while four Mallisi trees can yield an equivalent amount.

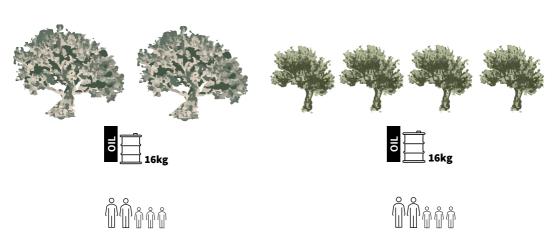
OLIVE GROVES DISTRIBUTION

+

HARVESTING SEASON

=

COMMON HERITAGE



Planning Strategy Housing Typologies

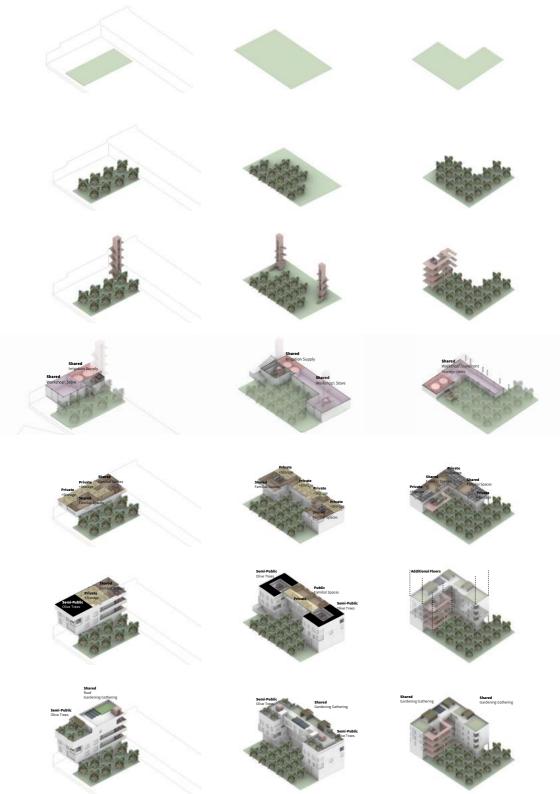
The third planning strategy responds simultaneously to the needs of the community and the characteristics of the landscape, generating typologies that begin with the olive tree and its immediate surroundings in order to learn from its requirements and coordinate the number of trees allocated to each household.

This approach also incorporates both internal and external staircases to facilitate circulation.

The ground floor is conceived as a shared and flexible space: during the olive harvest season, it functions as a dynamic area for organizing goods prior to pressing, while throughout the rest of the year , it accommodates workshops, shops, and family businesses

The residential units vary in size yet serve the same fundamental purpose, organized into two primary zones that recall the traditional houses of Reineh. The private areas include rooms that may also be adapted for storage, reflecting the multifunctional character of domestic spaces.

Furthermore, the units extend cultivation opportunities to the rooftop: one typology provides an individual roof garden for a single apartment, while another introduces a shared roof alongside two private roof areas. In this case, Mallisi olive trees are accommodated, with a soil depth of two meters proving sufficient for their growth.



Planning Strategy Urban Scale Through Olive Groves

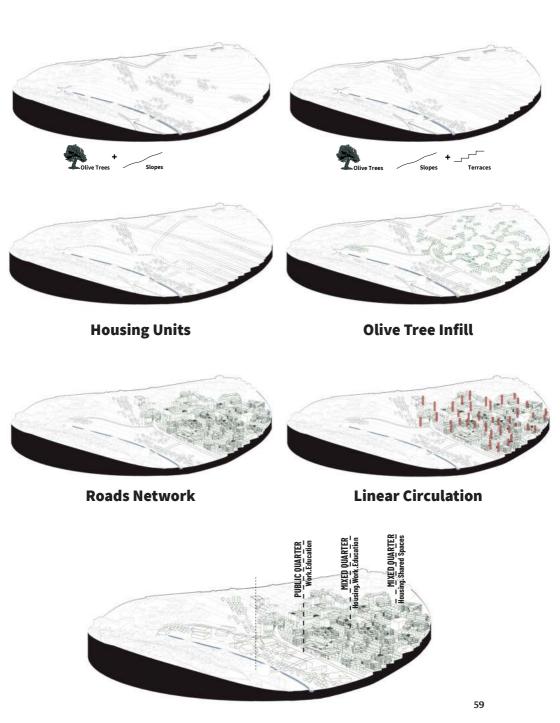
On a larger scale, the aim is to create neighborhoods organized around spaces for olive groves, while addressing the current condition of scattered olive trees under private ownership.

In this way, the strategy reinforces the landscape as a cultural and ecological foundation, ensuring that olive cultivation continues to shape both the spatial and social fabric of the community.

Rather than uprooting these trees, the proposal envisions their relocation, beginning with the transformation of slopes into terraces.

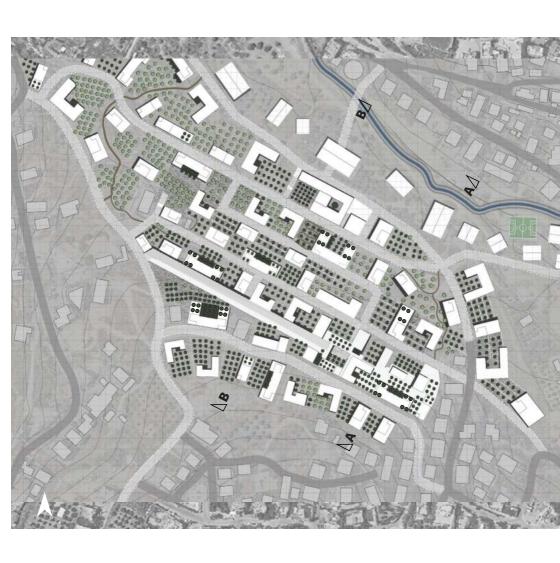
A road network is then introduced, alongside the densification of tree planting for each building and open space in relation to the household framework outlined earlier.

The integration of both internal and external staircases generates diverse residential complexes and multifunctional spaces where olive trees remain central.





Current Situation in Site



Site Plan Proposed Housing and Olive Trees Distribution



150 dunam 900 dwelling units (90 dunam)





Water Tanks Source: Rainw Shared Spac Storage\Shops Olive Grove Trees Per Unit



3 Housing Units P 6 Olive Trees Per Flo

4 Housing Units P 8 Olive Trees Per Flo

2 Housing Units P 4 Olive Trees Per Flo



Adittional Floors

Semi Public Units 8 Mallisi Olive Trees Semi Public Unit -4 Mallisi Olive Trees



ater and Stream ces Workshops

Distribution

er Floor 100m² or --er Floor 80-100m²

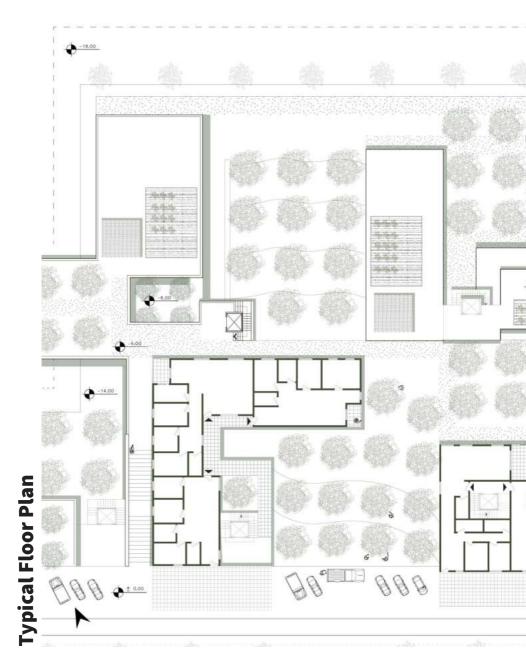
er Floor 80-90m²

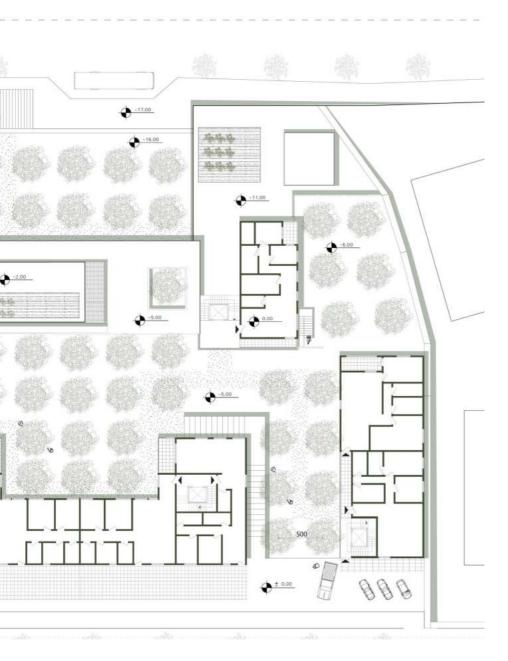
- Utilizing Roofs for two Units - - - - -Utilizing Roofs for one Unit













Turning the void in between residential buildings into an int

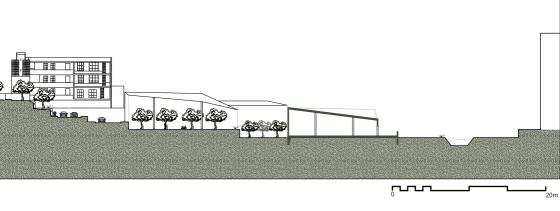


eractive space that is native to the arab towns in the galilee.



Section A-A







The Olive Mill

The olive mill is a representation of the historical significance of olive trees in Reineh, it is a fundamental aspect of its development and it functions as an annual gathering spot for the residents, therefore it serves as an important element in understanding the village's socio-economic history, agricultural traditions, and collective identity.

This project takes as its foundation the main elements of the existing olive mill that operates in Reineh, while respecting and emphasizing the mills that operated in the past as the historical essence of the building, while reinterpreting its role in the present.

The intention was not only to preserve its annual function as a working olive mill, but also to expand its potential by introducing complementary spaces such as workshops, a coffee shop, a gallery, and a visitors' center.

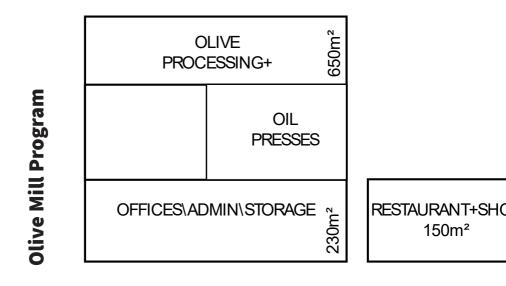
In doing so, the mill is transformed from a site of seasonal activity into a multifunctional place that celebrates tradition and serves the evolving needs of the community. Thus encouraging the utilization of commons and outdoor shared spaces.



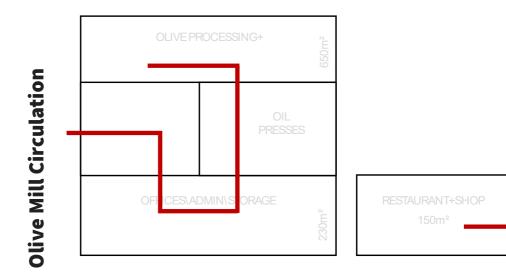
The mill is embedded between the residential fabric of the village and the surrounding olive groves, occupying a threshold space that connects everyday domestic life with the agricultural landscape. This position strengthens its role as both a communal gathering point and a symbolic link between the people and the land.

The result is a space that feels authentic to the town's heritage, yet adaptable to contemporary uses. This offers residents and visitors alike an environment that is both rooted in memory and oriented toward the future.



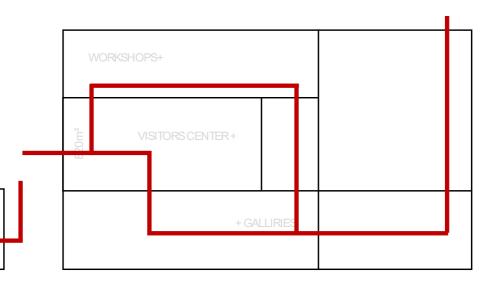


Every residential quarter requires an olive mill to relieve seasonal pressure both an expansion and a transformation. The ground floor accommodates the olive paste, storage, and distribution. The first floor introduces divers



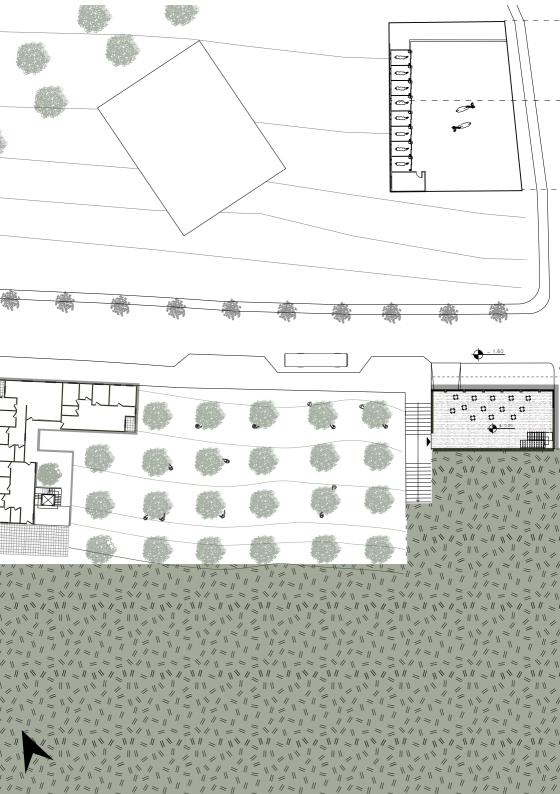
WORKSHOPS+			
820m²	VISITORS CENTER+		Olive Groves
	+ GALLIRIES		

. Following the traditional structure of the olive mill, the proposal suggests the entire process of olive oil production, including pressing, collection of e spaces for learning, exploration, and the practice of collective activities.







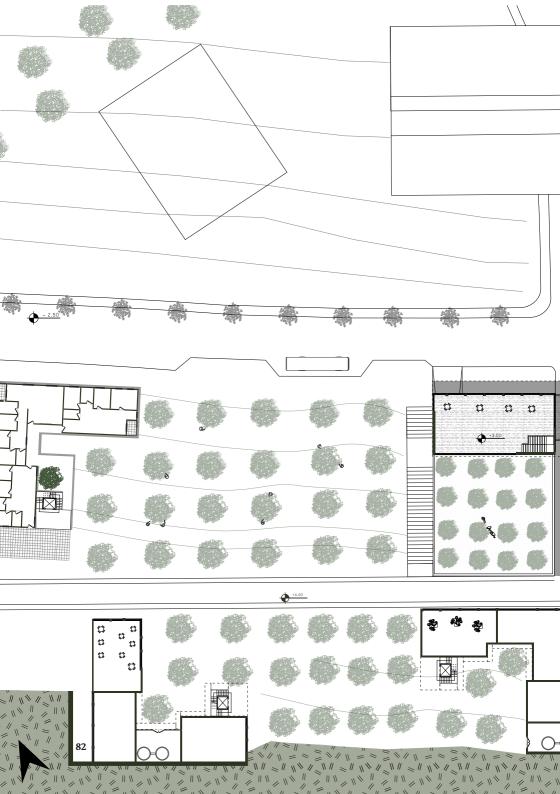


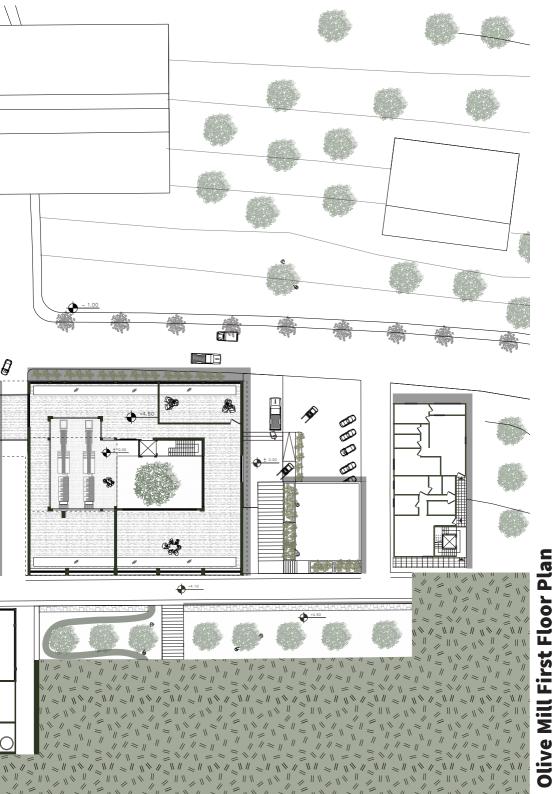
III

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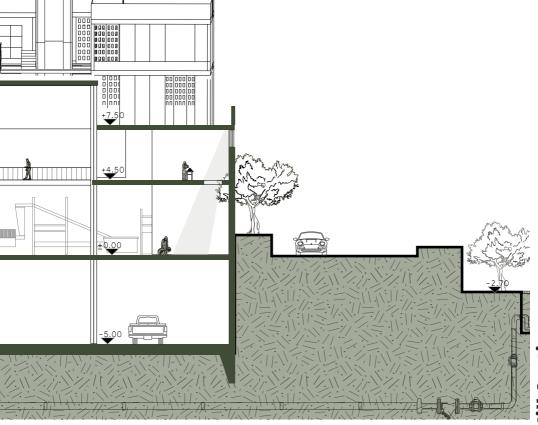
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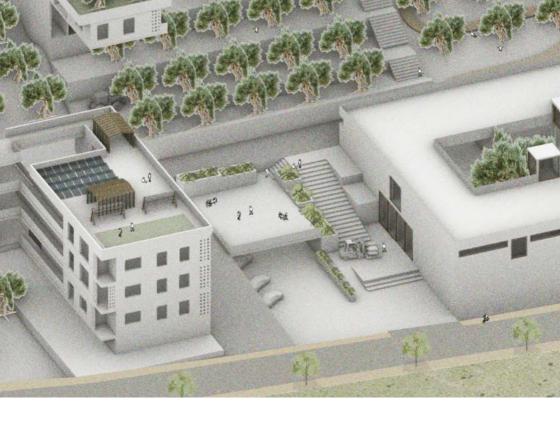
Olive Mill Ground Floor Plan

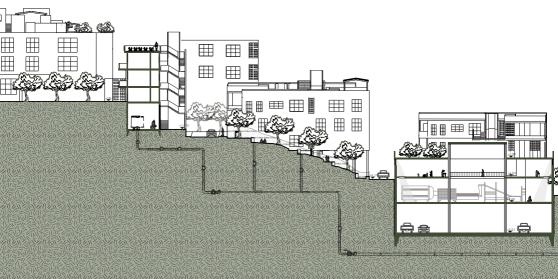






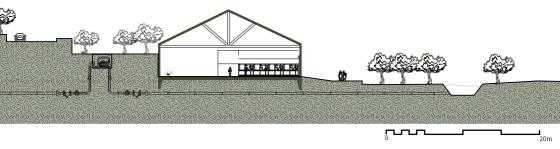






Section B-B









In the end, the olive tree is the anchor that connects local identity with intangible heritage, and in an organic way, it generates the shared spaces—the commons—that are important not to give up on in the future urban development of Arab towns.



Bibliography

- + Bishara M. Olive Tree in Palestinian Culture (2021)
- + Al-Tahir. A. (1947) The Olive Tree, its history, cultivation, diseases, and industry.
- + Lefebvre H. (1991). The Production of Space.
- + Stavrides, S. (2016). Common Space The City as Commons.
- + Mansour, J. (2007) Rieneh, History, Memory and Reality.

Interviews

+ Intreview with Mr. Ghanem Bsoul (2024).



