

HEALING THROUGH DESIGN

– A Trauma-Informed Design Approach To Permanent Refugee Housing

Azadouhi Aguilian, 2025

Supervisor: Anna Braide

Examiner: Kaj Granath

Chalmers School of Architecture,

Department of Architecture & Civil Engineering



CHALMERS
UNIVERSITY OF TECHNOLOGY





Master's Thesis 2025

HEALING THROUGH DESIGN
– A Trauma-Informed Design Approach To Permanent
Refugee Housing

Azadouhi Aguilian

Chalmers School of Architecture,
Department of Architecture & Civil Engineering,
MPARC: Architecture and Urban Design

Supervisor: Anna Braide
Examiner: Kaj Granath



MY RELATION TO THE SUBJECT

As an Armenian and a great-grandchild of genocide survivors, I grew up with their stories of survival – how they were forced to leave their homes, move to foreign countries, and after losing everything, rebuild their lives. This made me understand the value and importance of one's home from an early age. But it would not be until later on that I would see for myself how difficult it is to lose one's home.

During my bachelor's studies in Armenia, I witnessed the war in Artsakh in 2020 and struggled with the idea of not being able to help the people inflicted and suffering from the conflict. And in 2023, during my first year of master's studies in Chalmers, the forced displacement of the Armenians of Artsakh took place. Once again, the very same feeling of helplessness consumed me; I did not have the means or know of a way in which I could have been of help. I was reminded of my great-grandparents, their hardships and struggles as they faced the very same situation the Artsakh Armenians are facing today.

As an architect, the only way I can be of help is by providing people, regardless of ethnicity, religion, age, or sex, with homes. Therefore, I chose the subject of providing permanent and trauma-informed homes for displaced individuals. By designing housing, my goal is to use architecture as a medium to help people thrive and rebuild their lives in a dignified manner.



EDUCATION

2017-2021

Yerevan, Armenia

NUACA

National University of Architecture and Construction of Armenia



2023-present

Gothenburg, Sweden

CHALMERS

University of Technology





TABLE OF CONTENTS



Introduction

• Purpose: Problem Description	4
• Aim, thesis questions and objectives	
• Why permanent refugee housing?	5
• Examples of permanent refugee housing	6
• Artskh: A historical overview	8
• Method	13
• Theory	14
• Delimitations	19



Research

• Armenian vernacular housing architecture	19
• Armenian vernacular architecture through the scope of Trauma-informed design	31



Project

• Concept	49
• Site	50
• Master Plan	53
• Facades	53
• Floor Plans	54
• Apartments	55
• 3D views	62



Discussion

67



List of references

70



Appendix

72

• Interviews With Displaced Individuals From Artsakh	
--	--



ABSTRACT

Since September 2023, more than 120,000 Armenians have been forcefully displaced from their homes in Artsakh (Nagorno-Karabagh) as a result of ethnic cleansing. While this is a specific example, it happens frequently across the globe, resulting in forced displacement and displacement trauma. That is why crisis architecture and sustainable housing solutions that foster mental and physical well-being are needed.

In this thesis, the aim is to design a permanent housing project in Dilijan, Tavush province, Armenia, that incorporates trauma-informed design principles, accessibility, sustainable building methods, and Armenian vernacular housing architecture to find answers and a design solution to the following research question:

- ❖ **How can permanent refugee housing be designed to promote recovery from trauma?**
- ❖ **How can vernacular housing architecture contribute to designing a sense of safety, familiarity, and cultural identity in refugee housing?**
- ❖ **How can vernacular construction techniques and materials be used to enhance sustainability and durability?**

The research methods include a combination of literature research on trauma-informed design principles, Armenian vernacular housing architecture, traditional building methods and materials, reviews on existing refugee settlements, and interviews with displaced individuals from Artsakh.

As a result, the project offers a site-specific permanent housing solution that addresses the physical and emotional needs of displaced individuals, creating a model for future refugee housing initiatives that can be constructed sustainably.

Keywords: permanent refugee housing, trauma-informed design, healing architecture



INTRODUCTION

PROBLEM DESCRIPTION

Countless individuals and families are struggling with displacement trauma and housing insecurity. Currently, there are more than 120 million forcibly displaced people worldwide (UNHCR, 2023). Over 6,6 million refugees live in camps, where, despite the aid of humanitarian organizations, the independence of residents is diminished and displacement trauma is worsened. In urban areas, refugees live in slums, non-functioning public buildings, and informal settlements with poor living conditions (Wardeh & Marques, 2021).

Housing is a fundamental human right that stands as a social determinant of health and well-being. It represents a sense of identity, security, consistency, agency, and control (Bhattacharjee et al., 2024). A healthy living environment should offer the above-mentioned aspects and be in accessible proximity to places of service. Lack of safety, insufficient heating, overcrowding, high levels of noise, and such poor housing conditions can negatively affect the psychological and physical well-being of residents, worsening the trauma caused by displacement, war, and conflict.

Thus, architecture has become a necessary tool for crisis management, as well as for providing housing and shelter. Refugee housing settlements, in general, are designed and built as temporary solutions, however, they continue to be in use years after their due date. These densely concentrated refugee camps threaten society with segregation, provide residents with extremely low levels of comfort, and cause increased unemployment and crime rates (Kizilova, 2023). For those who choose to move out of these settlements, the housing usually available is expensive and rarely affordable for those who do not have stable incomes.

In addition, according to scientists, survivors of traumatic events are at a high risk of retraumatization during their adjustment to new host communities due to their previous experiences with tremendous trauma. So, it is vital to provide residents with spaces that will promote healing and avoid re-traumatization (Bhattacharjee et al., 2024).

Dilijan, a small town in the Tavush province of Armenia, was chosen as the project site due to its close connection to nature, neighboring cities and towns, and well-structured infrastructure. Since the capital city, Yerevan, is overpopulated, it is more logical to place the project in a town or city that has the need and potential, and capacity for growth. Therefore, Dilijan has been chosen as the design proposal site.



AIM, THESIS QUESTIONS AND OBJECTIVES

The main purpose of this thesis is to address the lack of permanent housing solutions for refugees that integrate trauma-informed design and consider the mental and physical well-being of the residents. The focus is thus on combining TID with site-specific vernacular housing architecture to design a model for permanent refugee housing in Dilijan, Tavush province, Armenia, for the forcefully displaced Armenians of Artsakh (Nagorno-Karabagh).

To correctly answer the thesis questions – **How can permanent refugee housing be designed to promote recovery from trauma? – How can vernacular housing architecture contribute to designing a sense of safety, familiarity, and cultural identity in refugee housing? – How can vernacular construction techniques and materials be used to enhance sustainability and durability?** – the following key aspects are investigated.

- **Trauma-informed design strategies and implementations**
- **Armenian vernacular housing architecture.**

The **trauma-informed design** aspect investigates strategies that help with recovery from trauma through spatial and environmental design. Referring to existing housing and community centers with TID to see how design strategies can be implemented.

Analyzing **Armenian vernacular housing architecture** inspires the final proposal for a familiar and inviting environment and the sustainable implementation of local construction materials and methods.



WHY PERMANENT AND NOT TEMPORARY?

Refugee housing, in general, is designed not to last, as it is seen as a transitional space where people live during times of strife. However, that is not the case, as most of the time these temporary housing solutions become the permanent residence of many, trapping displaced individuals in a state of permanent temporariness for the foreseeable future (Trautmann, 2024). Such examples are: Kenya's Dadaab camp opened in 1992, Zamzam Camp in Sudan in use for more than two decades, Cox's Bazar in Bangladesh, and many more. In many of these cases, durable and permanent materials are prohibited for designing and constructing refugee camps, which results in a non-durable infrastructure and housing conditions.

Furthermore, refugees are often prohibited from constructing more durable and permanent living conditions in these camps, leaving them to distrust their physical environment due to a lack of privacy, exposure to the elements, and vulnerability to violence. This turns these temporary structures into a source of anxiety, distress, and frustration, instead of being a place of refuge and support, as they were originally intended.

Another issue while choosing between temporary and permanent solutions is segregation, as refugee camps are usually placed in far-off and poorly serviced sites, mostly in border regions and separated from the main population of the host country. A clear example of this could be seen in the controversial policy of Berlin's Senate to separate refugee housing from ordinary affordable housing initiatives, underlining a difference between Berliners and refugees. Following this, hostility between surrounding neighborhoods was reported, forming problems that further hinder displaced individuals from feeling safe and at home (Steigemann & Misselwitz, 2020).

Lastly, temporary refugee settlements often have certain rules that prohibit the residents from making adjustments inside and outside the dwellings. Having no agency over trivial matters such as the placement of furniture, adding decoration or additional furniture, and conducting routine inspections to ensure the rules are followed takes away the control and independence of the resident (Steigemann & Misselwitz, 2020). Refugees, having been impacted by life-altering decisions taken for them without their consent, need a sense of agency, representation, and choice that aligns with their needs. This reinforces the feeling of trust, comfort, and support a displaced individual has in their place of refuge (POAH, 2025).

In conclusion, after taking all of the aforementioned issues into account, a permanent housing solution for the displaced people of Artsakh, who have experienced displacement trauma due to displacement, war, and conflict, and losses (Movsisyan et al., 2022), will be the best choice. This also enables residents with the choice of permanently residing, growing, and cultivating their lives alongside ordinary residents.



EXAMPLES OF PERMANENT REFUGEE HOUSING

Permanent refugee housing initiatives exist. Such examples are the Armenian quarters built in large cities of Syria after the Armenian Genocide in 1915, the systematic annihilation of more than 1.5 million Armenians by the Young Turks (Turkish nationalists) in the Ottoman Empire. Roughly 150.000 refugees were living in the Syrian camps, this was only a fragment of the number of refugees scattered around the Near East and Europe.

In Aleppo, there were more than 13000 refugees in approximately 3248 barracks, with subpar living conditions, such as each individual having a mere 3.5 sq. meters as a living space. The same situation was present in the capital, Damascus (fig. 1), and other big cities. As a solution to the endless tents and barracks of the refugee camps full of famine and disease, the League of Nations devised a plan to establish permanent settlements for the Armenians in the form of rural colonies. By December 1929, nearly 200 families had been successfully relocated from temporary camps into 25 newly constructed facilities. Each facility was divided into 8 flats with 2 rooms, a kitchen, sanitary functions, and a hallway ensuring communication across functions. This is only one of many similar projects done in the time in the region. And so, the majority of the refugees were given permanent housing, which was fundamental to the survival of the community and people. This initiative aided thousands of refugees in starting their lives anew, giving them agency, safety and security, a sense of community, and a chance to shape their future (Gzoyan, 2014).

The housing initiatives constructed during this time are still in use today and considered major hubs of the Armenian diaspora (fig. 2).

Similar to the previous example, after the defeat of Greece in 1921 in the Greco-Turkish war, numerous atrocities occurred in Smyrna (modern day Izmir, Turkey), resulting in the Greek population of Turkey fleeing and assuming the role of refugees. As a solution to this, in 1923, the League of Nations administered a compulsory exchange between the Christian and Muslim populations of Greece and Turkey. Approximately 1.4 million Greek refugees flooded Greece (Gzoyan, 2014).

The League of Nations initiated the construction of 2000 villages, as well as providing them with agricultural means to start their lives anew. Another way of integrating the newcomers into the local context of Greece was by building settlements near large cities and towns or on the seashores. Some of these large cities and towns included Athens, Salonika, and Cavalla, and although there are no recorded numbers of housing built in these towns, around 25000 families were provided with homes. In the case of Athens, these housing initiatives were in the form of large refugee quarters with spacious streets and various housing typologies. These houses catered to comfort and solidity, and to this day, they remain standing and in use (fig. 3) (Simpson, 1929).

More contemporary permanent refugee housing initiatives, though rare, can be seen across Europe, especially in Germany and Sweden. However, due to time limitations, this area of study will be concluded here.



Figure 2. Damascus, Camp Dikran, 2021. The stone houses built by Armenian refugees are still standing. (Houshamadyan.org)



Figure 1. Damascus, Camp Dikran, 1920s.
New stone homes being built for refugees. (French Foreign Ministry)

Figure 3. The suburb of Nea Smyrni today
(Kaniadakis, E., 2020)





ARTSAKH: A HISTORICAL OVERVIEW

After an unprovoked aggression by the Republic of Azerbaijan on the Artsakh Republic (Nagorno-Karabagh) on the 27th of September 2020, a blockade with a cut-off of essential resources and weaponization of humanitarian aid followed. For nearly 10 months, access to basic needs for survival, such as medicine, food, electricity, and fuel, was scarce. Basic human rights violations of accessibility, availability, utilization, and stability of food resulted in a major healthcare crisis with reports of malnourishment, psychological issues, and, in some cases, death (Gzoyan et al., 2023).

On the 19th of September 2023, a 24-hour physical extermination of Artsakh Armenians took place, with drone attacks, airstrikes, and mass shelling targeting civilians and civilian infrastructures, taking the lives of hundreds. Soon after this, the blockade ended, intending to de-Armenize Artsakh.

Due to fear of further physical extermination, nearly 120,000 Armenians (30,000 children and 90,000 adults) were forced to leave their homes and flee to Armenia (Harutyunyan & Hayrapetyan, 2024).

This forced exodus (fig. 4., 5) was described by many scholars as ethnic cleansing, a term defined by the United Nations Commission of Experts in May 1994 as “A purposeful policy designed by one ethnic or religious group to remove by violent and terror-inspiring means the civilian population of another ethnic or religious group from certain geographic areas.” (Gzoyan et al., 2023).

Due to an institutionalized anti-Armenian policy run by Azerbaijan, systematic violence directed at anything inherently Armenian, the practice of ethnic cleansing blended with objective elements of genocide through consistent extermination of Armenians, Artsakh Armenians had no choice but to leave their homes and Indigenous lands.

To this day, the Republic of Azerbaijan has not been held accountable for the human rights violations against Artsakh Armenians and is currently suppressing any expression of ethnic Armenian identity by systematically destroying all traces of Armenian cultural heritage in the region.

Figures 4., 5. The mass exodus of Armenians from Artsakh in 2023 (Ghahramanyan D.)



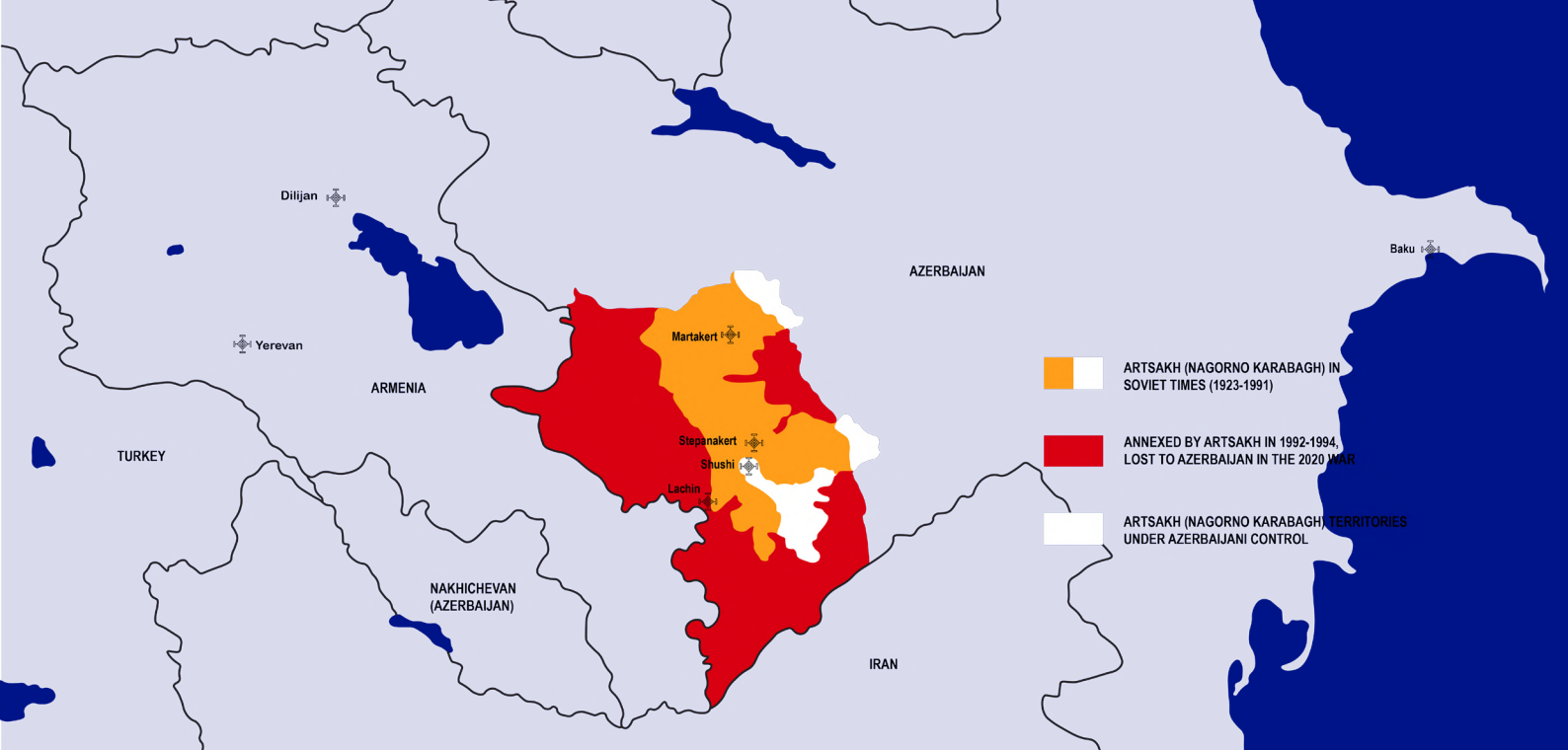


Figure 6. (top) Map of Artsakh (Nagorno Karabagh) after the 2020 war.
 Figure 7. (bottom right) Dadivank monastery, Artsakh
 Figure 8. (bottom left) Gandzasar monastery, 13th century, Artsakh (Azerbaijan now)

in the Indo-European language tree (Armenian is also the official language of the Republic of Artsakh). Armenian has its unique alphabet (created in 405 AD). The state religion has been Christianity since 301 AD, making Armenia the first Christian state in the world.

Ethnic Armenians have lived in the mountainous region of Artsakh for over 2000 years. Following the collapse of the Soviet Union, in 1923, Stalin gifted the territory of Artsakh to Azerbaijan, despite the the region's heritage and indigenous

Armenian population. The Republic of Artsakh gets military and financial support from the Republic of Armenia due to its fragile political state and status.

From 1988 - 1994 a war started for the independence of Artsakh against Azerbaijan, and since the 2nd September 1991, the Republic of Artsakh has been an unrecognized, independent republic with Stepanakert as the capital. The political and economic development of the state has been hindered due to the failure of international recognition of independence.



Armenia is a landlocked country in the South Caucasus, neighboring Georgia (North), Iran (South), Turkey (West) and Azerbaijan (East). As a mountainous country, it is sometimes referred to as the Armenian Highlands - with the highest peak of Aragats standing at 4090m. The country is a combination of deep river valleys, lava plateaus of extinct volcanoes, and mountain ranges. In the Eastern part, Lake Sevan (the largest body of water) is surrounded by mountain ranges.

Yerevan, dating back to the 6th - 3rd millennia BCE, is the capital. The spoken language is Armenian, a distinct branch





A BRIEF HISTORY OF THE LAST ARMENIA-AZERBAIJAN CONFLICT LEADING TO THE ETHNIC CLEANSING OF ARTSAKH (NAGORNO KARABAGH):

January 1, 2024 - all state institutions dissolved in Artsakh.

September 19, 2023 - Large-scale assault on Artsakh.

End of the 10-month blockade.

Forced displacement of Armenians (120.000 displaced).

More than 70 Armenians died during the displacement.

December 12, 2022 - Blockade start.

Access to basic needs for survival, such as medicine, food, electricity, and fuel cut off.

A major healthcare crisis with reports of malnourishment, psychological issues, and, in some cases, death took place.

February, March, August, November 2022 - Azerbaijan staged provocations and attacked different parts of Artsakh (Nagorno Karabakh).

September 13-14, 2022 - Largest aggression against Republic of Armenia on the eastern border of the country by Azerbaijan.

224 Armenian soldiers killed (fig. 9).

Armenian territory occupied by Azerbaijan.

November 16, 2021 - clashes on Armenia's southeastern border.

A ceasefire was reached by Russian mediation.

September 27, 2020 - Azerbaijan initiates a full-scale offensive along the entire line of contact between Armenian and Azerbaijani forces in Karabakh (fig. 11).

Half the population of Artsakh was displaced.

Figure 9. Graves of Armenian soldiers killed during the military conflict between Armenia and Azerbaijan in Yerablur Military Memorial Cemetery, Yerevan (Minasyan, K.)



Figure 10. Armenian refugees flee from Baku massacres in 1990 (Armenpress)



A BRIEF HISTORY OF THE LAST ARMENIA-AZERBAIJAN CONFLICTS AND VIOLENCE AGAINST ARMENIANS BEFORE 2020;

April 2-5, 2016 - Initiation of the largest offensive since 1994 by Azerbaijan
May 12, 1994 - Armenia, Azerbaijan and Nagorno Karabakh agree on a cease-fire brokered by Russia.

September 2, 1991 - Independence of Republic of Artsakh (Nagorno Karabagh).

A series of violent massacres of Armenians by Azerbaijan as retaliation.

January 13-19, 1990 - Murder, mutilation, persecution and displacement of Armenians in Baku, Azerbaijan (fig. 10).

250.000 displaced Armenians under threat of extermination.

November, 1988 - Massacres of Armenians in Kirovabad, Shamkher, Shamikhi.

50 Armenian settlements displaced between November and December.

March 25, 1988 - Soviet leader Gorbachev rejects Armenian calls for unification with Artsakh (Nagorno Karabagh).

February 27-29, 1988 - Sumgait massacres.

Indiscriminate killing, rape, maiming of Armenians by Azerbaijani mobs.
 The exodus of the large Armenian community of Azerbaijan.

February 22, 1988 - clashes between Armenians and Azerbaijanis in Askeran.

February 20, 1988 - NKAO appeals to consider the reassignment of Artsakh (Nagorno Karabagh) to Soviet Armenia.

July 5, 1921 - a Karabakh autonomy inside Soviet Azerbaijan established by the Caucasus Bureau of the Russian Bolsheviks.

May 28, 1918 - Republics of Armenia and Azerbaijan went to war over Artsakh (Nagorno Karabakh).

Turkish-Azerbaijani forces tried to take control of Artsakh (Nagorno Karabakh) but met Armenian resistance.



Forcefully displaced individuals are traumatized. They are exposed to wars, conflict, loss of loved ones, loss of home and identity, and physical or sexual assaults, which increases the risk of having posttraumatic stress disorder (PTSD), anxiety, depression, and other mental and physical health consequences after relocation (Javanbakht & Grasser, 2022).

A cross-sectional study done on Armenians after the 2020 war in Artsakh to quantify anxiety, depression, and post-traumatic stress disorder levels shows that out of 825 participants, 100% of those who had been in Artsakh during the war and 89.2% of the participants who had been in Armenia were directly exposed to the war. Those who had been physically injured from the war had the highest scores in PTSD levels. Being directly affected means they experienced injury to a loved one, loss of finances, loss of home, loss of a loved one, participation of a loved one in the 2020 war, and sustaining a war-related physical injury. More than half the participants reported having difficulty completing daily tasks, as well as engaging in social settings. Overall, 36.5% of participants had above average clinically relevant PTSD, 64.1% of participants had depression, with 12.6% having severe depression, and 64.1% of participants had anxiety, with 20% having severe anxiety.

Although the study was done on a limited number of participants, it is suggested that a third of the Armenian population is directly affected by the war and may suffer from PTSD (Movsisyan et al., 2022).

As mentioned, this study was conducted after the 2020 war, and since then, a lot has happened (a 10-month-long blockade and mass forced displacement). Moreover, when transgenerational effects of previous conflicts (such as the Armenian Genocide (the extermination of Armenians in the Ottoman Empire during 1915-1923) and the 1988-1994 Artsakh war) are considered, the percentage of traumatized individuals in Armenia could be even higher.

Figure 11. Artsakh Armenians taking refuge in bomb shelter, Stepanakert in 2020 (Lovetsky D.)





METHOD

The methods used in the thesis are a blend of literature research and qualitative research, synthesizing theories of TID strategies with vernacular Armenian housing architectural practices to the design of a permanent refugee housing solution in Dilijan, Armenia, for the displaced population of Artsakh (Nagorno-Karabakh).

The thesis process comprises of the following three steps: (1) a qualitative literature research on TID and Armenian vernacular housing architecture, (2) qualitative spatial analysis on examples of Armenian vernacular housing from the XIXth century from architectural and TID aspects, (3) and interviewing displaced individuals from Artsakh to have a better understanding of their experiences and needs. After these steps, a design is proposed.

By combining literature research with interviews, both theoretical frameworks and lived experiences of displaced individuals are explored, bridging the two together to form a base for the design proposal.

Literature research on trauma-informed design is conducted by reviewing varying articles and journals on the subject, as well as referring to case studies.

Literature review on vernacular Armenian housing is conducted by referring to books written by Armenian history of architecture scholars, through which examples of existing vernacular dwelling examples are selected to be analysed.

The analysis includes a series of studies on the building volume, the relationship of building volume and surroundings, spatial analysis of movement, room sequences, scale, and materials. After which, the examples are analyzed through the lens of TID, by identifying certain features that align with the TID strategies in the built environment.

The interviews are conducted by the author with displaced individuals from Artsakh who are indigenous to the region of Artsakh and witnessed the 10-month blockade as well as the exodus and are now residing in the Republic of Armenia. In total, 5 displaced individuals are interviewed. There are no age or sex limitations.

The interviews include questions focusing on the experiences of the participants during and after displacement, their views on qualitative dwellings, privacy, community, and safety. All interviews are conducted online, via video calls. The interviewees are contacted through friends and colleagues of the author. Consent to share and publish the interviewees' names and answers to the questionnaire is obtained.

The collected data is later processed manually by finding overlapping and connecting qualities and strategies between the different aspects, which are later used in the concept development of the design proposal.



THEORY

VERNACULAR ARMENIAN HOUSING ARCHITECTURE

The literature research on vernacular Armenian housing is particularly influenced by the following books:

- Soghomon Vardanyan's (1959) Armenian vernacular housing architecture
- Varazdat Harutunyan's (1992) History of Armenian Architecture

These books are the primary sources used when conducting a qualitative literature review on Armenian vernacular housing architecture. As this is a niche subject, it is not widely researched internationally and thoroughly. Furthermore, due to the lack of research in recent years, these are the only sources referenced.

Written by renowned scholars of their time, these books provide detailed descriptions, drawings, and diagrams of how vernacular housing develops in Armenia and its regions in the 19th century, and what life in these dwellings looks like. Vardanyan's and Harutunyan's books shed light on the history of Armenian architecture, building culture, and art.

TRAUMA-INFORMED DESIGN (TID)

When researching Trauma-informed design in the built environment, the following articles are most influential:

- Pable and Ellis' (n.d.) Trauma-informed design: Definitions and strategies for architectural implementation
- Bollo and Donofrio's (2021) Trauma-informed design for permanent supportive housing: four case studies from Seattle and Denver
- The trauma-informed housing toolkit by POAH

These articles define what TID is and how it is used in the built environment through design strategies.

Experiencing physically or emotionally harmful or life-threatening events and circumstances leaves a lasting effect on the mental, physical, emotional, social, and spiritual well-being of an individual, thus traumatizing them (Pable & Ellis, 2015).

Trauma-informed design (TID) is the implementation of trauma-informed care (TIC) principles, – (a strengths-based framework emphasizing psychological, emotional, and physical safety for care providers and receivers, usually implemented in healthcare and residential healthcare facilities) in the built environment, such as architecture, interior design, and landscape architecture (Bollo & Donofrio, 2021).

While designing refugee housing, having the altered mental, emotional, and physical state of the residents in mind helps cater to their specific needs and create a healing environment to process and overcome trauma. However, it is important to understand that the built environment alone is not enough. Therapies, training, and other support systems are essential in the process of recovery, and it is a combination of these with the right environment that leads to a successful healing process.

TID PRINCIPLES

Based on primary human needs, TID has six principles, which are as follows:

- Dignity: enables residents to express and emphasize their strengths and potential
- Empowerment and personal control: gives residents a sense of control by giving them the chance to shape their own space themselves

- Safety: helps residents feel safe by providing them with generous spaces, with the option of heightened privacy measures if needed
- Stress management: creates comfortable, clean, quiet, and calming spaces that provide soothing environments for residents with high amounts of stress
- Community: enables community activities by providing the needed space
- Beauty and meaning: reflects the culture and identity of the residents, creates inspiring and meaningful environments, with natural and comfortable materials (Pable & Ellis, 2015).

These principles, in turn, connect to design strategies that can be implemented in design (fig. 12).

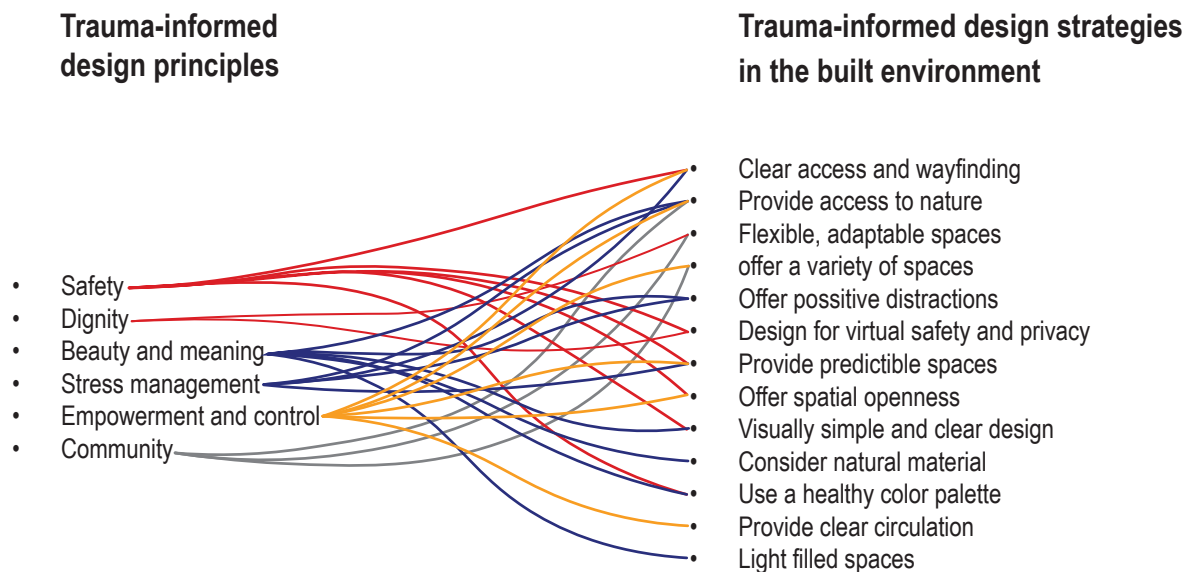


Figure 12. Diagram showing connections between TID principles and design strategies

These principles are used in different types of projects, primarily, permanent supportive housing for homeless individuals and in rare cases in educational centers, such as Rise learning early childhood education facility in St. Louis Park, Minnesota, where Cuningham designed a play area in the center of the building using the aforementioned TID principles (Wrasman & Neumuelle, 2025)

However, as the thesis project involves housing, the main focus is on permanent supportive housing. In a particular series of case studies conducted by C. Bollo and A. Donofrio, four permanent supportive housing buildings are analyzed to understand how TIC and TID manifest in these types of housing and how the 6 primary principles can be translated into patterns that guide future projects of the same nature.

The authors studied 4 permanent supportive housing facilities in the United States, 3 of which have TID implementations after renovations, and 1 is a newly built facility with direct TID implementations from the start. Basing their research on the aforementioned six principles, they found similarities in the patterns of design strategies. The patterns were then synthesized into guidelines for designing common areas in such building types. The patterns included:

Multiple, small common areas: this manifests the principle of choice and safety by providing residents with many smaller common spaces instead of one large space, thus ensuring residents with choice. A minimum of 40 square feet (4 sqm) of common area per dwelling unit and 15 dwellings

- ❖ Spatial separation with simultaneous visual connection: Visual connections across spaces, ensure safety, security, and social interactions both for residents and staff. This is especially important in entrance halls and lobbies
- ❖ Central third staircase to encourage social engagement: Adding an extra staircase increases the opportunity of choice for the residents and acts as a visual and physical connection between different levels. Furthermore, this encourages social engagement and physical movement
- ❖ Specifically designed places for future resident empowerment and voice: These spaces are flexible and inclusive of future modifications by residents. When done correctly, the design encourages collaboration between residents and staff, giving them choice, empowerment, and voice

In conclusion, this literature review provides tested and proven guidelines of TID and introduces existing projects that incorporate the design strategies to improve the quality of life in permanent supportive housing facilities. It also acts as a guide for the design proposal where TID meets vernacular housing qualities and elements to create an inviting and healing environment for displaced individuals. for the design proposal where TID meets vernacular housing qualities and elements to create an inviting and healing environment for displaced individuals.



Figure 13. Beige Tuff Stone - Ani



Figure 14. Apricot Tuff Stone - Ani

TUFF STONE

Tuff is a volcaniclastic rock that consists of approximately 75% volcanic ash (Pötzl et al., 2020). The large-scale availability and the vast variety in colors make this a popular cladding and structural material in Armenian architecture since ancient times, giving the country a unique architectural signature (Hatsagortsyan & Martirosyan, 1962). For example, Yerevan, the capital of Armenia, is well known as “the pink city” because of the concentration of pink Artik tuff throughout its streets (fig. 19).

Due to the porous nature of the tuff stone, it is lightweight and has good thermal properties, keeping the indoor environments cool in summer and warm in winter. This unique natural ventilation method makes the buildings built with tuff more energy efficient. The smaller pieces and the sand obtained during the production of tuff cladding slabs are later used in lightweight concrete production as aggregate, making it a sustainable and waste-free production.

Before the widespread use of concrete in construction, tuff stone was the main structural material in Armenia, with 5 prominent types of tuff:

- ❖ Ani - yellowish and orange hues (fig. 13,14,15)
- ❖ Artik - pink and purple (fig. 18)
- ❖ Yerevanian - red and black (fig. 16, 20)
- ❖ Byurakan - pink and dark grey with black spots
- ❖ Felsite - patterned (fig. 17), (Arzumanyan et al., 2024)

Its low maintenance, local production, and durability as a cladding material, as well as the consideration of tuff stone being a part of Armenian architectural identity, make it a sustainable and logical choice as a facade material for the project proposal.



Figure 15. Orange Tuff Stone - Ani

Figure 16. Red Tuff Stone - Yerevanian





Figure 17. Patterned Tuff Stone - Felsite



Figure 18. Purple Tuff Stone - Artik

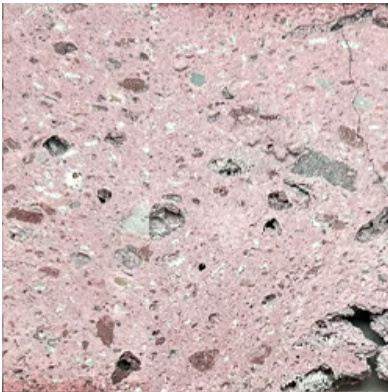


Figure 19. Pink Tuff Stone - Artik

Figure 20. Black Tuff Stone - Yerevanyan

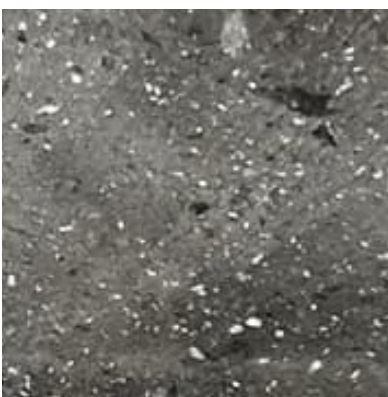


Figure 21. Government building in Yerevan, an example of a structure with pink artik tuff stone cladding

Figure 22. Cathedral of the Holy Mother of God in Gyumri, an example of a structure with black Yerevanyan tuff stone structure



GREEN CONCRETE

0.9 tons of carbon dioxide are produced for every 1 ton of cement production. This is a significant component of greenhouse gas emissions that cause global warming.

Aggregates are a major ingredient in the production of concrete and mostly consist of natural materials such as river sand and natural stones. However, at the rate at which concrete is produced today, the need to preserve natural resources arises, as this constant production harms the reserves.

Thus, eco-friendly substitutes for concrete ingredients are used to create green concrete. For example, instead of using coarse aggregates mined from quarries, a mix of demolition and construction waste is used as a recycled option. And for fine aggregates, quarry dust, resulting from mining and processing stone, is used, which makes the concrete more durable against acid and sulphate attacks.

When this method is compared with traditional concrete preparation, it is a similar process. Green concrete reduces environmental pollution, has good thermal and acid resistance, and reduces cement consumption significantly. It is also much more economical than traditional concrete (Baikerikar, 2014).

Therefore, in the project proposal, green concrete will be used as the main structural material for the building volumes as a solution to the overuse of transition concrete in Armenia.

HEALING OUTDOOR ENVIRONMENTS

Some qualities that make outdoor environments more approachable and desirable are reviewed to connect the TID strategy of “close connection to nature” and the concept of courtyards of vernacular Armenian housing architecture in a healing manner. The following aspects should be considered to achieve a healing outdoor environment in the design proposal. Firstly, the outdoor environment should be visible from the indoors and easily accessible. Secondly, the safety and privacy of the garden must be ensured, and this can be achieved by installing gates to limit access by outsiders, by using soft colors (since dark and bright colors are too demanding), and lastly, sounds of nature (wind, water, birds, etc.) instead of manmade sounds.

Familiarity is another important aspect to consider when planning and designing healing outdoor environments. This can be achieved by using familiar plants, features, and activities for the residents to help them feel more at home.

Lastly, by having different degrees of exposure in the spaces, coils help diversify the layers of privacy and provide residents with places of refuge and calm when they are not willing to engage in any activities but still wish to be outdoors (Bengtsson & Grahn, 2014).

LEVELS OF PRIVACY

By putting people first, the project integrates a human-centered approach in all scales of spatial planning, for example, the private apartment units, the shared semi-private indoor and outdoor spaces, and lastly, the public urban spaces. This part of the thesis is mainly influenced by Danish architect Jan Gehl's book “Life between buildings: using public space”. In which the human-space interactions are analysed and summarized into categories, and from which the following are chosen to be included in the thesis:

- Presence or absence of sightlines in the ground floor, creating visual boundaries between public and semi-private areas
- Long and short distances in public spaces, to ensure users' comfort
- Promotion of contact between users, by placing furnishing face-to-face instead of back-to-back to promote social interactions

(Katsavounidou, 2024), (Gehl, 1987)

The aforementioned theories and design strategies are chosen to seamlessly blend vernacular housing qualities, TID strategies, healing outdoor environments, and levels of privacy to create a dignified and stable environment that promotes healing.



DELIMITATIONS

The limitations of the thesis include:

- Political solutions to displacement, the goal of the project is not to resolve political causes of displacement or seek solutions for territorial disputes.
- Although mental and physical well-being is integrated into the design theory of this project, it does not cover the design of full-scale health care and educational facilities. These are expected to be provided through local or governmental support and are only mentioned in site analysis.
- The project focuses on a specific group of displaced individuals, Artsakh Armenians.
- The thesis strictly focuses on housing architecture.



RESEARCH INTERVIEWS

Interviews with 5 displaced individuals (aged between mid-twenties and late forties) from Artsakh (Nagorno-Karabagh) are conducted with a questionnaire focusing on understanding their urgent and long-term needs, experiences of displacement, and the changes it has caused in their lives. The questionnaire and full interviews can be found in the appendix (pages 72 - 85).

The interviews provide some insight into how dire the housing situation is in Armenia for Artsakh refugees. The rent prices are extremely high, and when paired with the difficulty of finding stable and adequate employment, Artsakh Armenians are struggling to make ends meet.

Another aspect the interviews shine a light on is their need for a sense of stability, safety and peace, especially when it comes to their place of residence. Their desire to permanently stay in Armenia, grow roots and thrive in their homeland strengthens the choice of the design proposal being permanent instead of temporary. As it is clear from the interviews, they are not temporary guests in Armenia, and they plan to stay indefinitely.

Yet another aspect the interviews provide is that most of the people interviewed lived in villas with large gardens, or had some sort of connection with nature. They also added how gardening, communal meeting places and activities such as outdoor kitchens, and spaces for both indoor and outdoor gatherings can contribute to rebuild and thrive in a new community.

The question of who the proposed project will serve is discussed, and all participants favor a mixed housing setting where the residents are split evenly between locals and refugees. This can also make the integration process easier and more enjoyable.

Considering the marvellous nature of Artsakh has with its lush forests, steep cliffs and mountains, along with the deep emotional connection Artsakh Armenians have for the landscape and nature there, the project site should be in a similar setting, allowing refugees to feel as close to home as possible.



Figure 23. An interior view of a vernacular Armenian study in Gyumri



WHAT IS ARMENIAN VERNACULAR HOUSING ARCHITECTURE?

Although Armenian vernacular architecture is known for its monumental, unique, and well-structured monasteries, churches, and palaces/fortresses, the architecture of dwellings, even in the early 1800s, was not as well-developed. People still lived in traditional one-room huts, which contained all the functions of a dwelling in a single room. However, as time passed, a need to separate functions into individual rooms made it so the barn, the kitchen, and eventually the living room and entrance hall became rooms of their own. This change in typology, from a single-room hut to a multi-room dwelling complex, was gradual and marked an important step towards the development of Armenian vernacular housing architecture.

Another vast step was the development of two-story dwellings at the start of the 19th century. The functional zoning in these houses was done through elevations; the ground floor was meant for public functions, such as workshops, ateliers, shops, hairdressers, and cafes, as well as kitchen/bakery, barn, and pantry which worked alongside the other functions but rarely interacted due to height differences and clear separations between them; and the second floor was meant for the dwelling. These public-centered functions on the ground floor added a new layer to the urban layout of cities, villages, and towns. In many dwellings, these new functions were connected to the upper floors through narrow, spiral wooden stairs.

The second floor, the dwelling, included bedrooms, living rooms (small and large), in some cases a sunroom, and entrance halls.

Heating in the dwellings was done through built-in heaters in the walls and fireplaces, usually placed in the living room, built out of stone and intricately woven with ornate carvings.

HOUSEHOLDS

Armenian dwellings were generational, not only for traditional reasons but also to pay less tax, since each house was considered to be one household. Therefore, after reaching adulthood, children did not leave their parental homes and started their own families under the same roof. Although the tax system changed, many families continue this tradition. Even nowadays, it is usual for households to be composed of grandparents, parents, and children.

INTERIORS

Interior decorations included clay pots and plates on the walls, as well as carpets and rugs. The flooring material was natural wood, painted in a reddish tint. The ceilings were also wood. These were usually decorated with geometrical carvings and bright, intricate paintings of ornaments. And sometimes, the ceiling structure was left exposed, showcasing rows of wooden beams.

Since the walls were rather thick, usually between 60 - 100 centimeters, carved-in cabinets were used for storage and decor. These cabinets usually had rectangular or arched shapes. Other than this, the walls were bare, having simple whitewashed finishes (fig. 23, 24).



FUNCTIONS

ENTRANCE GALLERY

The entrance gallery, as a function, was developed to protect the house from the weather in wintertime by acting as a transitional space and as a cool room in summer. Due to climate differences in various regions of Armenia, this room

Figure 24. An interior view of a vernacular Armenian living room in Gyumri



was developed in two varying ways – closed and semi-open. Since semi-open entrance galleries are architecturally more interesting, this literature research will focus on this specific typology.

Semi-open entrance galleries were used as recreational areas, bedrooms on hot summer nights, open-air kitchens, and for various other activities. It was also where women used to do laundry. Many daily activities were done in this room, giving it an additional function beyond just being an entrance to the dwelling. This room was usually located at the back of the house, overlooking the private gardens that were part of the dwelling.

Over time, as two-story dwellings developed, the importance of the entrance gallery doubled as it became a horizontal communication for the upper floor. This semi-open structure stretched across the whole facade (fig 26, 30, 31, 32, 33).

ENTRANCE HALL

In vernacular dwellings, access to rooms was done through an entrance hall, a room that opened up into the rest of the functions, acting as a transitional space between rooms. This, as well as a connection from room-to-room, made for a grid-like, simple separation of rooms with the lack of hallways.

SUNROOM

Across the entrance hall in the dwelling, usually overlooking the street, was a sunroom. It had a depth of more than 1 meter and was glazed with glass. This room had a rectangular or a polygonal shape from the exterior. The load of this structure was held by intricately designed wooden beams. As a part of the dwelling, the sunroom was considered the most aesthetic and attractive room and was usually where guests were hosted. The roof of this structure was the same as the dwelling's, a continuation of either a pitched or a flat roof. For

Figure 25. An exterior facade of a vernacular Armenian dwelling in Yerevan with a small balcony facing the street (instead of a sunroom)





Figure 26. An exterior view of a vernacular Armenian dwelling with a semi-open entrance gallery in Yerevan

the household, this room was considered a summer room and a place where guests were hosted. In warmer regions, this room was replaced by a balcony (fig. 25).

LIVING ROOM

As the largest room in the dwelling, the living room had approximately 8 - 6 meters in width and 3 - 4 meters in depth. It had a central placement in the layout and acted as a gathering place for all the members of the household. As one of the most important functions of the house, it was lavishly furnished and well taken care of aesthetically. This was also where important guests were hosted.

DINING ROOM

Accessed through the living room or the entrance hall, this was another important room. This room usually had lighting from the street side. and was slightly smaller than the living room, and bigger than the bedrooms.

BEDROOM

Bedrooms were usually shared between residents, according to their age, sex, etc. Most bedrooms had more than one entrance and acted as a connection between neighboring rooms in the daytime.

KITCHEN

Located on the ground floor of the dwelling, the kitchen was a separate structure and building volume, or, when included in the general volume, it had a separate entrance. This was done due to the excessive smoke and soot from the stone oven (tonir) used as an inseparable part of vernacular Armenian houses. This room was where the women of the household spent most of the day. It also acted as an informal dining room, and out of all the functions in an Armenian dwelling, the kitchen was the most important, sometimes even considered sacred (fig. 37).

GARDENS

Every dwelling had a garden, which was filled with greenery, especially fruit trees to help sustain the microclimate of the house, supplying shade and protection from the sun during hot summer days. These gardens were watered by stream systems that ran along the streets (Harutunyan, 1992). It also acted as recreational and communicative space between different volumes/functions such as the bathroom, barn, pantry, storage, and kitchen.

These gardens were fenced and private, separated from the street through a short stone wall, and accessed via an aesthetically attractive gateway (fig. 27, 28). The garden was 1 - 2 steps higher than the street level. These gates, other than having the function of the main entrance to the property, acted as a clear border between the public street and the private garden. On either side of these gates, there were usually two stone benches, built into the wall behind them seamlessly.



Figure 27. An example of an entrance gate from the direction of the garden in Yerevan



Figure 28. An example of an entrance gate from the direction of the street in Yerevan



FACADE ELEMENTS

DOORS AND WINDOWS

The entrance from the street was done through double doors and vitrages/large window openings towards the street, inviting in guests and customers. However, this was the case only when the ground floor had public functions such as shops, cafes, and such. When the ground floor included private functions rather than public ones, it had smaller high-set windows which protected the indoor privacy from the street.

The lack of windows towards the streets could be explained as a protective measure from the scorching summer sun.

SEMI-OPEN ACCESS GALLERIES

As a facade element, the semi-open entrance hall typology had 6 types:

- Constructed by an overhang of the roof to provide the entrance door with shade and shield from falling snow.
- Resting on top of a small wall extruded from the side of the house and a column on the other side (this extra wall was always placed against the flow of wind)
- Had walls on either side (this type is often seen in the Artsakh region)
- Had two walls on the sides and a colonnade in the middle
- Dalan, an arched gateway that is reminiscent of a tunnel
- Just like the 4th one, but with a small fencing wall in front to protect the hallway and door from winds blowing from the front

The columns were usually wooden, and stone was seldom used, with elaborate carved details. A horizontal beam rested on top of the row of columns, often carved as a cornice/eaves. This combination created a light and well-balanced structural and facade element.

The number of columns depended on the width of the facade. Usually, one-room dwellings had the second type of entrance hall, and bigger houses had 2 to 4 and 6 to 8 columns.

SUNROOMS

On the facade overlooking the street, the extruded sun room was usually small and located in the center, decorated with carved wooden arches, railings, and columns. Other than the function of a balcony, these were used for decorating the main facade of the dwelling.

FACADE MATERIALS AND DETAILS

The facades facing the streets were well taken care of. Constructed out of tuff stone, a relatively soft stone, the stones were well polished and intricately ornamented with sculptures. However, a sturdier type of stone, such as basalt, was used for the base. These, along with wooden balcony structures and semi-open entrance galleries, created balanced and harmonious facades. Windows, gateways, and doors were usually framed by eaves and cornices, bringing more movement and rhythm to the facades (fig. 25, 30, 31, 34).



Figure 29. A vernacular dwelling facade overlooking the street in Gyumri, Armenia



Figures 30., 31. An example of an entrance gallery from a vernacular dwelling example in Ijevan, Armenia

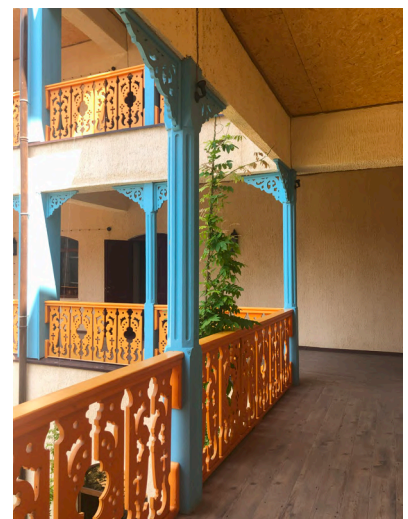




Figure 32. The entrance gallery from the garden in P. Proshyan's home-museum in Ashtarak, Armenia



Figure 33. The entrance gallery overlooking the garden in P. Proshyan's home-museum in Ashtarak, Armenia

Figure 34. The facade of P. Proshyan's home-museum in Ashtarak, Armenia





STRUCTURE

STAIRS

In regions with colder climates, the staircase leading to the second floor was built indoors, while in warmer climates it was built outdoors. In the case of indoor staircases, it was placed in the corner of the entrance hall and usually had 2 marshes. While the rest of the room served its purpose as an entrance to the house. The stairs were usually built out of stone or wood. When built with stone, it was located over stone walls/sometimes arched colonnades, and when built with wood, it was built over wooden beams and columns. Later on, metal beams replaced the wooden ones.

FLOORS

Floors were structured upon beams or logs. Sometimes, instead of a flat ceiling (wooden planks covering the ceiling/floor structure), the beams and structure were exposed, which held up the wooden flooring panels and planks.

ROOFS

The roof was structured the same way as the floors, but on top of the top layer of wooden planks, small branches, straw, and mud were added to harden into a weatherproof roof (fig. 35, 36).

There were two mainstream types of roofs — flat and pitched, covered with tiles or metal sheets.

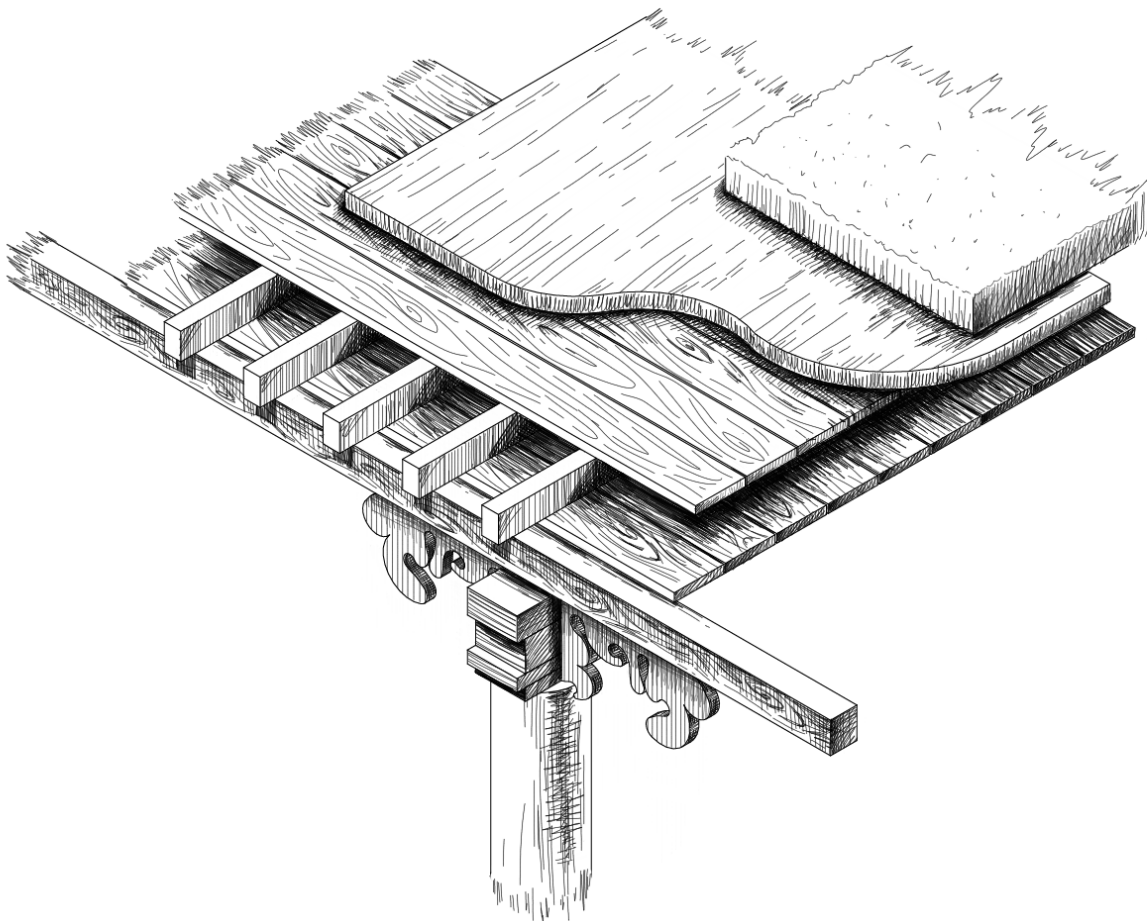


Figure 35. A detailed drawing of roof construction



Figure 36. The kitchen in P. Proshyan's home-museum in Ashtarak, Armenia



Figure 37. The study room of P. Proshyan in his home-museum in Ashtarak, Armenia

WALLS

The walls were constructed out of stone blocks and binding agents with arched or straight lintels on top of windows and doors. The thickness ranged from 50 to 150 cm. This provided the house with coolness during hot summer days and warmth during cold winter months.



ANALYSIS OF VERNACULAR ARMENIAN DWELLINGS

EXAMPLE 1

A HOUSE FROM ERZURUM, QGHI PROVINCE, DARMAN VILLAGE, (HISTORICAL ARMENIA) MODERN DAY TURKEY

This dwelling is a 2-story building with a central closed staircase. The structural materials are stone with lime mortar, with a wall width of 60 - 70 cm on both levels, and with a 35 cm plinth running across the perimeter of the building. The facade has a well-polished local tuff stone finish.

The entrance hall, placed centrally, divides the house into 3 parts, and has small window openings on either side of the double door, overlooking the street, inviting daylight into this room. Across from the doors, in the depth of the room, is a stone stairwell which leads to the second floor, and a single door leading to the backyard. To the left side of the entrance hall is the barn and a storage room. The barn is a rectangular room with approximately 8 x 6 m dimensions. The ceiling structure is exposed, with wooden log beams bearing the weight of the second floor. In the barn, the flooring is tiled and the lighting is provided through 2 high windows overlooking the street. To the right side of the entrance hall is the pantry, a large rectangular room with 3 small windows, much like the other side of the dwelling, and carved out storage spaces in the walls.

Through the garden, separated from the building volume and structure, is the kitchen. It is estimated that this was included in the old system of the house, before the second floor was added on after the 19th century. Daylight is provided in the kitchen through a skylight, and the roof structure includes a domed wooden structure, usually used in vernacular dwellings for kitchens.

Like most two-story vernacular dwellings of the time, this one also excludes any private functions, such as living room, dining room, and bedrooms, from the first floor, instead concentrating them on the second floor. Across the hallway, overlooking the street, is the sun room, referred to as the summer room by locals, which protrudes out of the facade wall for more than 1 m. This overhanging part is built almost completely out of wood to make it lightweight. It is glazed all around with glass panels and decorated with intricate woodwork. On either side of the hall and sun room are two large rooms with wooden flooring and planked ceilings to hide the roof structure. The largest one is the living room, while the smaller ones are the bedrooms. Both on the right and left side, regular-sized windows are facing the street, giving the street facade a simple and symmetrical design.

The overall structure has a flat roof with a slight slant towards the 4 corners for drainage.

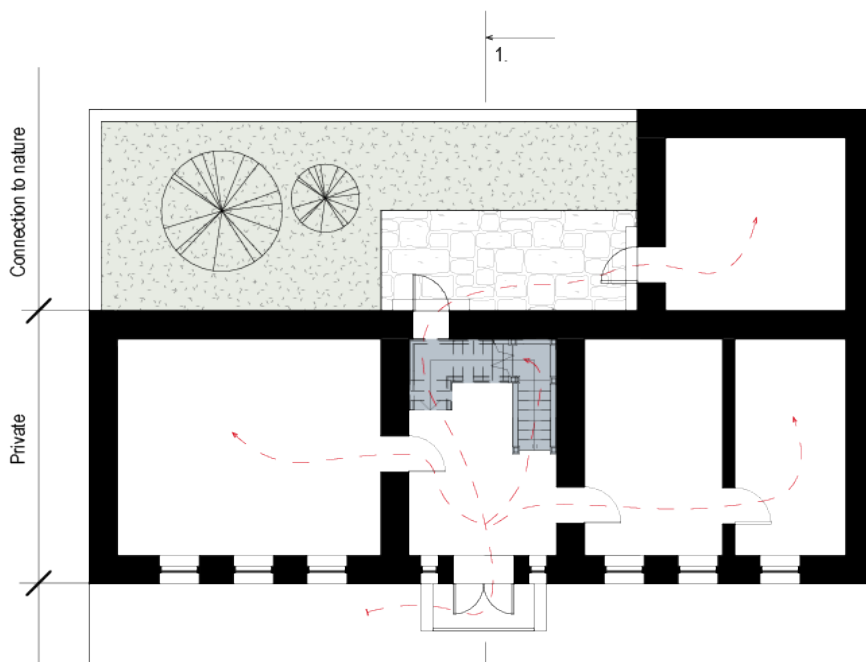
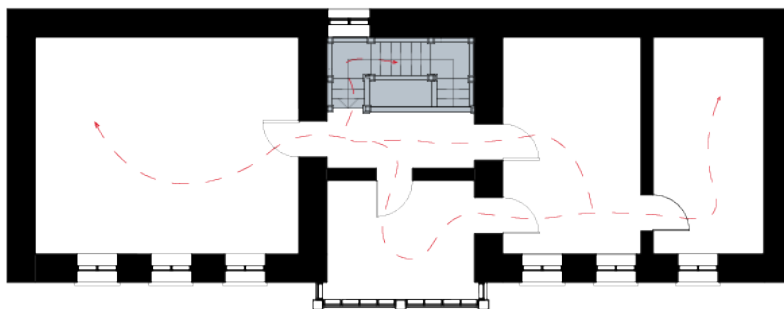
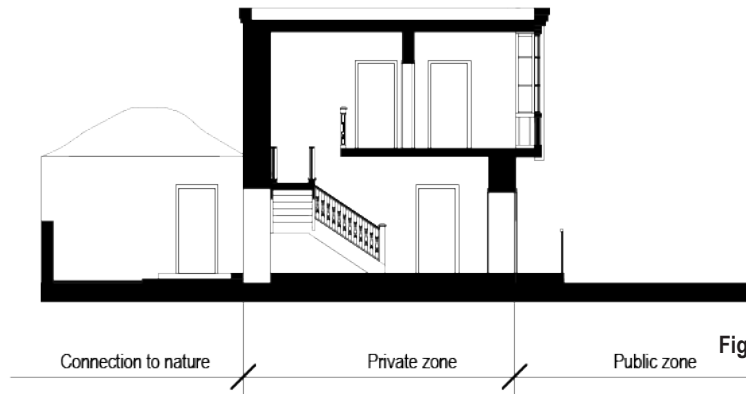
ANALYSIS

MATERIALS

In this example, locally sourced materials are used, specifically a combination of tuff stone, wood, and glass. The structure is mainly stone with a polished finish on the facades.

DETAILING

The detailing in this house is minimal and modest, with clean and simple pol



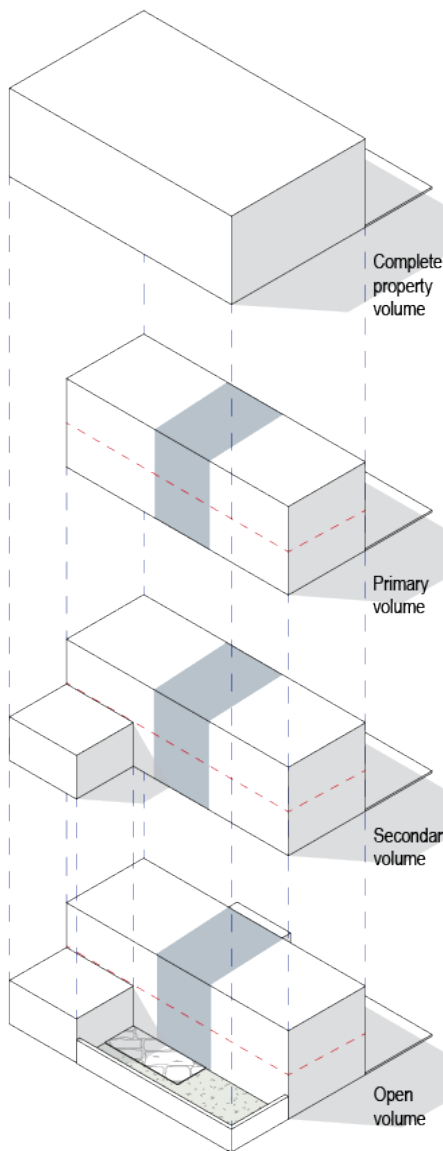


Figure 42. Volume study (scale 1:500)

ished stone facades and a few stone elements visible (cornices and window sills). However, the wooden structure of the extruded sunroom brings in beauty and balance, acting as a finishing touch to the symmetrical and simple design of the house. The overhang also acts as weather protection for the main entrance of the house, giving it a function other than just a decorative nature (fig. 46, 40).

VOLUMES

Primary volume - A simple rectangular box with thick walls that has the function of dwelling, storage, and barn. It is horizontally divided, creating a clear separation between the dwelling functions and the rest. On the dwelling level, the sunroom, protruding out of the overall volume, makes an interesting facade element and brings in more dimension and shadows, adding to its aesthetic qualities.

Secondary volume - This is a small add-on volume and has the function of a kitchen. This volume is lower in height compared to the primary volume.

Open volume - The open volume is the backyard, which is defined by the primary volume, the secondary volume (the kitchen), and the fencing. It holds social yet still private functions, which include gardening, open-air recreation, and communication between the primary and secondary volumes (fig. 43).

MOVEMENT

Movement is rather simple in the dwelling; most movement is in the central zone, which becomes a communication zone as the staircase and entrance halls on both levels are placed here (fig. 41, 42, 45).

ROOM SEQUENCES

The aforementioned communication zone (the entrance hall and second floor hall) is a transitional space, taking residents from function to function. And has an important role in the overall layout, since it divides the functions into social and private zones (living room and bedrooms). The sunroom, acting as an extension of the living room, the entrance hall, and a balcony when the windows are opened, becomes a central function, opening up to multiple rooms (the living room, the hallway, and the bedroom), (fig. 44).

DAYLIGHT

In this house, daylight is provided in every room. This is done through window openings in the facade facing the street. The design of the sunroom, with large window vitrages all around, floods the room with daylight and becomes a desirable quality in a dwelling with so few windows (fig. 46, 47).

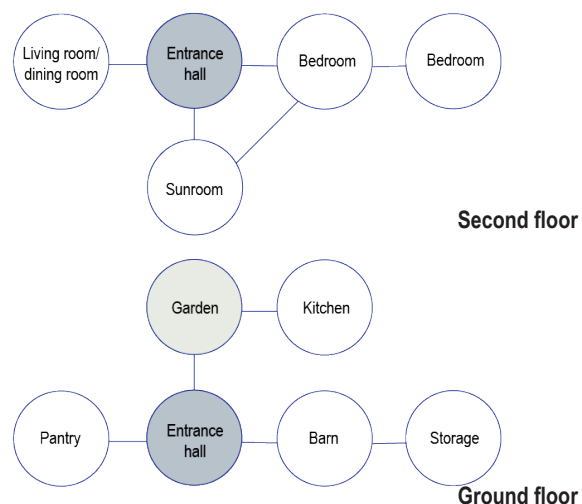


Figure 43. Room sequence diagrams

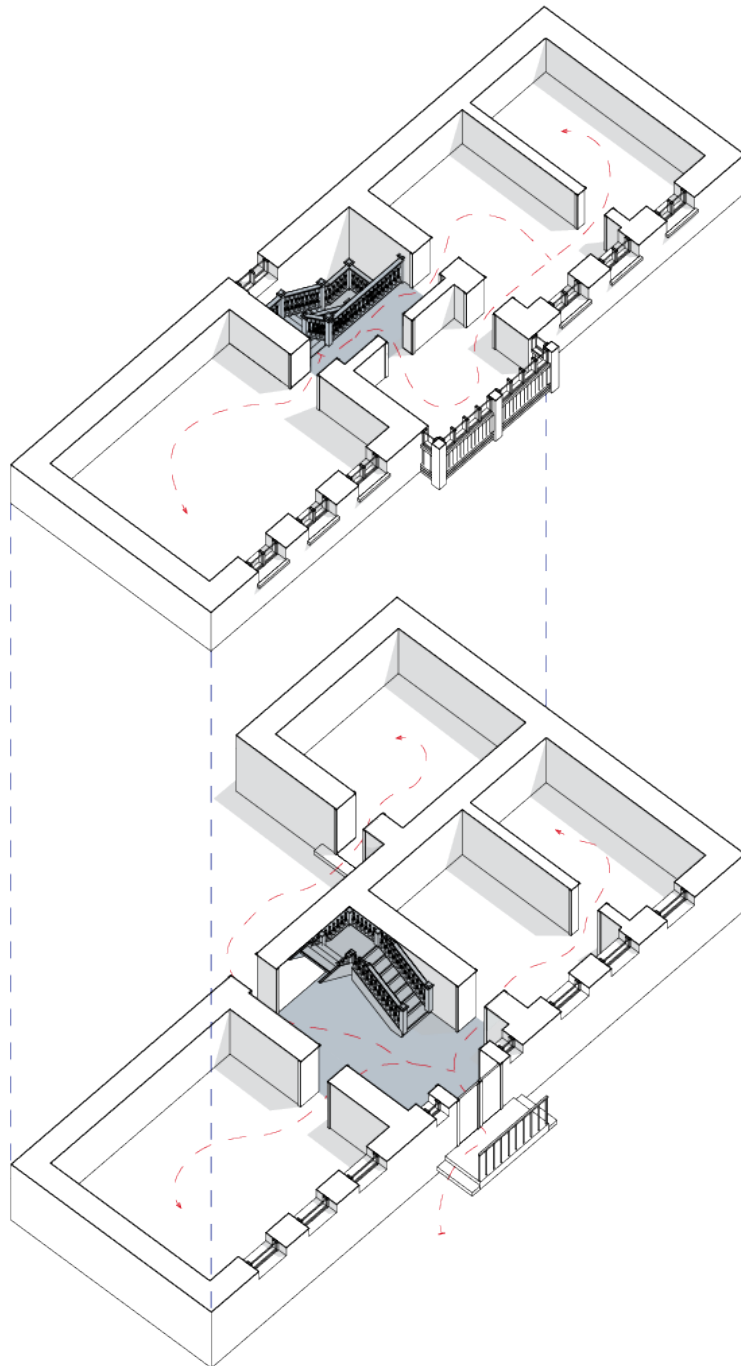


Figure 44. Exploded Elevations (scale 1:200)

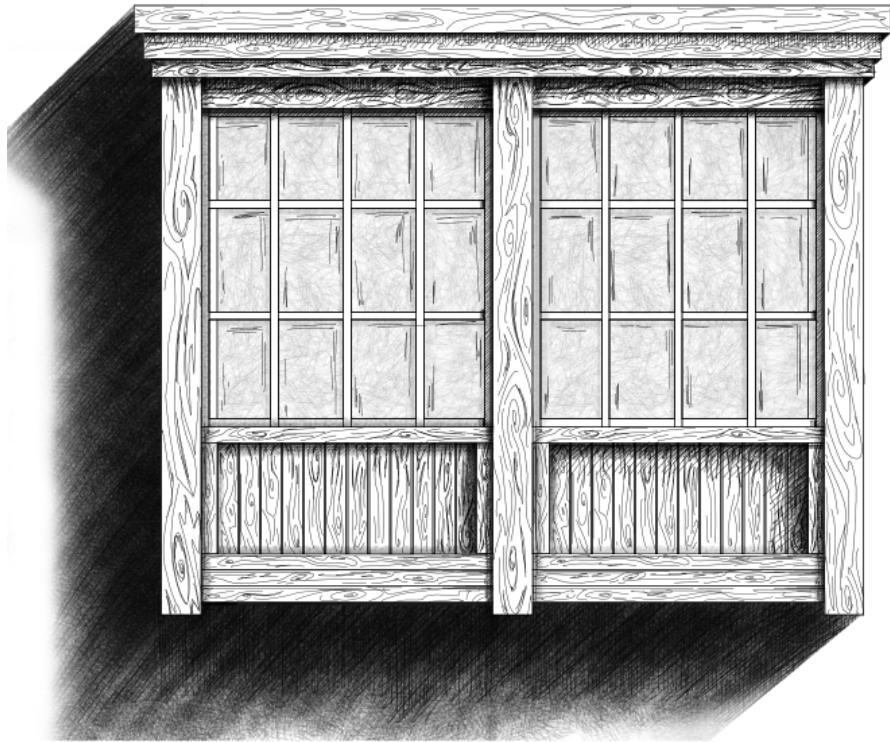


Figure 45. Sunroom as a facade detail
(scale 1:50)

Figure 46. An interior view of the Sun-
room



EXAMPLE 2

AN EXAMPLE OF A SINGLE-STORY HOUSE FROM GORIS MUNICIPALITY, SYUNIK PROVINCE, ARMENIA

This example is a single-story dwelling with a gated and fenced garden. The main entrance to the property is through a stone arched gate, adorned with well-polished decorative elements. To the right is a small separate structure, functioning as a barn and bathroom, and to the left is the dwelling. Since this dwelling only has one level, all functions are on the same elevation. There is approximately a 30 cm difference between the street level and the semi-open entrance gallery, which works as an entrance hall for the different functions arranged around it. The largest room is the living room and has a somewhat central placement. On one side of this room are two bedrooms, and on the other, a kitchen.

All of the rooms have daylight from 2 directions, and only the largest bedroom has daylight from one side, with that side being towards the street facade.

In the facade drawing, it is seen that lots of effort and craftsmanship were put into the design. It had a smooth, well-polished stone finish, with a rough textured finish on the corners and the fence. Horizontal decorative stone elements can be seen on the cornices and underneath the window sills, visually separating the wall from the plinth.

The dwelling has a pitched roof all over, with a finish of wooden tiles.

ANALYSIS

MATERIALS

There is a clear separation between the garden and the house, as the semi-open entrance gallery provides a difference both in height and in material, as it is elevated by approximately 30 cm, and has a wooden finish. The facade uses the same material, stone (most likely a local tuff stone), but with different textures, rough and polished. This makes a harmonious and balanced combination, bringing the craftsmanship behind the stonework to light.

DETAILING

An interesting detail in this example is the wooden tiles of the roof, giving a completed look to the overall design of the facade. The wooden entrance gallery also combines well with the rest of the stone facades. And lastly, the change in the texture of stone ties together the horizontal and vertical decorative stone elements, such as cornices and window frames (fig. 48).

VOLUMES

Primary volume - The primary volume shape is simple, a combination of rectangular boxes with thick walls that have the function of dwelling. It creates an interesting facade element and brings in more dimension and shadow, adding to its aesthetic qualities.

Secondary volume - There are several secondary volumes in the property. The first is the kitchen, a separate volume built next to the primary volume. The second is the semi-open entrance gallery that serves as an entrance hall and foyer, connecting all the functions together. Lastly, the third of the secondary volumes is the small bathroom and barn shed, built as a standalone volume, a few meters away from the primary volume.

Open volume - As an open volume, the yard is defined by the primary volume, the secondary volumes, and the fencing surrounding the property. It has, as in many of the other examples, a larger surface area than the dwelling (fig. 47).

MOVEMENT

In this house, movement is very simple, with the entrance gallery acting as the

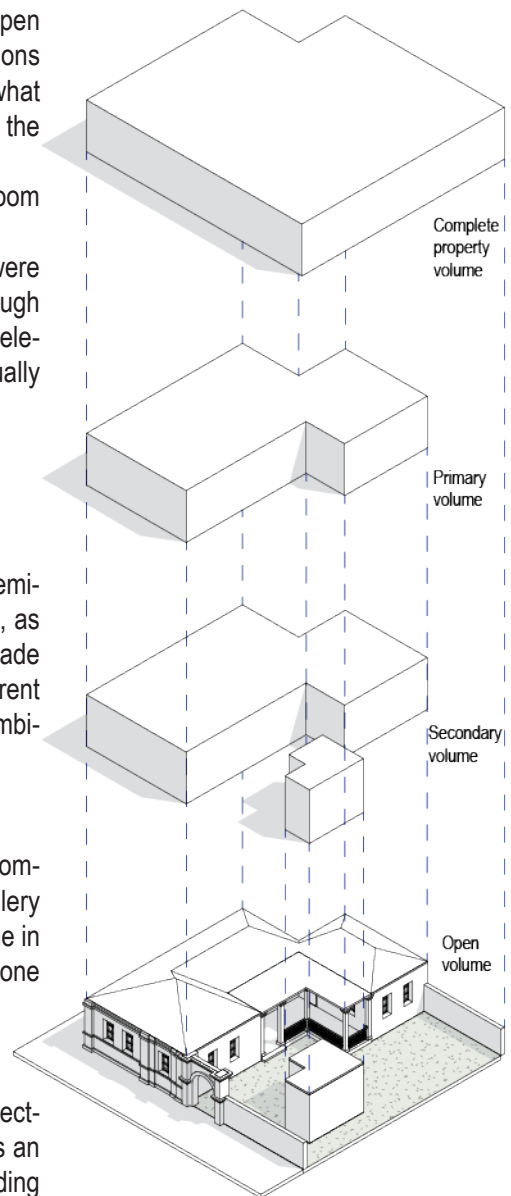


Figure 47. Volume study (scale 1:500)

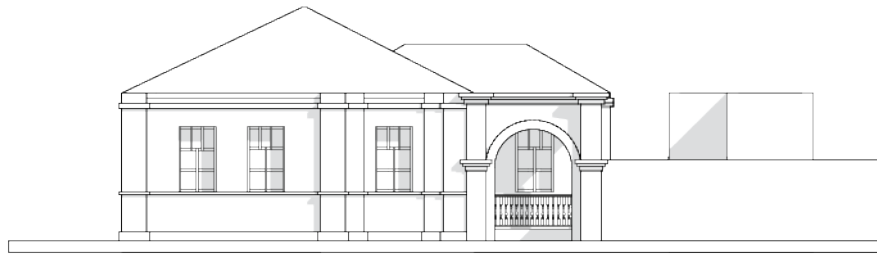


Figure 48. Street Facade (scale 1:200)

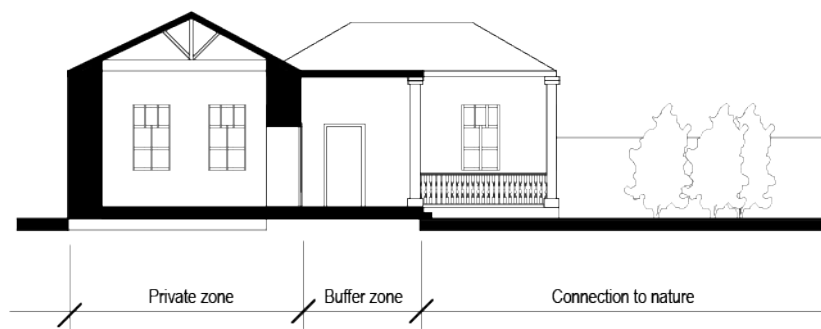


Figure 49. Section 1 (scale 1:200)

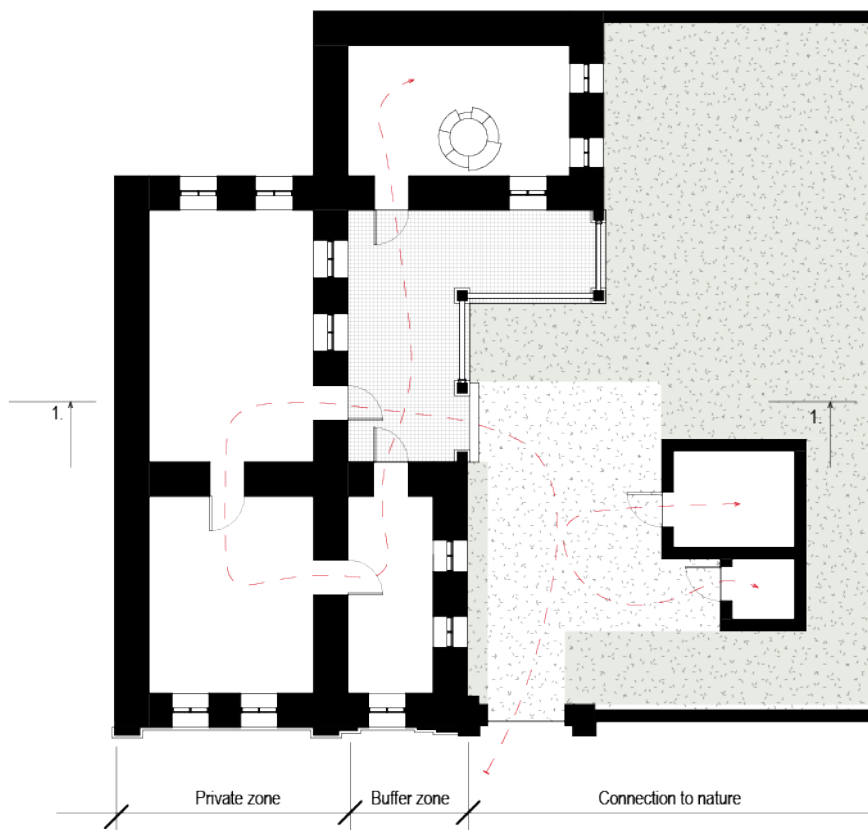


Figure 50. Ground Floor (scale 1:200)

main communication space. However, the bedrooms and the living room are also connected through doors, opening each room into the other (fig. 50).

ROOM SEQUENCES

The bedrooms and living room functions are combined in one building volume, while the kitchen is separated. This is a logical way of zoning a dwelling, by grouping the bedrooms and organizing the more social areas together. However, the multiple entrances, especially the room-to-room connections in the bedrooms, suggest that these rooms are multifunctional and may serve a different function during the day (fig. 51).

DAYLIGHT

As a quality, daylight is present in all of the rooms, either from one or two directions. Most of the windows face the garden and the street.

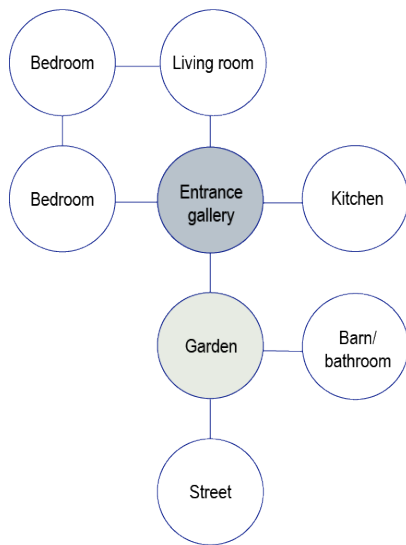


Figure 51. Room sequence diagram

EXAMPLE 3

AN EXAMPLE OF A DWELLING FROM THE 19TH CENTURY, YEREVAN, ARMENIA

In this example, the entrance gate does not open directly into the garden, instead, there is a long tunnel-like passage acting as a separation between the garden and the street.

This dwelling includes the kitchen in the building volume with a separate entrance. The barn and bathroom functions are separated, located in the farthest corner of the property. The staircase is placed close to the kitchen function, connecting the social and more public functions to the private dwelling functions. Like the previous example, the entrance gallery acts as horizontal communication and an entrance to different rooms. It is also wider on one side, providing more social qualities and outdoor recreational space.

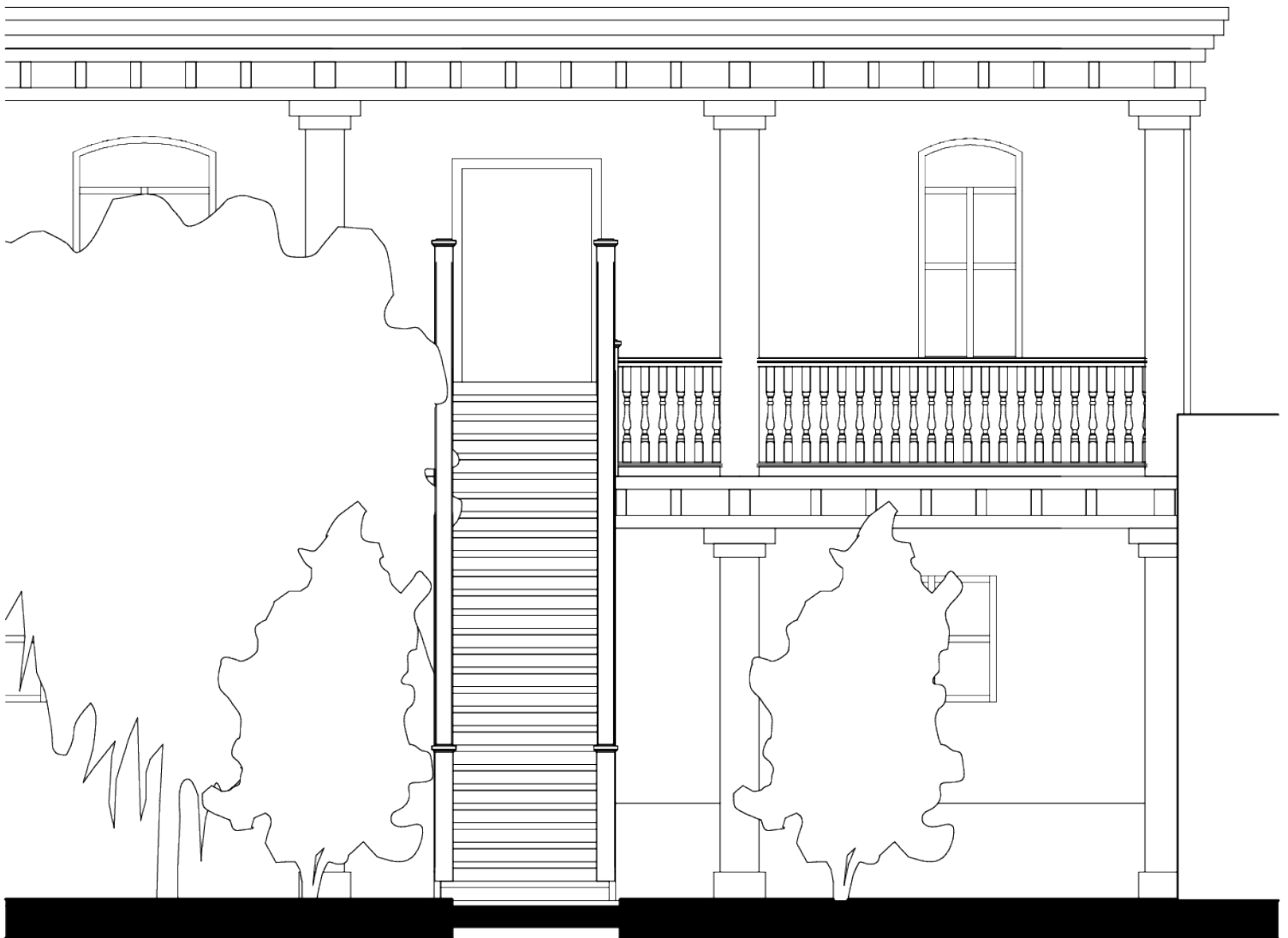
In the section, it is apparent that the part with two rows of rooms on the ground floor is semi-underground, leading to the conclusion that these rooms have more of a private function, such as private workshops, storage, cellars, and pantry (fig. 57).

ANALYSIS

DETAILING

The facades of the dwelling are intricately decorated by the wooden access gallery with a colonnade and decorative railings, which contrast sharply against the stone building facades. This brings more dimension and beauty to the dwelling. By having the main staircase open to the sky and placed in the middle

Figure 52. Facade (scale 1:50)



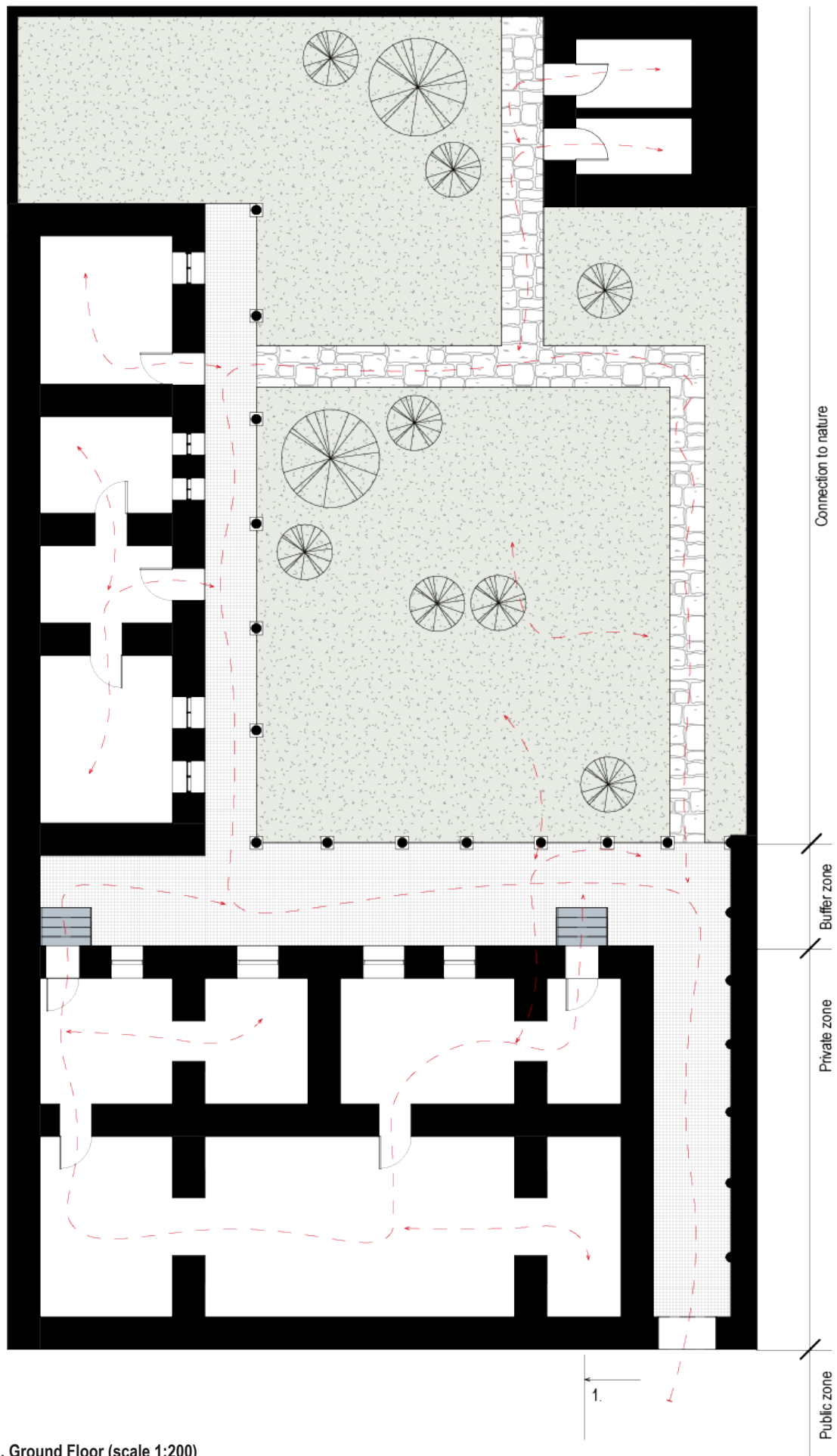


Figure 53. Ground Floor (scale 1:200)

of the garden, it frames the central part of the garden and creates a more interesting space. It also takes the attention somewhat away from the secondary structure, the barn, and the bathroom (fig. 52).

VOLUMES

Primary volume - The building volume is L-shaped, framing the garden with a wooden facade, and making it the centre of the dwelling. It is two stories high and has the function of a dwelling and storage space.

Secondary volume - The secondary volume is placed on the farthest corner of the property, as it does not have as much importance as the dwelling and lacks aesthetic beauty. It is a simple, single-story stone structure with the function of a barn and bathroom.

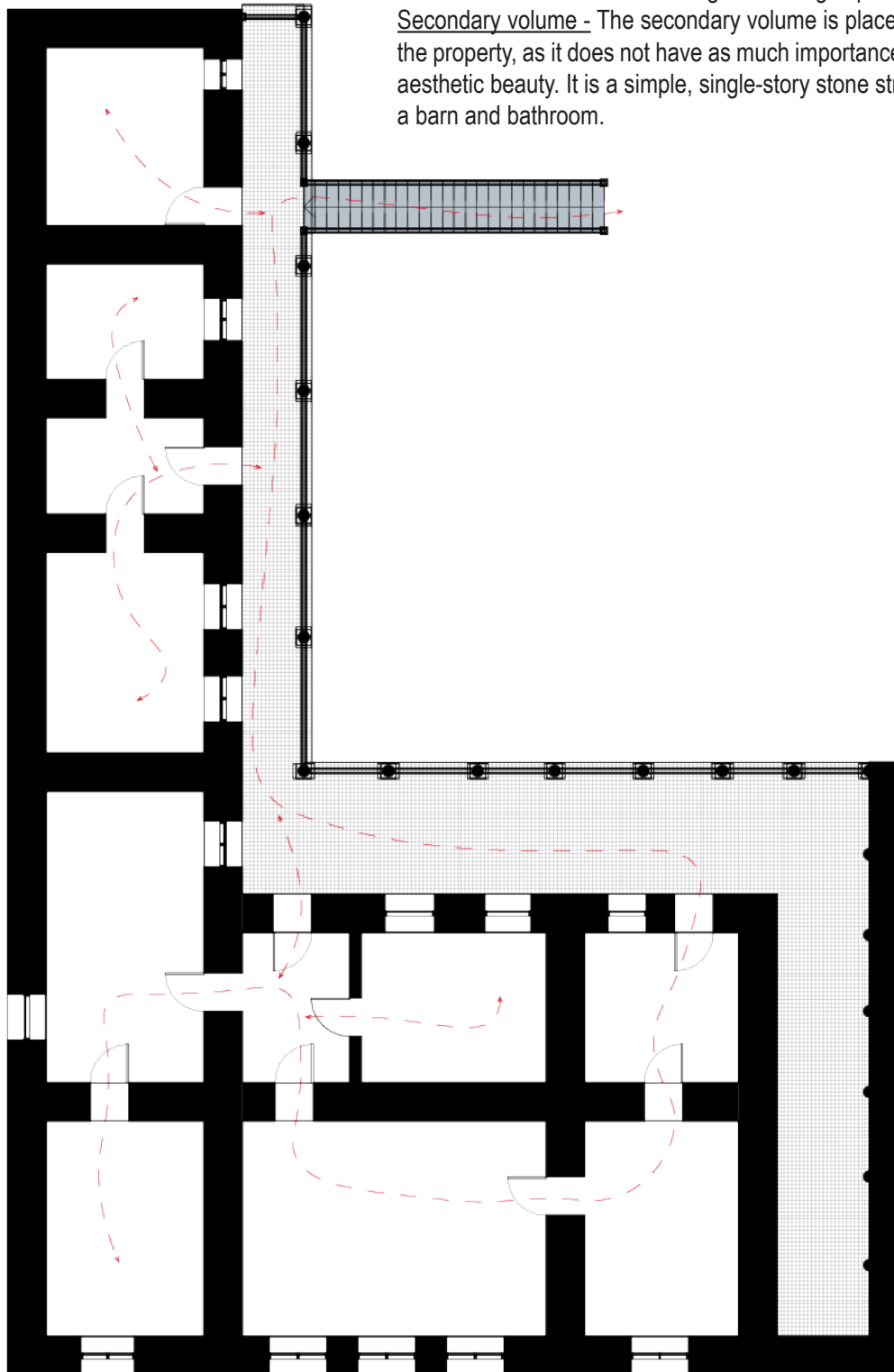


Figure 54. Second Floor (scale 1:200)

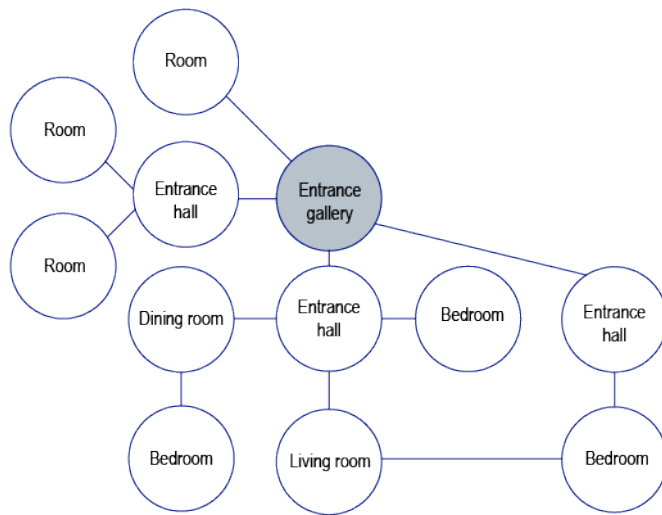


Figure 55. Room sequence diagram for Second floor

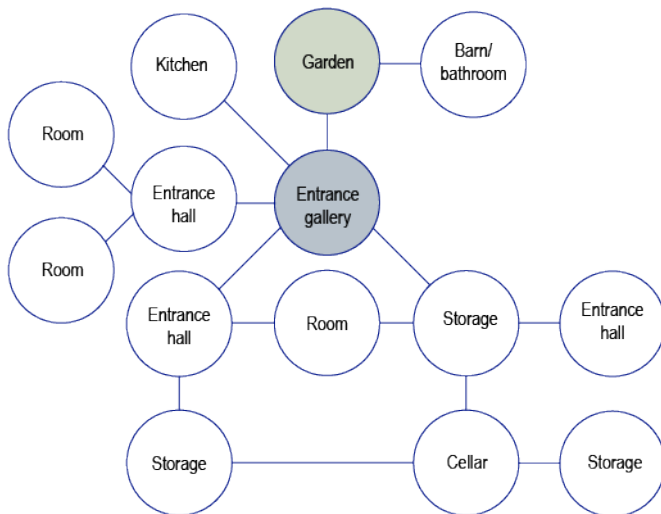


Figure 56. Room sequence diagram for Ground floor

Open volume - The garden, which is the open volume, takes up the most area out of all 3 volume types. It holds both horizontal and vertical communications and connects every function. It is the centre of the dwelling (fig. 58).

MOVEMENT

Movement throughout the dwelling is slightly complicated as there are many rooms and most of them have room-to-room connections (fig. 53, 54).

DAYLIGHT

On the ground floor, the cellars are mostly dark because of the high-placed narrow windows, which provide very little light. However, as the function of these rooms is storage and cellars, rooms that require minimal contact with sunlight, it works. In contrast to this, the other rooms each have lighting from one side.

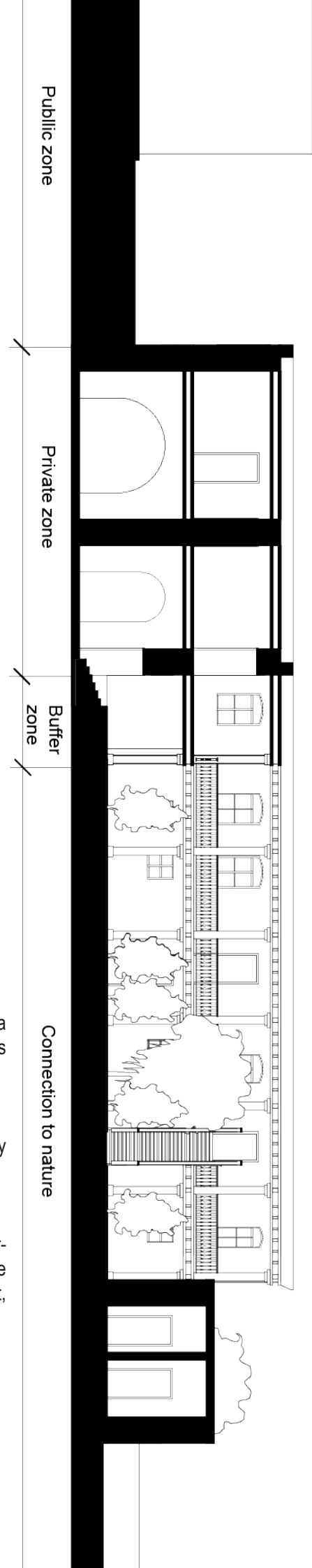


Figure 57. Section 1 (scale 1:200)

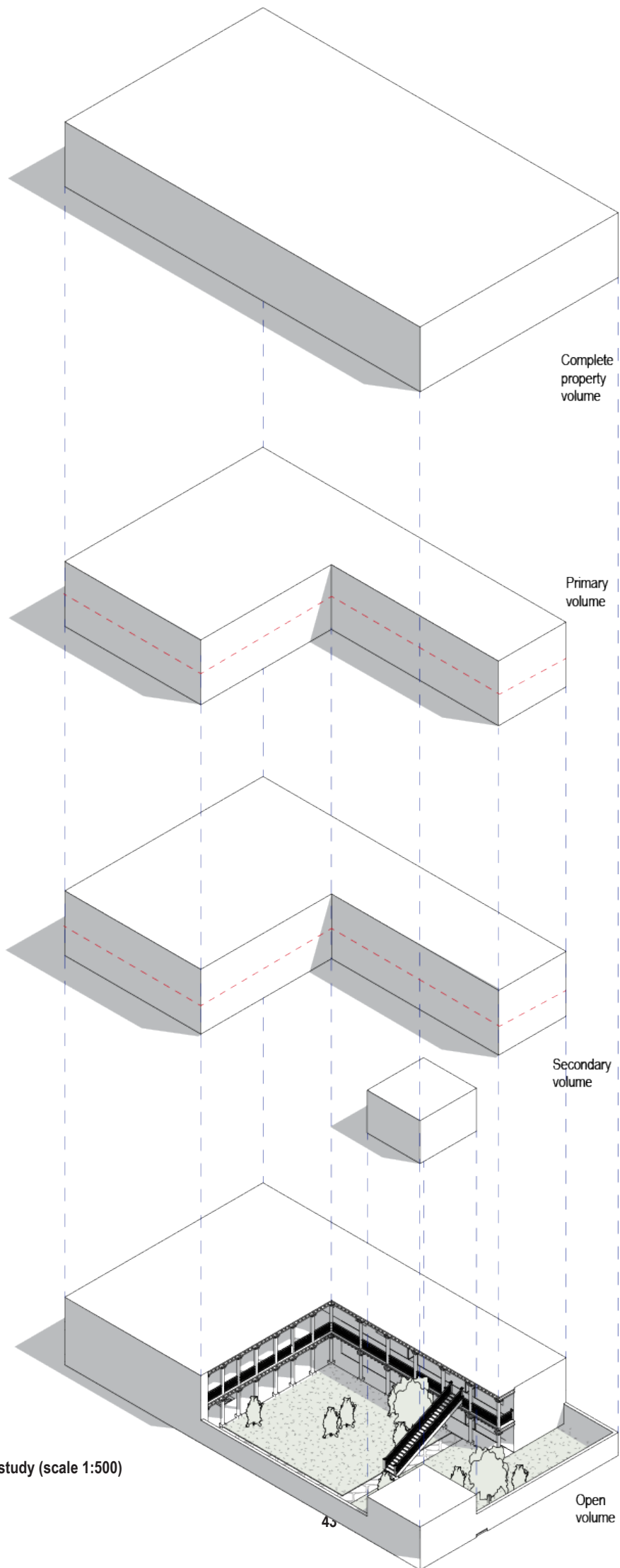


Figure 58. Volume study (scale 1:500)

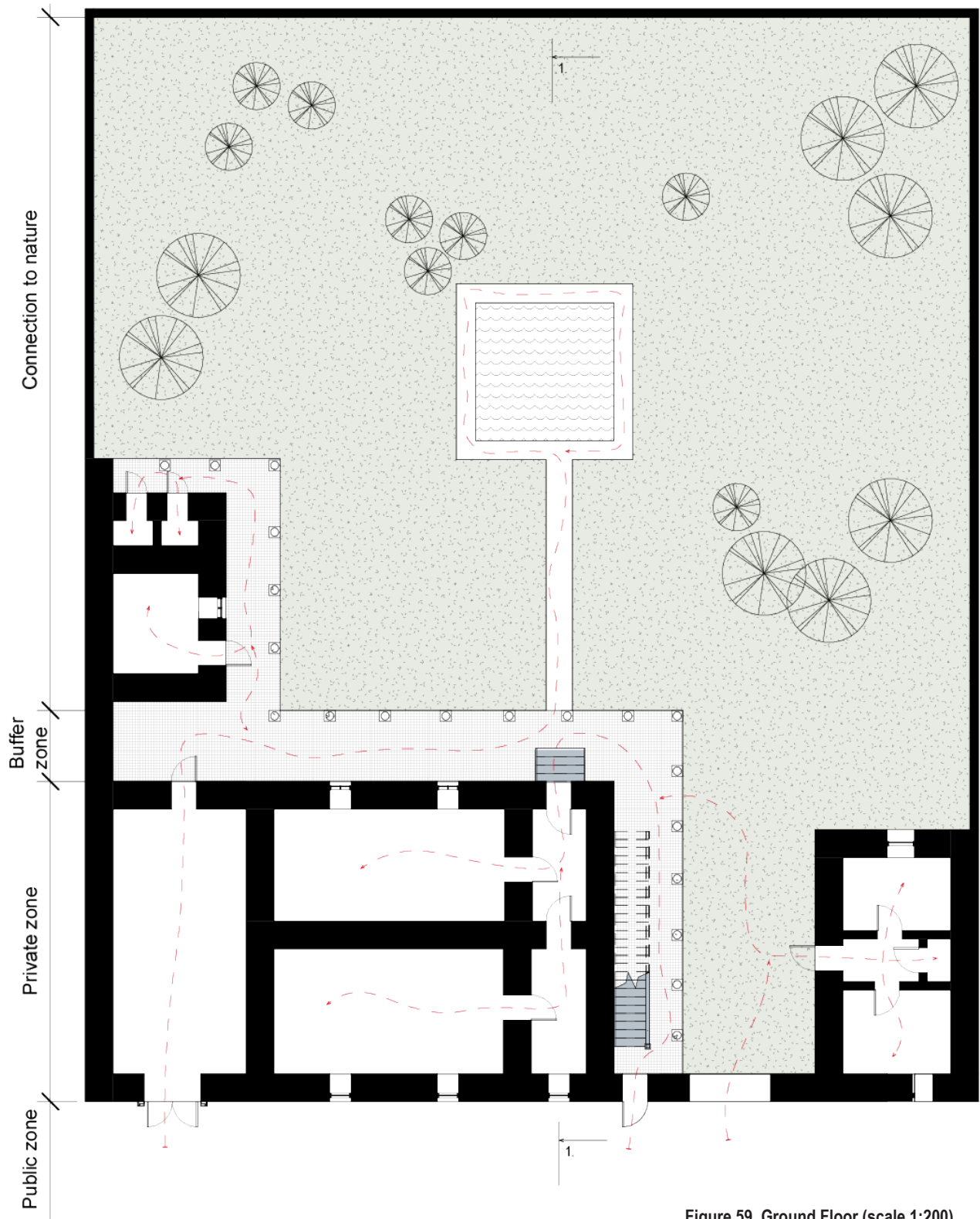


Figure 59. Ground Floor (scale 1:200)

EXAMPLE 4

AN EXAMPLE OF A DWELLING FROM THE 19TH CENTURY, YEREVAN, ARMENIA

This two-story dwelling is built with similar structural techniques as seen in previous examples, with the main structural materials being stone (black tuff) and wood. Because of Yerevan's hot and dry climate in the summertime, the functions and rooms are oriented accordingly.

The rooms are organized in rows of 2 and 1, framing the garden in an L-shaped silhouette. The ground floor, as stated before, is meant for social and public functions such as workshops, shops, cafes, kitchens, and storage (fig. 59), while the second floor is for the dwelling (fig. 60). The staircase, the vertical communication, is placed near the gate leading into the property. The semi-open entrance gallery, constructed entirely out of wood, surrounds the inner facades of the building, facing the garden. This becomes the horizontal communication, and provides entrance to each room and function, by leading into smaller entrance halls, which connect multiple functions, both social and private. The living room is the largest room on the second floor, surrounded by bedrooms and a dining room.

The garden, fenced by a low wall all around the property, has plenty of greenery, which, along with the small pool of water in the center of the property, helps cool down the outdoor areas during summer.

In this example, like the previous one, the bathroom and barn functions are separated from the dwelling volume. And the kitchen, situated on the side, is a semi-independent volume, connected to the overall building volume through the continuing entrance gallery, which doubles in function as a social balcony overlooking the lush garden.

ANALYSIS MATERIALS

Black tuff and wood make a good pairing, thanks to their contrasting colors and textures. The wooden access gallery provides a lightweight addition to the stone structure of the building, solving the outdoor communication without overcomplicating the structure of the dwelling. This also provides a materially smooth transition from the access gallery to the interior, where the wooden flooring continues.

DETAILING

In this example, the detailing of the access gallery is most astonishing, with its wooden colonnade and decorative railings, which contrast sharply against the black tuff facades, bringing more dimension and beauty to the dwelling.

VOLUMES

Primary volume - The primary volume in this example is the dwelling itself, which consists of cellars and storage, nestled into the ground, a workshop, the kitchens, and the rest of the dwelling functions.

Secondary volume - As a secondary volume, the bathroom and the barn are added on next to the building volume, close to the main gates leading out to the street. This structure is only one story high and does not affect the primary volume visually. However, it frames the main gate, creating a narrower space which then is released as the resident walks towards the garden.

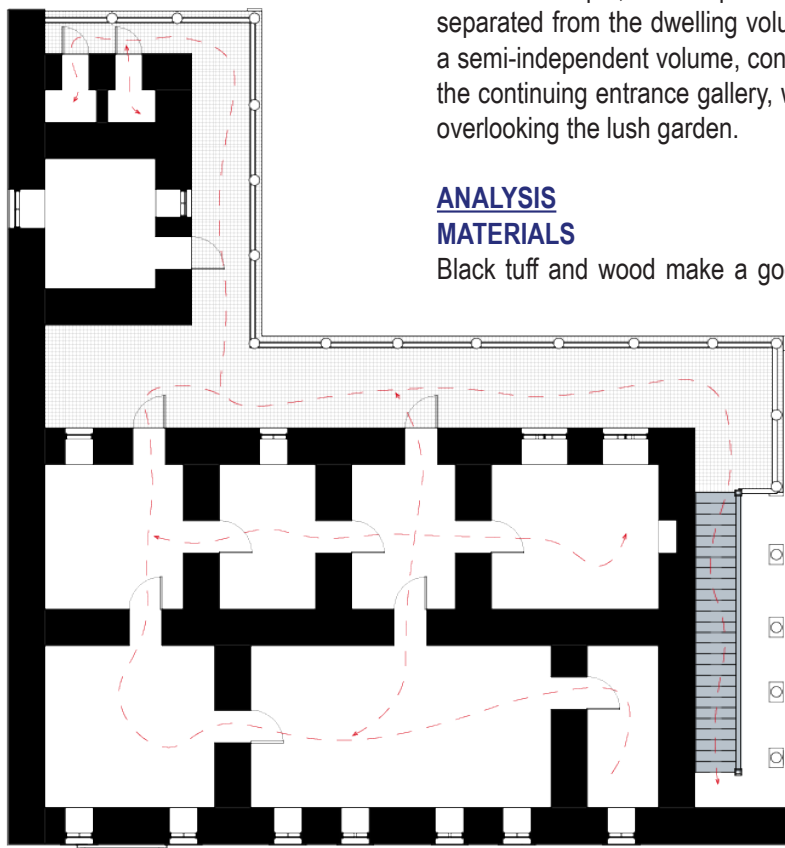


Figure 60. Second Floor (scale 1:200)

Open volume - The garden, framed by the L-shaped building volume and the small secondary volume, is further surrounded by fencing. It has a small pool of water, a fountain in the middle, indicating that this is a social gathering spot for the residents of the dwelling. It is, in a sense, the centre of this house, as it is visible from the access galleries and all the windows facing towards it (fig. 65).

MOVEMENT

The movement in this dwelling is slightly complicated, since it has room-to-room connections. However, the horizontal communication is rather simple, and the width of the entrance gallery allows for social activities to take place as well as a comfortable movement space (fig. 59, 60).

ROOM SEQUENCES

As mentioned before, the room-to-room connection in this dwelling weaves different functions together. While on the ground floor, it is more straightforward with clear zoning between private and semi-private spaces, on the second floor, it becomes more complex as bedrooms are interconnected with social rooms and act more like secondary entrance halls (fig. 61, 62).

DAYLIGHT

On the ground floor, the cellars are mostly dark, considering how high up the narrow windows are placed. And on the second floor, each room has lighting from one side.

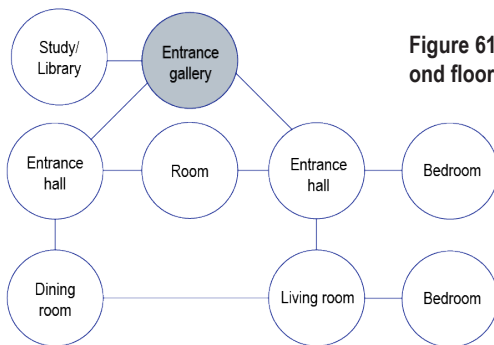


Figure 61. Room sequence diagram for Second floor

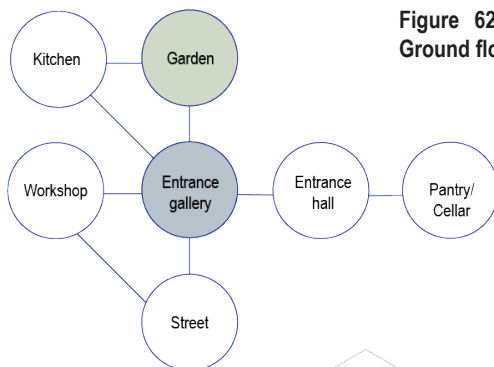


Figure 62. Room sequence diagram for Ground floor

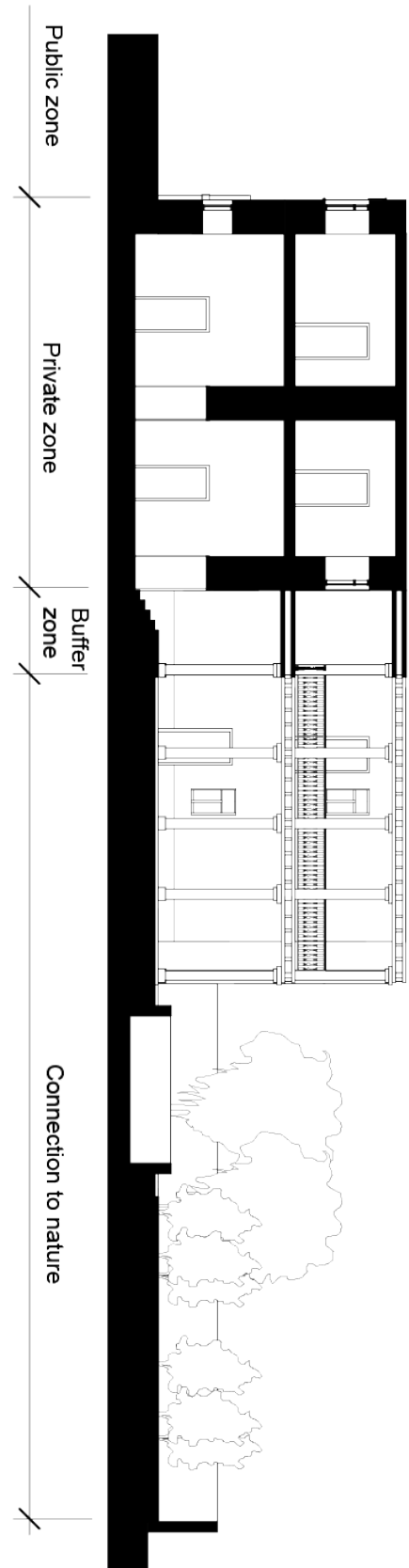
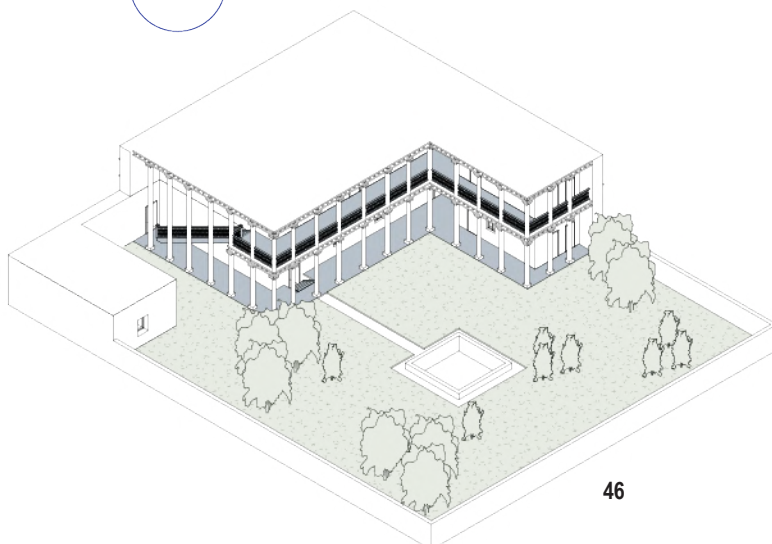


Figure 63. Section 1 (scale 1:200)

Figure 64. 3D view (scale 1:500)

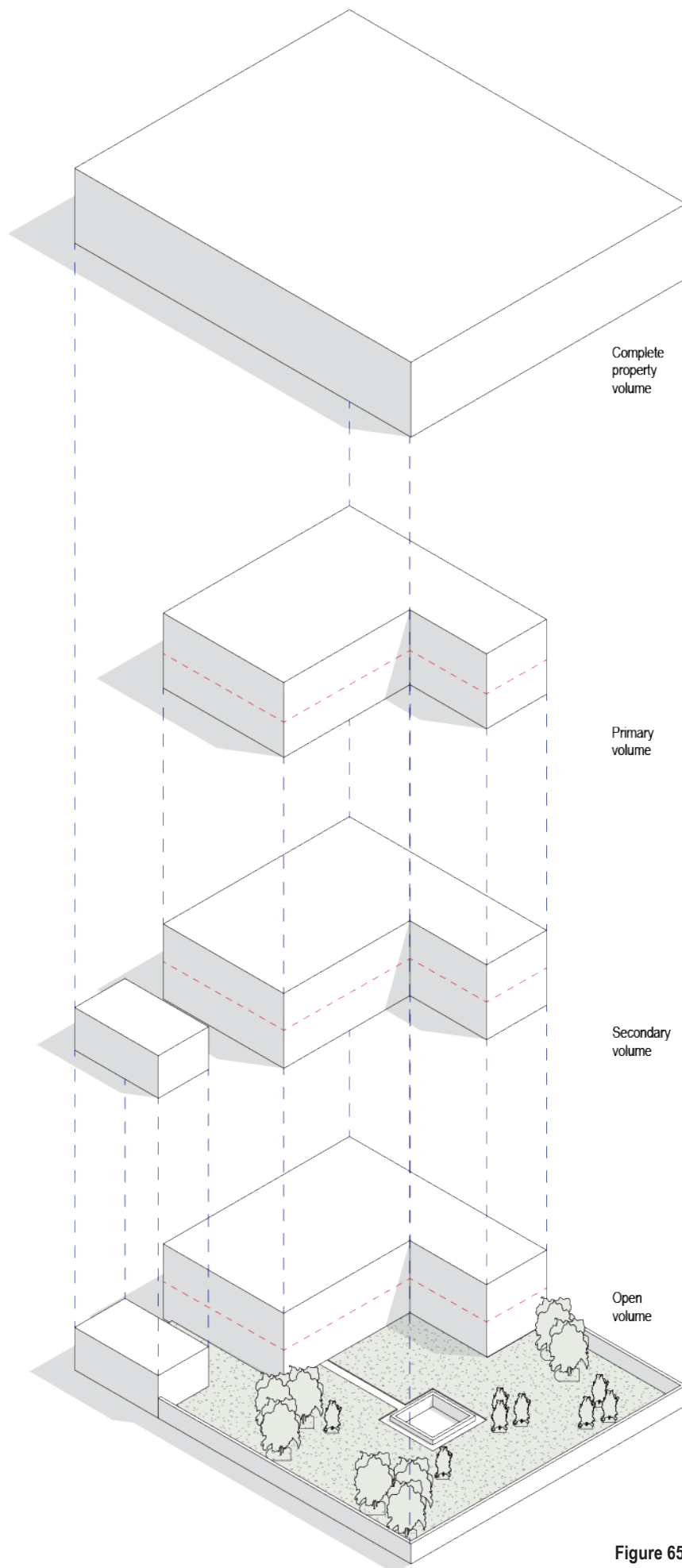


Figure 65. Volume study (scale 1:500)



TRAUMA-INFORMED DESIGN STRATEGIES IN THE CONTEXT OF VERNACULAR ARMENIAN DWELLINGS

Out of the TID strategies, the following 6 are chosen to be included in the final proposal:

- Visual safety and privacy
- Connection to nature
- Natural materials and soothing colors
- Clear circulation and wayfinding
- Natural lighting
- Flexibility and adaptability

To make the design process easier, the 6 design strategies are investigated in the aforementioned vernacular housing examples. Almost all design strategies are identified in the examples. For instance, in all projects, visual safety and privacy are provided through gateways and fences around the property, creating a clear barrier between public and more private zones.

Another example is the connection to nature. As seen in the floor plans (fig. 41, 50, 53, 59) and the sections (fig. 38, 49, 57, 63), gardens are situated in very close proximity to the dwelling, providing it with a close connection to nature.

Although the drawings and diagrams do not provide the color of the materials, it is known that the main materials used during the 19th century were tuff and wood, both natural materials as required by the TID strategies. And when the vast variety of tuff stone colors is considered, this strategy is also achieved.

It is seen that in the movement diagrams of some of the dwellings (fig. 40, 41, 50, 53, 54, 59, 60), they have a rather simple wayfinding and communications, along with clear circulation. And natural lighting is present in every room, even though just from one side.

Lastly, when it comes to flexibility and adaptability, the width of the entrance galleries achieves the quality of multipurpose spaces, as they are wide enough to have comfortable communications between functions, and act as recreational and social spaces. The double use of bedrooms as a communication during the day also makes it somewhat flexible and adaptable, fulfilling the spatial needs of a large family.



WHAT I TAKE WITH ME

After analysing the plans, sections, and facades of the presented vernacular Armenian dwelling examples, the following are chosen to be included, and in some cases, re-translated into the proposed project design:

- Entrance galleries
- Entrance hall as a connection
- Sunroom
- Generally sized rooms
- Room-to-room connections
- Semi-private courtyard
- Gate (clear separation between public and private)
- Materials

These have the most potential to bring in the qualities vernacular dwellings offered in terms of layout, circulation, daylight, etc, as well as aesthetic and cultural values. As shown in the analysis of TID strategies in the context of vernacular examples, these qualities and design elements somewhat overlap with TID strategies in the built environment and can have a positive impact on the mental health and well-being of individuals with displacement trauma.

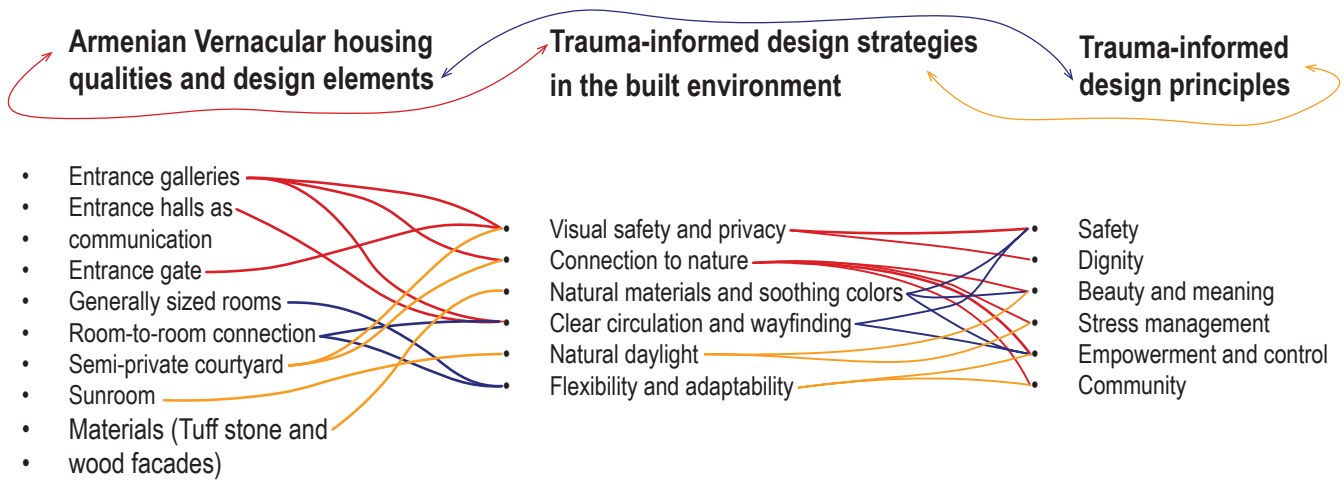


Figure 66. Diagram showing connection between TID principles, TID strategies, and vernacular Armenian qualities

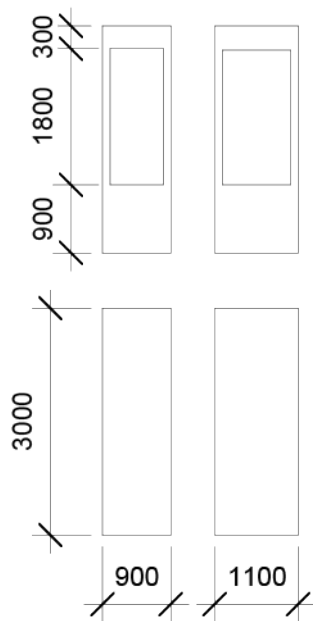


Figure 67. Dimensions of pivot doors (scale 1:100)



PROJECT CONCEPT DESIGN

The concept for the design proposal is developed by merging the chosen vernacular Armenian housing qualities with TID strategies (fig. 66). For instance, the TID strategy of natural daylight in the dwellings is provided by using the concept of sunrooms inspired by the vernacular analysis, thus creating a room that invites daylight into the dwellings, acts as a balcony when the windows are open, and acts as an extension of the living room.

Another major part of the concept can be seen in the layout of the apartment units. Inspired by the vernacular examples, where communication is room-to-room and through entrance halls, the apartment layouts mimic that by interconnecting multiple rooms and functions (fig. 69, 70, 71). This allows for smooth and clear circulation within the apartment units, and due to generally sized rooms (3.6 x 3.6 m), the spaces are flexible and adaptable to personal adjustments and personalisation of interiors depending on the residents' needs. Furthermore, pivot doors with the dimensions of 900cm and 1100cm are used as room dividers between the living room and kitchen, creating more opportunities for flexibility and change (fig. 67).

The apartment types are created by following a certain grid of 3,6 m (A) and 2,3 m (B). By periodically changing the placement and quantity of the grids A and B, 4 types of apartments, ranging from 40 - 80 sqm, are developed.

Lastly, a private courtyard is designed for the use of the residents, framed by the permanent refugee housing. This is a reference to the presence of large gardens and courtyards in vernacular Armenian dwellings, and connects well with the TID strategy of connection to nature.

In conclusion, TID strategies, merged with vernacular Armenian housing qualities and elements, assemble the different parts of the overall concept, which works in 3 different scales (master plan scale, floor plan scale, and apartment unit scale)

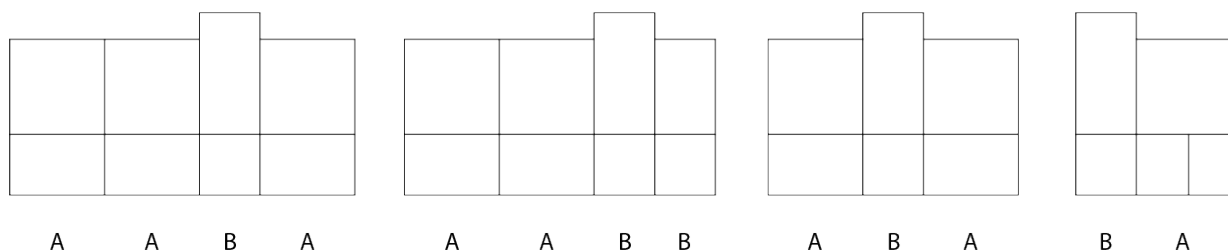


Figure 68. Diagrams of apartment units system

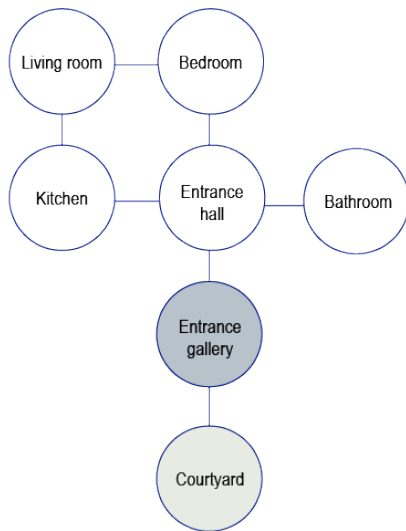


Figure 69. Room sequence diagram for 40 sqm apartment

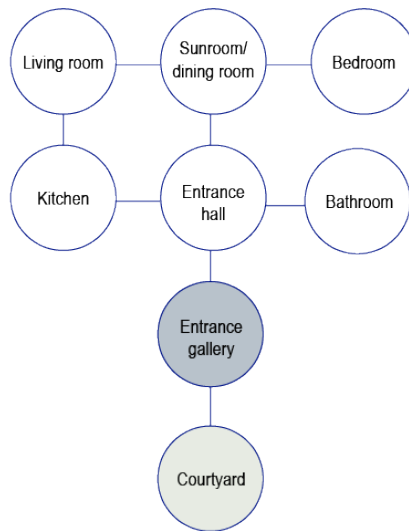


Figure 70. Room sequence diagram for 60 sqm apartment

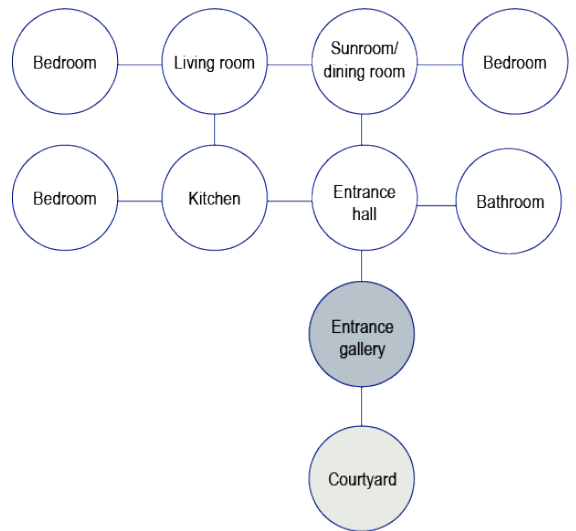


Figure 71. Room sequence diagram for 75 and 80 sqm apartment



SITE

Dilijan is a lush city with an area of 43 sqkm, 1300-1330 meters above sea level, famous for its healthcare and recreational functions, surrounded by the Pambak and Bazum mountain ranges. The city is located in the Tavush region of the Republic of Armenia and is 99 km away from Yerevan, the capital.

The climate is temperate, with cold snowy winters (-2 Celcius on average) and hot, humid summers (18-20 Celcius on average). Annual precipitation is 600-500 mm, and it is usually foggy. The surrounding forests and the Dilijan National Park are rich with many tree species and wild animals.

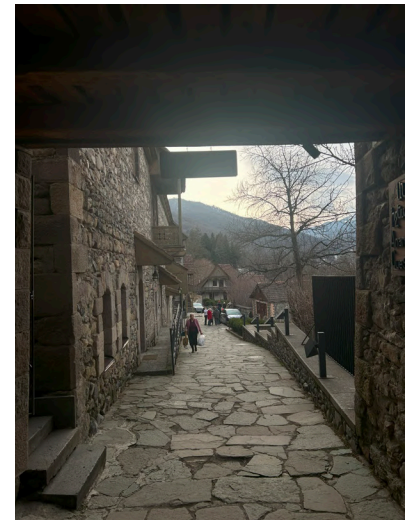
As a healthcare resort city, it has a number of resorts/spas with healing hot mineral springs, clean air, and lush forests. The largest of these resorts was built in the 1970s.

Though not known for its Industrial strength, Dilijan has a factory production of milk, bread, sparkling water, furniture, and so on.

This region is well known for its countless cultural heritage sites, such as Haghartsin, Goshavank, Jukhtak, and Matosavank monasteries, various chapels, and khachkars (cross stones), which bring numerous tourists (local and international) to the region regularly. Another touristic destination is Lake Parz and an old commercial street that has preserved its unique vernacular architecture and has been under protection since 1982 (fig. 72, 73).

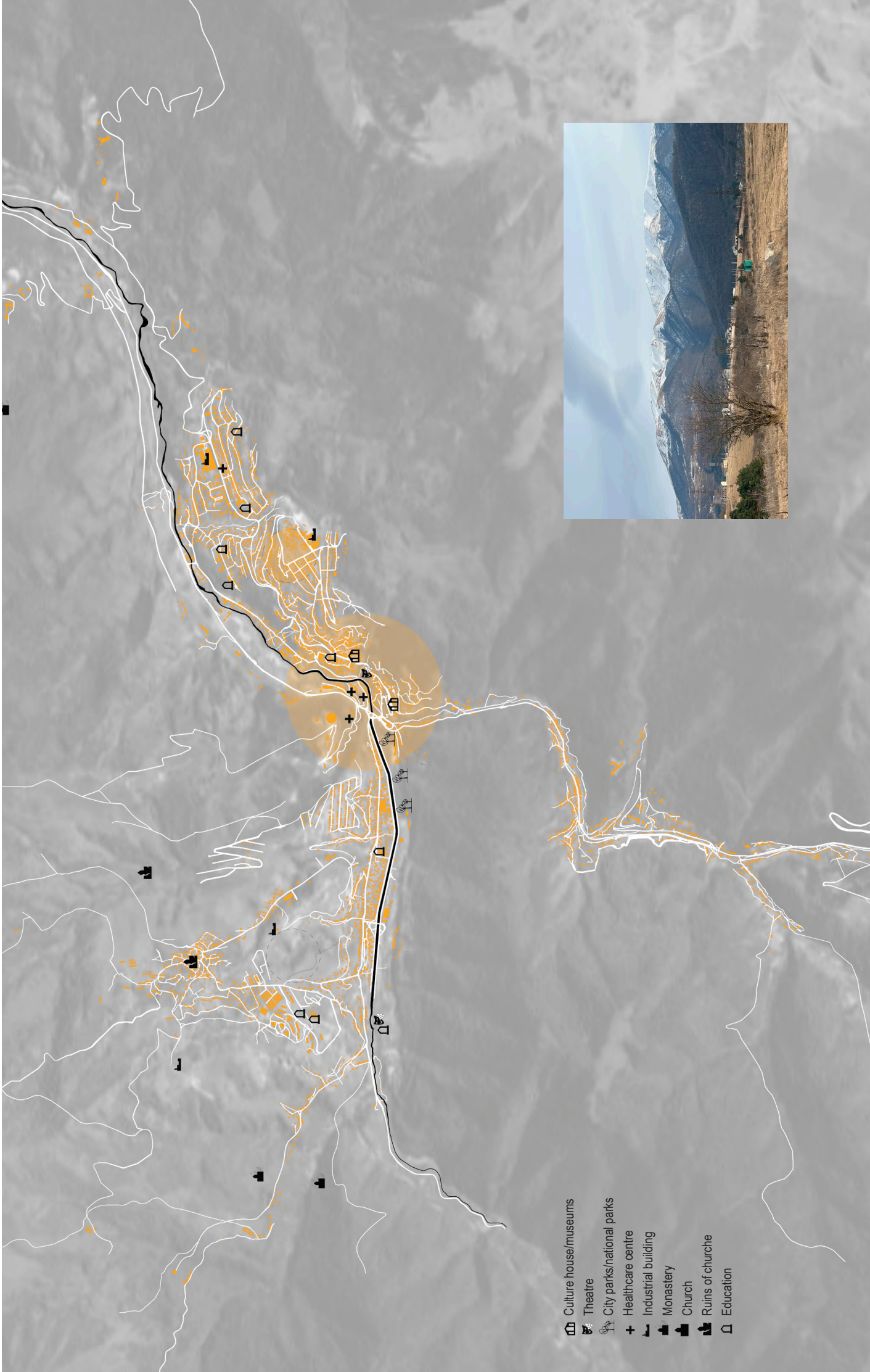
The city has:

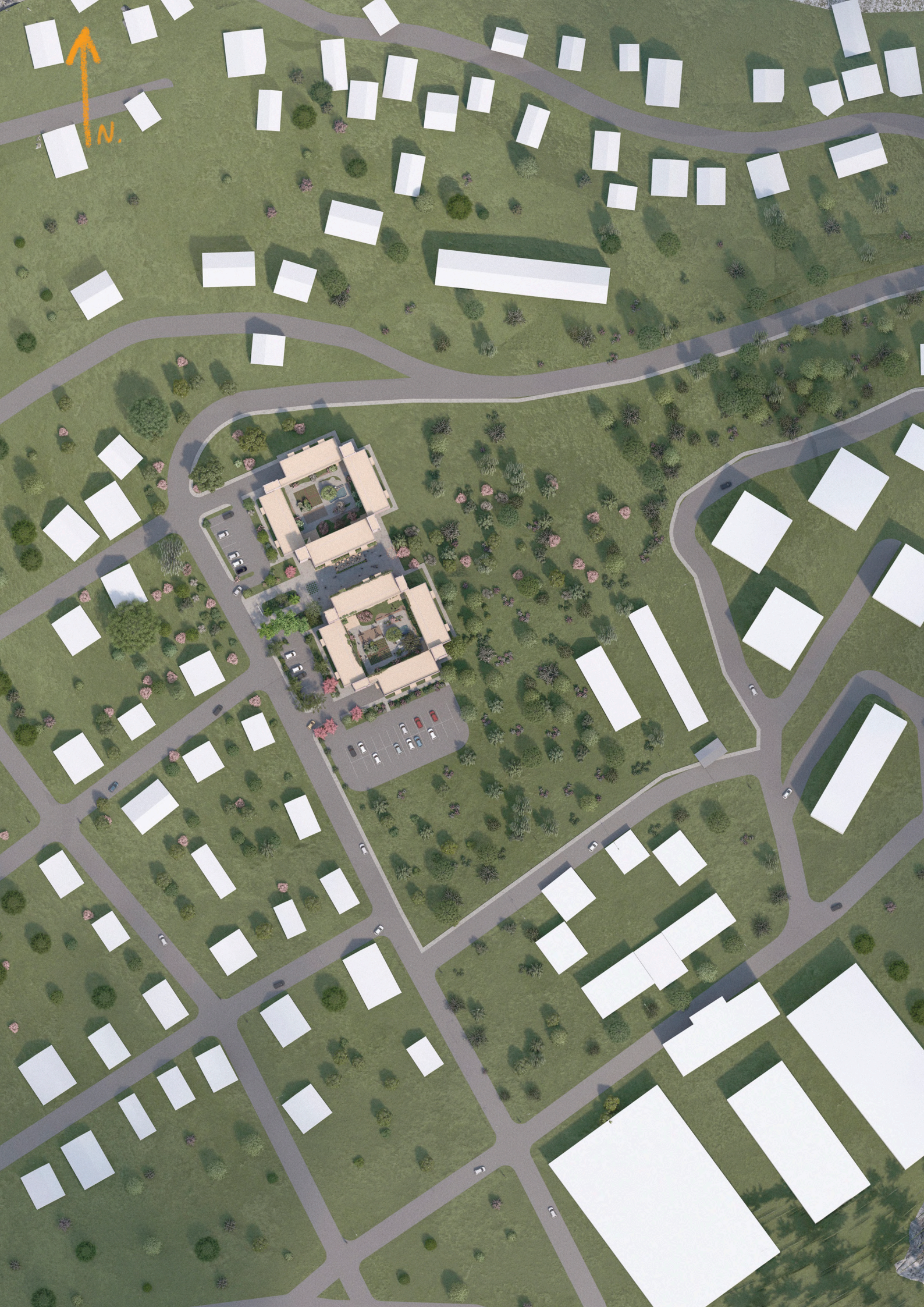
- 5 schools
- Healthcare centres
- Culture house
- City centre
- Music school
- Art school
- Exhibition hall
- Sports school
- 6 kindergartens
- Museums



Figures 72., 73. Pictures from the old commercial street in the city centre of Dilijan

Figure 74. (right) Dilijan city map





Figures 75. (left) Master Plan



MASTER PLAN

The master plan includes green spaces, mid-rise residential buildings, villas, educational centres, and a brewery. Thanks to this current urban fabric, to which two permanent refugee housing blocks are added, community, healing, and integration values become a driving force in the environment.

By alternating the building height from 2 stories to 5 on the sloping landscape, the building volumes create a harmonious blend between the existing villas towards the North and West, and the mid-rise residential buildings (5 - 6 stories) towards the East. With this central placement, the refugee housing, especially the pedestrian street with commercial spaces, located between the two blocks, becomes a gathering spot where locals and refugees can meet and socialize. By having the residency of the buildings open for everyone, both locals and refugees, integration efforts are further strengthened. Therefore, by placing no difference between refugees and locals, a more healthier environment for both communities to share and thrive in is created. And having the project site so close to schools and the brewery on the South gives education and job opportunities. The green spaces in the Northwest introduce opportunities for potential growth and expansion of the project site, with duplicates of the residential blocks. Therefore, the project has the potential to adapt to population growth or changing needs.

When it comes to spatial sequencing, the residential blocks are separated from the main street through a thin ribbon of greenery and walkways, then parking spaces for residents, and finally another streak of greenery and walkways. This sequencing provides the residential blocks with a bit more privacy and induces a sense of safety.

FACADES

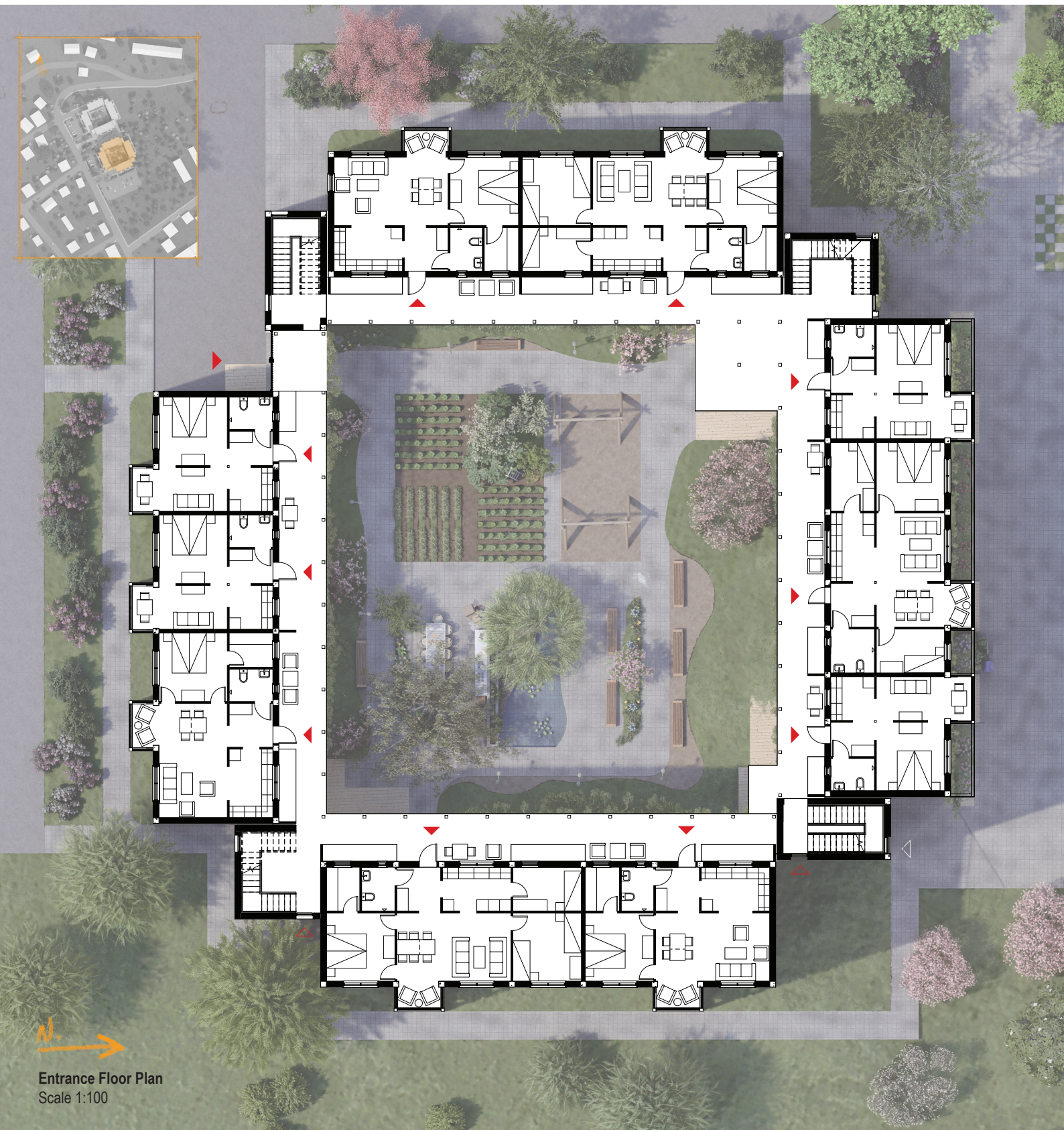
The facade cladding is pink tuff stone, due to its pastel and light color, which pairs well with the wooden colonnade of the entrance galleries and provides calmness due to its soothing shade. The communication towers stand out in the design with minimal openings and monumental aesthetics, meanwhile, the entrance galleries, window openings, and sunrooms break up the facades, creating rhythm and movement.

Figure 76. Site Section

Site Section
Scale 1:300



Figure 75. Masterplan (scale 1:4000)



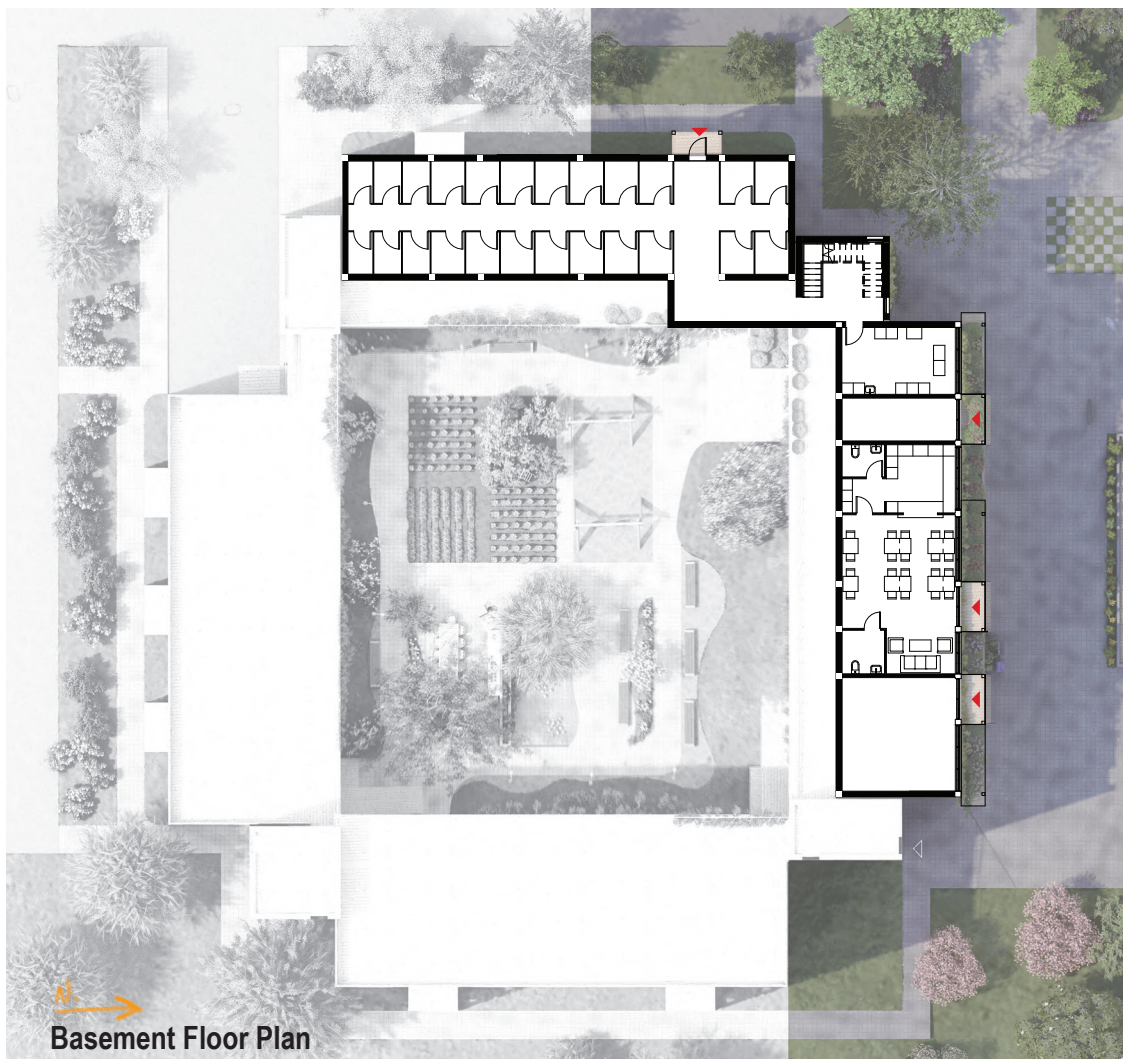
Entrance Floor Plan
Scale 1:100

Figure 77. Entrance Floor Plan (scale 1:800)



Figure 78. (Top) Third Floor Plan (scale 1:400)

Figure 79. (Bottom) Basement Floor Plan (scale 1:400)





ENTRANCE FLOOR PLAN ($\pm 0.00\text{M}$)

The entrance floor plan, located on 0.00 elevation, showcases outdoor and indoor relations, main entrances, vertical and horizontal communications, and a typical arrangement of units.

The residential block consists of 4 building volumes connected through the 4 staircase towers situated at each point of the square courtyard (2 of them equipped with elevators for accessibility). There are several entrances to the residential block, through the staircase towers, and the main gates, which are wide enough to accommodate vehicles for emergencies.

By having semi-open entrance galleries, a connection to nature is guaranteed. Furthermore, due to their width (2.2 m), the entrance galleries invite residents to socialize and personalize the entrances to their homes (fig. 77).

COURTYARD

The courtyard has a square shape and contains various activities for the residents to partake in, some of which correspond to the TID strategies, vernacular Armenian housing architecture qualities, and the needs and suggestions from the interviews. Such activities are provided through the design of a gardening and cultivation corner, a playground, a pond, an open kitchen area along with sitting, and many benches and other recreational corners. The diversity of the activity zones gives residents agency and choice, and empowers them to engage and take part in either communal or personal healing (fig. 77).



THIRD FLOOR PLAN (6.60M)

The third floor plan shows how the height difference of the 4 building volumes affects the environment of the entrance galleries. As the apartment units stay the same as on the entrance floor, the entrance galleries open up to the roof terraces for more private outdoor experiences and gatherings (fig. 78).



BASEMENT FLOOR PLAN (- 3.30M)

The basement floor includes storage space for residents and shared laundry facilities (fig. 79). Shops and other commercial spaces opening up to the pedestrian street can also be seen in this elevation.



APARTMENTS PLANS

The apartment units are developed to include adaptability, flexibility, clear circulation, and accessibility. The entrance gallery opens directly into the entrance hall, which is the main communication of the dwelling, opening up into 3 different functions: kitchen, living room/dining room, and bathroom.

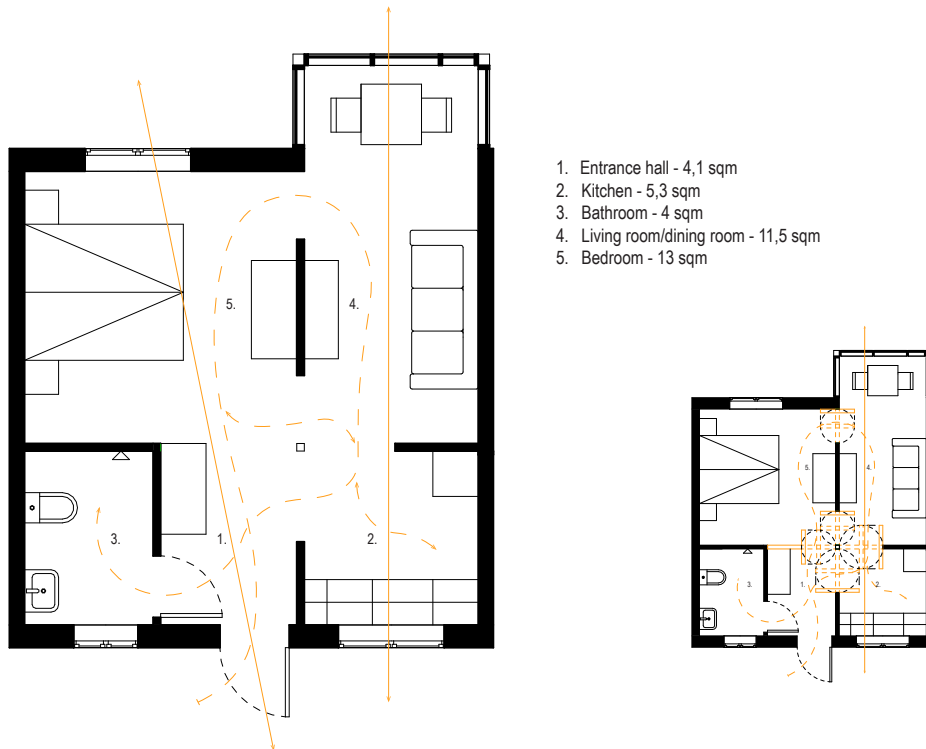
Similar to the vernacular Armenian housing examples, a room-to-room connection is needed to reach the bedrooms. For example, from the living room or the kitchen.

Clear circulation is made possible in the dwelling by having openings between the entrance hall, kitchen, and living room/dining room functions.

The sunroom, taken from the vernacular examples, is used as an extension of the living room, formed as a bay window, which provides daylight and a calm corner for residents to indulge in recreational activities. When the weather allows it, the glazed windows open up, turning the sunroom into a balcony.

In the time and space models, possible adaptations in the layout and room sequences can be seen. These changes can be made independently by the residents, according to their needs and desires, by adding pivot doors. Therefore, the sunroom can be turned into a small bedroom or a study with plenty of daylight.

In the example of the 80 sqm apartment, it can be seen that the smaller bedroom on the left side can be separated to function as a private bathroom and a walkin closet, and due to its close connection to the kitchen, it can be easily rented out when all 3 bedrooms are no longer needed. This can also work in a generational living scenario.

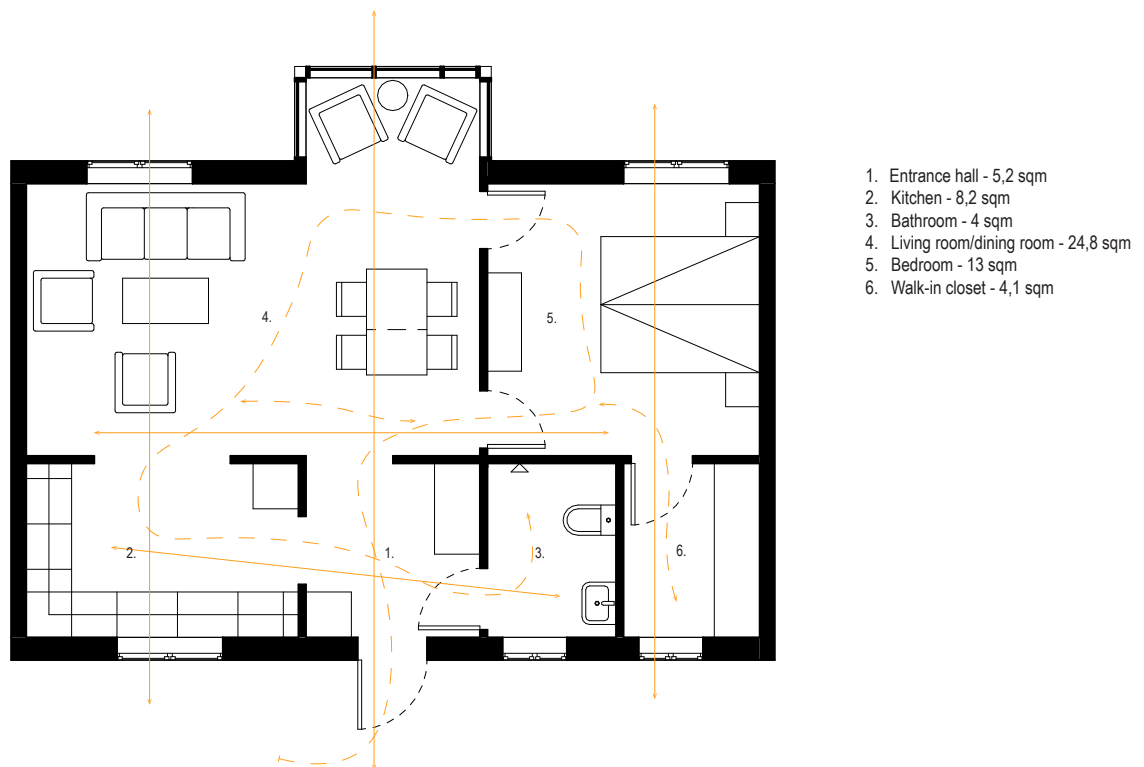


40 sqm Apartment Plan

Standard Layout

Figure 80. 40 SQM Apartment (scale 1:100) and Time and Space Model (scale 1:200)

Time and Space Model

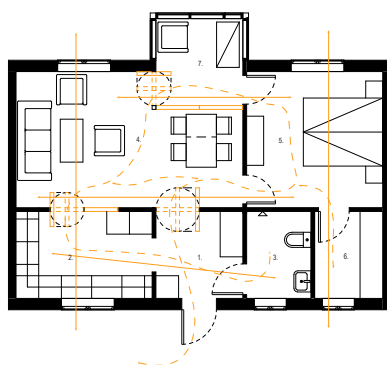


60 sqm Apartment Plan

Standard Layout

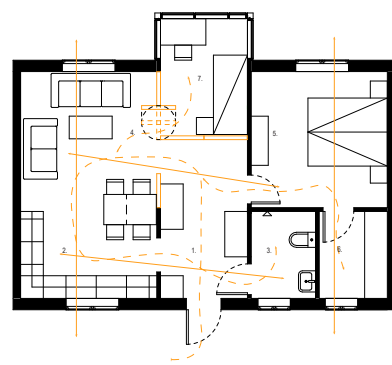
Figure 81. 60 SQM Apartment (scale 1:100)
and Time and Space Models (scale 1:200)

1. Entrance hall - 5,2 sqm
2. Kitchen - 8,2 sqm
3. Bathroom - 4 sqm
4. Living room/dining room - 19,1 sqm
5. Bedroom - 13 sqm
6. Walk-in closet - 4,1 sqm
7. Extra room - 5,2 sqm



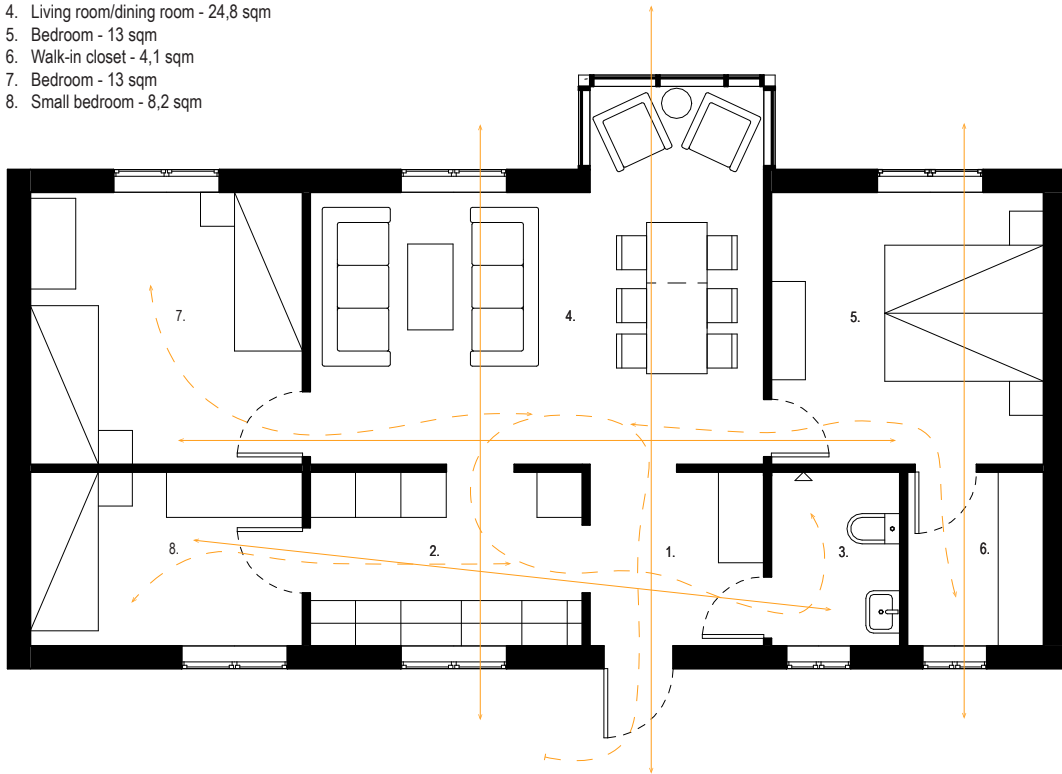
5 years later

1. Entrance hall - 5,2 sqm
2. Kitchen - 8,2 sqm
3. Bathroom - 4 sqm
4. Living room/dining room - 17,2 sqm
5. Bedroom - 13 sqm
6. Walk-in closet - 4,1 sqm
7. Extra room - 7,1 sqm



10 years later

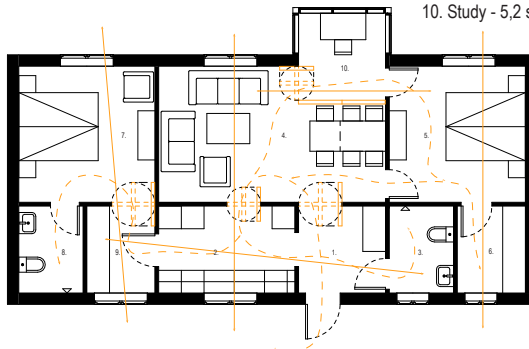
1. Entrance hall - 5,2 sqm
2. Kitchen - 8,2 sqm
3. Bathroom - 4 sqm
4. Living room/dining room - 24,8 sqm
5. Bedroom - 13 sqm
6. Walk-in closet - 4,1 sqm
7. Bedroom - 13 sqm
8. Small bedroom - 8,2 sqm



80 sqm Apartment Plan Standard Layout

Figure 82. 80 SQM Apartment (scale 1:100) and Time and Space Model (scale 1:200)

1. Entrance hall - 5,2 sqm
2. Kitchen - 8,2 sqm
3. Bathroom - 4 sqm
4. Living room/dining room - 19,1 sqm
5. Bedroom - 13 sqm
6. Walk-in closet - 4,1 sqm
7. Bedroom - 13 sqm
8. Bathroom - 4 sqm
9. Walk-in closet - 4,1 sqm
10. Study - 5,2 sqm



10 years later



FACADES AND SECTIONS

Figure 83. Facade from pedestrian street
between two residential blocks.



Facade
Scale 1:100

Section 1-1 Scale 1:50



Figure 84. Section (Scale 1:100) showing layers of privacy.



Figure 85. Exterior view from the entrance galleries. Outdoor activity spaces can be seen.

Figure 86. Exterior view from the entrance galleries. Easy wayfinding and clear communication, as well as close connection to nature can be seen.





Figure 87. An exterior view from the main gate (entrance to the courtyard).

Figure 88. Interior view of the 60 sqm apartment where the clear communication and circulation can be seen between different dwelling functions.







DISCUSSION

As mentioned, the thesis addresses the lack of permanent refugee housing solutions and the lack of integration of trauma-informed design in a refugee housing context. The focus is mainly on combining TID and vernacular housing architecture to achieve a solution that can provide the forcefully displaced Artsakh Armenians in Armenia with mindful healing housing environments.

The methods used are literature research on Trauma-informed design, vernacular Armenian housing architecture, healing outdoor environments, and levels of privacy. Furthermore, architectural analysis is conducted on Armenian vernacular dwellings, mainly from the 19th century, and displaced individuals from Artsakh are interviewed to better understand their needs and experiences. Lastly, a project proposal is made by combining the findings and results of the previously mentioned literature studies, architectural analysis, and interviews.

The theoretical framework is based mainly on:

- Vernacular Armenian housing architecture

- Trauma-informed design principles and strategies

And secondarily on:

- Healing outdoor environments

- Levels of privacy

- Sustainability

- Materiality

How can permanent refugee housing be designed to promote recovery from trauma?

To answer this research question, literature research on Trauma-informed design is conducted. Case studies on existing and converted housing with TID are reviewed to observe what strategies work best in housing situations and their effects on residents. Through this, a few design strategies are chosen to be included in the project proposal.

How can vernacular housing architecture contribute to designing a sense of safety, familiarity, and cultural identity in refugee housing? And how can vernacular construction techniques and materials be used to enhance sustainability and durability?

To answer these, vernacular Armenian housing architecture is investigated. Through which facade materials (pink tuff stone and wood), vernacular qualities, and concepts are chosen, which in turn create a harmonious healing environment that captures the essence of the vernacular Armenian housing environment and creates an inviting and familiar space for the displaced. To tie trauma-informed design and vernacular Armenian housing architecture, more aspects, such as healing outdoor environments and levels of privacy are reviewed.

Implementation

To make the connection between the different strategies, qualities, and aspects clearer, a diagram is made.

For example, The implementation of semi-private courtyards ensures visual safety and privacy (TID), sightlines and visual boundaries (levels of privacy), outdoor visibility from the indoors, and sounds of nature (healing outdoor environments).

While the implementation of entrance halls and room-to-room connections inside dwellings ensures clear circulation and wayfinding (TID). Similar to this, the presence of entrance galleries and entrance gates for the residential blocks

Figure 89. Exterior view of the pedestrian street situated between the two residential blocks. A space for locals and refugees to share.

provide residents with visual safety and privacy (TID, healing outdoor environments), connection to nature (TID), clear circulation and wayfinding (TID), layers of privacy (healing outdoor environments), visual and physical boundaries (layers of privacy).

Sunrooms, which are integrated into the design of the apartment units as extensions of living rooms, connect directly to natural daylight (TID). Whereas generally sized rooms offer flexibility and adaptability (TID).

Lastly, the implementation of tuff stone and wood as facade materials ensures the use of natural materials with soothing colors (TID, healing outdoor environments) and familiarity (healing outdoor environments).

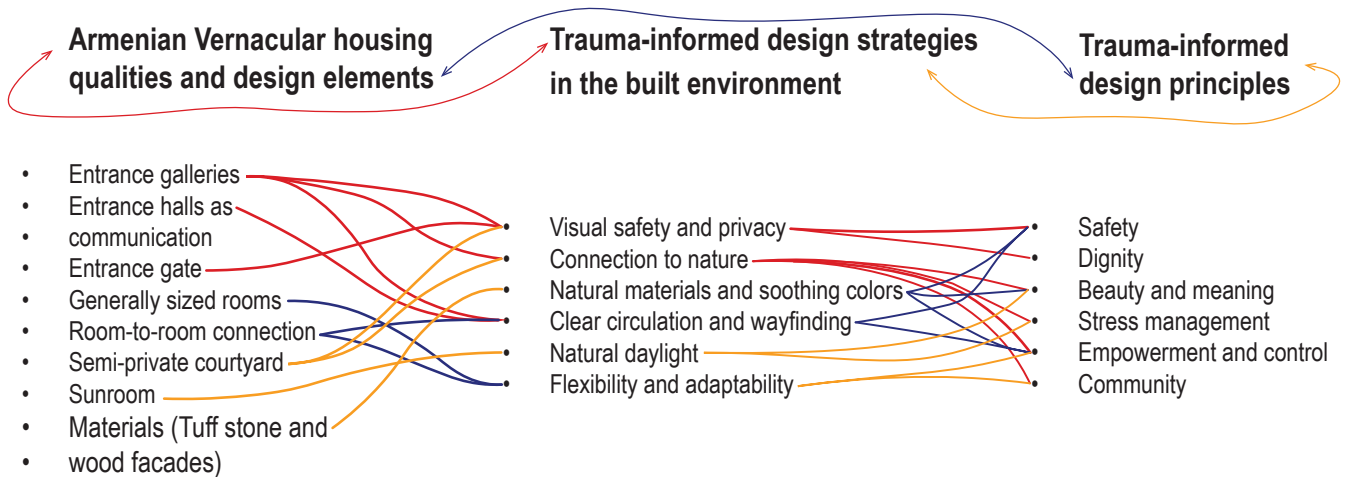


Figure 90. Diagram showing connection between TID principles, TID strategies, and vernacular Armenian qualities

Obstacles and difficulties

During the research phase, connecting and tying the vernacular literature reviews with the trauma-informed design strategies was difficult, and a clear connection between the two was not established until the end of the architectural analysis of the vernacular examples, where vernacular qualities were identified and the examples were viewed from a trauma-informed design aspect. Through this, a clear tie between the two subjects was established, which can be seen in the diagram (fig. 90). Only after this phase, a clear and comprehensible concept for the design proposal could be made.

Another obstacle is that there is no concrete way to know if this design concept will work if the project is to be built. As mentioned before, the built environment has a vast impact on the process of healing from trauma, however, it is not enough to make a full recovery, therefore, psychiatric therapy is still needed. A further step to ensure the design proposal works would be an assessment of the design by professional psychologists and another round of interviews with the target resident group, displaced individuals, to gather their thoughts and insights.

Sustainability

Since the main themes of the project, TID and vernacular Armenian housing architecture, are rather large, a smaller role is given to sustainability due to time constraints. Some considerations of different options for the sustainability aspect of the project were made:

- Using vernacular construction methods and techniques in a more innovative and modern way
- Using vernacular materials
- Using prefabricated concrete details from abandoned warehouses

and factories from the 70s and 80s

Instead, a simple green concrete construction with a skeletal (beams and columns) framework is used along with pink Artik tuff cladding for a natural material finish. Though it is a new building material in Armenia, it is widely used around the world to substitute traditional concrete. It also makes the construction process much easier, faster, and up-to-date.

The building materials used in the proposed design are affordable, locally produced and durable, which gives a sense of safety to residents and offers sustainability.

If given more time, this subject would be more thoroughly investigated; however, for the time being, this is sufficient.

Conclusions

In conclusion, a permanent refugee housing is designed by implementing TID and vernacular Armenian housing architecture to ensure healing, a familiar and safe environment for forcefully displaced individuals to recover from trauma caused by conflicts and displacement. The research questions are answered through different investigations, literature reviews, and, lastly, a design proposal.

It is of utmost importance to provide stable and safe housing to refugees, especially to ones who have lost their homes indefinitely. And a choice between permanent and temporary housing solutions, though difficult, can be life-changing for the individuals residing there. Permanent refugee housing can help them recover, heal, and build their lives anew without the re-traumatizing experience of constant relocations and difficulties of temporary refugee camps.

Though the project works with a specific site and group of people, Armenia and Artsakh Armenians, similar results can be reached for any permanent or even



REFERENCE LIST

- Arzumanyan, A. A., Gevorgyan, H., Arzumanyan, A., & Muradyan, N. G. (2018). Investigation of the heat resistance of volcanogenic tuffs of Armenia for assessment of their suitability as fillers for refractory lightweight concretes.
- Baikerikar, A. (2014). A Review on Green Concrete.
- Bengtsson, A., Grahn, P., (2014). Outdoor environments in healthcare settings: A quality evaluation tool for use in designing healthcare gardens Urban Forestry & Urban Greening.
- Bhattacharjee, S., Noyori-Corbett, C., Akter, S., (2024). Sheltering Hope: Navigating the Nexus of Refugee Housing Conditions and Well-Being. Migration and Forced Displacement – Vulnerability and Resilience, Volume 2.
- Bollo, C., Donofrio, A., (2022). Trauma-informed design for permanent supportive housing: four case studies from Seattle and Denver. Housing and Society.
- Gehl, J. (1987). Life Between Buildings
- Gzoyan, E. (2014). THE LEAGUE OF NATIONS AND ARMENIAN REFUGEES. THE FORMATION OF THE ARMENIAN DIASPORA IN SYRIA. CENTRAL AND EASTERN EUROPEAN REVIEW, Volume 8.
- Gzoyan, E., Chakhmakhchyan, S., Meyroyan, E., (2023). ETHNIC CLEANSING IN ARTSAKH (NAGORNO-KARABAKH): ISSUES OF DEFINITION AND CRIMINAL RESPONSIBILITY.
- Harutunyan, V. (1992). History of Armenian Architecture.
- Harutyunyan, A., Hayrapetyan, S. (2024). The blockade, depopulation of the Republic of Artsakh and international law.
- Hatsagortsyan, Z., A., Martirosyan, O., A., (1962). Tuffs and Marbles of Armenia.
- Javanbakht, A., Grasser, L., R., (2022). Biological Psychiatry in Displaced Populations: What We Know, and What We Need to Begin to Learn.
- Katsavounidou, G. (2024). Life between buildings: Using Public Space: The history of Jan Gehl's book and the legacy of its philosophy for designing cities at human scale.
- Kizilova, S., A., (2023). Anti-crisis architecture: Sustainable approaches for migrant housing construction.
- Movsisyan, A., Galoustian, N., Aydinian, T., Simoni, A., Aintablian, H. (2022). The Immediate Mental Health Effects of the 2020 Artsakh War on Armenians: A Cross-Sectional Study.
- Pable, J., Ellis, A., (2015). TRAUMA-INFORMED DESIGN DEFINITIONS AND STRATEGIES FOR ARCHITECTURAL IMPLEMENTATION (Design Resources for Homelessness, Issue.

POAH. (2025). What is Trauma-Informed Design

Pötzl, C., Siegesmund, S., Dohrmann, R., Koning J., M., Wedekind W., . (2020). Volcanic tuffs as natural building stones: Mineralogy, technical properties, deterioration and conservation strategies.

Simpson, J., H.,. (1929). The Work of the Greek Refugee Settlement Commission. Journal of the Royal Institute of International Affairs, Volume 8.

Steigemann, A., M., Misselwitz, P.,. (2020). Architectures of asylum: Making home in a state of permanent temporariness.

Trautmann, M. (2024). Non-Durable Solutions: The Harm of Permanently Temporary Refugee Habitation. Journal of Applied Philosophy, volume 14.

UNHCR. (2023). Global Trends Report - Forced Displacement

Vardanyan, S. (1959). Armenian vernacular housing architecture.

Wardeh, M., Marques, R., C.. (2021). Sustainability in refugee camps: A comparison of the two largest refugee camps in the world. Journal of Refugee.

Wrasman, H., Neumueller, H.,. (2025). Through the Lens of Trauma Informed Design.



APPENDIX

INTERVIEWS

WITH DISPLACED ARTSAKH ARMENIANS

Azadouhi Aguilian, 2025
Supervisor: Anna Braide
Examiner: Kaj Granath
Chalmers School of Architecture,
Department of Architecture & Civil Engineering



ELINA AGHAJANYAN | 25

Can you describe how your home in Artsakh was like? Was it a house, apartment, etc.?

I still remember all the details, it was not that long ago. We lived in a 3-room apartment, fifth floor, on the edge of the capital, Stepanakert, Artsakh. But my grandparents had a house in the northern part of the city. I would frequently walk from one side of the town to the other during the blockade to visit them.

How was the process of leaving Artsakh for you and your family? What challenges and decisions did you face during the evacuation?

The process of moving was very hard. For us, who were in the city, had it easier in a sense that we had time to digest the fact that we might leave our homes forever, and we could plan to take things with us. It was hard because at that moment I did not believe that we were actually going to leave and now that I look back at it, I keep saying, "Oh, I left this or that there!" or "Why did I not bring that with me?". But at that moment any value system zeroes out and makes you want to not take things with you. It is as if life stops and you stop thinking about the future or that you can take things with you for future use, even as just a memento.

The difficulties on the way were the long hours in the car and the lack of sanitary and hygiene conditions. It usually takes about 2 hours to get from Stepanakert to Goris (an Armenian town bordering Artsakh), but it took us 32 hours. It was a terrible experience, especially going to the restroom...

I saw all sorts of things on the way. For example, broken down cars with the passengers just standing on the side of the roads, not knowing what to do and how to save their lives. Cars that were packed with people...

As for decisions, it was not really a decision. It was between our independence and identity. We could either stay and be the only family in Artsakh with Armenian roots, or leave and keep our identity and ethnicity. We chose our independence and left. I would rather not be in Artsakh but keep my independence. The hardest thing was to know that you are forever leaving your home with no way of returning.

Another moment that is still difficult for me was when I locked the door to our home and left. I always try to look at things positively and the fact that we were able to get out of there safely was a miracle. They could've not let us leave Artsakh.

What do you feel you've lost due to the conflict and your displacement? (e.g., family members, friends, homes, livelihoods, sense of identity)

Thank God we did not have any casualties in my family in 2023. However, I had many friends and acquaintances who died in the explosion during the evacuation.

What would you have liked to bring with you from Artsakh to Armenia?

I brought some soil with me. There is nothing else that I would have liked to bring. I wanted everything to stay in its place. I did not want to touch anything, because if I decided to bring one thing, I would want another thing and another and another... So I decided to leave everything there where it belonged and keep the memories of my home unchanged.

What memories from Artsakh bring you the most comfort?

I am haunted by bad memories after these events. But my entire childhood memories are enough to comfort me.

How have you coped with the emotional strain of displacement and war? What has helped you stay resilient?

I have not coped with it completely. There are many emotional strains and difficulties. I even feel it on myself sometimes. I have changed, I notice an



"THE HARDEST PART WAS TO KNOW THAT YOU ARE FOREVER LEAVING YOUR HOME WITH NO WAY OF RETURNING."

-- Elina Aghajanyan, 25

"Last time we drank tea at our house"
Aghajanyan, E. (2023)





“On the way form Stepanakert to Goris”
Aghajanyan, E. (2023)



“I CANNOT SEE MYSELF LIVING SOMEWHERE OTHER THAN ARMENIA.”

-- Elina Aghajanyan, 25



“On the way form Stepanakert to Goris”
Aghajanyan, E. (2023)

indifference in me and it makes me think, “I was not like this...” My work helps me the most, it distracts my thoughts.

Have you gotten professional help?

No, I have not. Yes, it is hard to deal with this, but I like to solve my problems myself. Because no matter how much people want to help and give their opinions, it is up to me to actually fix my problems.

How do you feel about the future of Artsakh, and how does that affect your emotional well-being?

I do not know, I do not live off of dreams. Even if there is a chance to go back there, I will only be there as a visitor. And even if everything is the way it was before, I cannot see myself going back there to live.

What are the most urgent needs you and your family are facing right now (e.g., housing, healthcare, employment)?

There are no urgent needs. We have a place to stay, a rental apartment. The only thing that worries me is the thought of living as a renter for the rest of my life. Sure, we make enough to afford it, but I do not feel like I have much left of my salary after payment day.

How has access to education, healthcare, and other essential services changed since you’ve been displaced?

I did not feel any difficulty or changes, as I was already living in Yerevan before. Furthermore, I was already adapted to the change. But I can see how my friends and family are struggling with adapting sometimes. As for healthcare, recently, my mother forced me to register in a clinic. I usually avoid things like that.

How did you find housing after moving to Armenia?

At first, we found a house in Dilijan. So my whole family, grandparents and uncles included, moved there. They still live there now, but I moved to Yerevan with my mother to work. Finding the apartment was not too hard, but it was not easy.

Do you prefer to live in Armenia or abroad? Why?

Definitely Armenia. I cannot see myself living somewhere other than Armenia.

Would you prefer to live in a community made up exclusively of Artsakh Armenians, or a mixed one with locals?

If I had to answer for all the Artsakh Armenians that moved to Armenia in 2023, as well as my family, I would say yes, they would have liked to have more Artsakh Armenians around them, mostly because they have not adapted yet. But for me, it does not matter, as I had been living here during my education.

What are your hopes and goals for the future—for yourself, your family, and your community?

I am not very sure. I have a goal of getting an apartment of our own so we stop paying rent. But if it was just for me, I would not even strive for that. Right now, my only goal is to know Armenia better by traveling and hiking Mount Ararat this upcoming summer.

How do you imagine your life evolving in the coming years? What dreams or goals do you have?

I am really not sure. If I had to answer based on the political state Armenia is in now, I would never know. I do not know and I do not even want to think about what could happen in the future. I am trying to live in the present and not focus on the future.

What opportunities would help you achieve your goals?

Since my goal is to travel, financial issues can be a problem.

SOFYA ADAMYAN | 48

Can you describe what your home in Artsakh was like? Was it a house, apartment, etc.?

We owned a villa in the centre of Stepanakert, with a large garden. We had many fruit trees in the garden, such as green and red apples, figs, pears, hazelnuts, and numerous cherry trees. I also grew strawberries, raspberries, black and white mulberry trees, black and red currant bushes, along with various seasonal decorative flowers. We additionally had hanging grapevines off our pergola and climbing blackberries covering the fences. It was an immense pleasure for me to grow and harvest all the fruits and berries from our garden. In one corner of our garden, we had a sitting area, where we had a table and comfortable chairs and sofas, a barbeque, and some storage cabinets. We spent most of our time here during spring and summer, from March to October, enjoying our garden and the sound of chirping birds. We used to gather here with our neighbors, friends, and family and have dinner or tea, and desserts made with fruits grown in the garden. I could go on and on about my home, family and friends, colleagues, city, and every corner of my homeland.

How was the process of leaving Artsakh for you and your family? What challenges and decisions did you face during the evacuation?

Psychologically, it was the hardest and most stressful challenge my family and I have ever faced, which to this day we have not gotten over. The difficulties were plenty; being in a blockade for 9 months, the lack of water, food, gas, electricity, struggling and withstanding all that, only for a war to begin and to be forced to leave our homeland against our wishes. And that hellish trip to Armenia, which took three to five days. Knowing everything our people have gone through, and not knowing whether we would make it to safety or not... It is impossible to describe it with mere words.

What do you feel you've lost due to the conflict and your displacement? (e.g., family members, friends, homes, livelihoods, sense of identity).

The losses were great. I lost my homeland, my friends, people dear to me, colleagues... I can't even place flowers on their graves... I lost my home, which had sentimental value for me, since it had been passed down to me from my great-grandparents. All my memories are left behind there, because I couldn't fit everything into one suitcase, other than my house keys, family photographs, and a handful of soil. I have also lost my stable work, but compared with all the other losses, this one is secondary. After such tremendous losses, the priorities and values one has in life shift.

What would you have liked to bring with you from Artsakh to Armenia?

If I could, I would like to transport the Tatik and Papik monument. I know that the cleanness of nature, the air, the food, and the relations are irreplaceable and can never be found elsewhere.

What memories from Artsakh bring you the most comfort?

Back when Shushi had not fallen yet, it only took 15 - 20 minutes from Stepanakert, and I used to go there every Sunday to meet my friends and join the sermon in the St. Ghazanchatsots church. After that, we would go to Jdrdyuz to have a picnic or just some tea and talk until late at night. We often went out of the city and into nature. We really loved every corner of Artsakh, all the churches and monasteries, all the forests, the beautiful nature, and the clean air.

How have you coped with the emotional strain of displacement and war? What has helped you stay resilient?

Everything that was happening and the difficulties were taking a toll on me, but I overcame them with the help of my husband, who is from Aleppo, Syria. He has also had experience with war and displacement due to the conflicts there.



**“TO ME, A SAFE DWELL-
ING MEANS A PLACE
THAT I CAN CALL MY
OWN WITHOUT ANY RISK
OF SAFETY IN THE COUN-
TRY. APART FROM HAV-
ING MY OWN PERSONAL
HOME, IT IS VERY IM-
PORTANT TO ME FOR MY
COUNTRY TO BE SAFE
WITH A GUARANTEE FOR
A SECURE FUTURE.”**

-- Sofya Adamyan, 48

I took every job opportunity, regardless of what it was, to keep my thoughts occupied, but subconsciously, I was imagining returning to Artsakh.

How do you feel about the future of Artsakh, and how does that affect your emotional well-being?

In the current circumstances, with the entire world being quiet about the matter and the present conditions of the government, it is impossible to think about the future of Artsakh or our own future. Only when the world awakens and our government changes might it be possible for us to consider a future where we one day return to our free and independent homeland. Sadly, it has left a terrible impact on both the older and younger generations, which has caused many to have health problems. The futures of many were cut short due to the war.

What are the most urgent needs you and your family are facing right now (e.g., housing, healthcare, employment)?

The problems are abundant, but I will point out the absurdly high rent of rental apartments, which disregards the average income in Armenia. To put it simply, the low income is not enough for both rent and household needs. I can also say that the majority of us who have moved to Armenia are unemployed since many have developed different health issues from living in difficult conditions for 9 months.

How has access to education, healthcare, and other essential services changed since you've been displaced?

When it comes to education and healthcare, a lot of positive opportunities have been created for us. However, not every person is able to find their place in Armenia. By that, I mean that most people are not able to find work related to their main occupations. Most of us have to pick an entirely new occupation to train for, with specialised programs made possible by the charity organizations. For example, we can train to become hairdressers, manicurists, accountants, and to do administrative work, even though those aren't our specialties.

What does a safe dwelling mean to you?

To me, a safe dwelling means a place that I can call my own without any risk of safety in the country. Apart from having my own personal home, it is very important to me for my country to be safe with a guarantee for a secure future.

What is essential for maintaining privacy in a dwelling situation?

For me, the only thing that is important is to have my own private property in order to maintain my privacy. Only then will it be possible to put my life back together.

How did you find housing after moving to Armenia?

I managed to find housing through a site called "List.am", Facebook, and through different brokers. When the Armenian residents found out that we, the people of Artsakh, were on our way to migrate, the prices of ordinary housing were raised astronomically. It was nearly impossible to find any housing at normal price rates, so in the end, we were forced to pick one of those expensive options.

Do you prefer to live in Armenia or abroad? Why?

I prefer to live in my homeland, Armenia, but at times when they make you, an Armenian of Artsakh, out to be different than a native Armenian, you start feeling like a foreigner. For a moment, the thought of living abroad crosses your mind, as it is better to live in a foreign country than to be treated like you are foreign in your own country.

Would you prefer to live in a community made up exclusively of Artsakh Armenians, or a mixed one with locals?

To me, it makes no difference whatsoever. As long as my neighbours are human beings, I am fine with anyone.

What type of meetings do you think are contributing to an enhanced community experience?

In our community back home, we had barbeque parties every week with our neighbours, which really made us into a tighter community.

What common activities are essential for refugees in a housing setting?

Having barbeque feasts and time to spend with the family is quite important. Gardening outdoors and harvesting fruits with my family is another thing that has become a big part of my life, which I really enjoy.

How can indoor and outdoor spaces contribute to a qualitative dwelling?

I can speak from my experience and say that after living in a large home, it is nearly impossible to live in a smaller home. Currently, we are living in a three-room apartment with a fairly big living room, which allows the entire family to gather there or to chat and have some coffee with guests. Having a yard is not bad at all, but if it is not possible to have one, then you usually get used to it. But if you do have a garden with a lot of fruit trees or berry bushes, then that would enhance the feeling of home even more when you go out to pick fruits with your family, which you then eat and enjoy.

In what way would you prefer to meet the everyday life of a new town, arriving as a refugee? Would you visit places in the village? And if so, what places? What is attractive to do/not attractive / and why?

Dilijan is a very pretty city, so I would try to visit different places there with my family. Doing so would help me and my family familiarise ourselves with the local residents and see what daily life looks like there.

What are your hopes for the future—for yourself, your family, and your community?

I hope for the government to take even more actions for the sake of improving the living conditions of the people of Artsakh. I hope that every family will have their own home and corner to continue living in the homeland, Armenia.

How do you imagine your life evolving in the coming years? What dreams or goals do you have?

I am imagining the country to be peaceful, the lost homeland to be recovered, and to live peacefully inside the homeland with my family.

What opportunities would help you achieve your goals?

There's not really much I can do in the situation since the issues are political. It's up to the respective governments.



**“HAVING BARBEQUE
FEASTS AND TIME TO
SPEND WITH THE FAMILY
IS QUITE IMPORTANT.
GARDENING OUTDOORS
AND HARVESTING
FRUITS WITH MY FAMILY
IS ANOTHER THING THAT
HAS BECOME A BIG PART
OF MY LIFE, WHICH I RE-
ALLY ENJOY.”**

-- Sofya Adamyan, 48

MARGARITA AFANASYAN | 45

Can you describe what your home in Artsakh was like? Was it a house, apartment, etc.?

I lived in a private villa with my family. Nothing too big, but it was cozy and nice. It was a very special place to me.

How was the process of leaving Artsakh for you and your family? What challenges and decisions did you face during the evacuation?

During the evacuation, we scrambled to pack up and bring along as many things as possible, but we weren't able to carry most of them. It was quite challenging trying to figure out what to take with us as well. We ended up leaving most of the stuff behind since the car we were going to evacuate by was very old and could barely hold our weight.

What do you feel you've lost due to the conflict and your displacement? (e.g., family members, friends, homes, livelihoods, sense of identity).

To me, one of the greatest losses that I took, I would say, was my job, which I'd had for over twenty years. It's been very difficult ever since without my very familiar workplace, but that loss does not measure as highly when compared to the tremendous loss of our home, Artsakh.

What would you have liked to bring with you from Artsakh to Armenia?

I would have loved to bring my child's bag along with us. It meant a lot to me, since it was family heirloom.

What memories from Artsakh bring you the most comfort?

The memories I have of the nature of Artsakh is one of many things that brings me much comfort, along with our yard from back home and my workplace.

How have you coped with the emotional strain of displacement and war? What has helped you stay resilient?

To be honest, I've had a lot of difficulty in coping, and it still takes a huge toll on my emotional well-being. It's not easy leaving your entire life behind and starting from the bottom again. But thankfully, my family has been around me, supporting me through it all, which has helped me stay resilient.

How do you feel about the future of Artsakh, and how does that affect your emotional well-being?

It pains me. A lot. There's no way to really express this pain with only words. We had spent fourteen years building our villa, only to lose it in the blink of an eye. We barely even got to enjoy it, and now it's gone. It feels nauseating every time I even think about it.

What are the most urgent needs you and your family are facing right now (e.g., housing, healthcare, employment)?

Housing is the biggest concern for me, since I do not own my own house or apartment. Currently, I am living in a rental apartment, which is not very economically sustainable.

How has access to education, healthcare, and other essential services changed since you've been displaced?

Despite how far away we live from Yerevan, everything is still very accessible to us. Currently, we are living in a small town outside of Yerevan, and we have all been managing to get to school or work in Yerevan without any difficulties.

What does a safe dwelling mean to you?

A place where I can leave my kids without having to worry about them



“THE MOST IMPORTANT PART FOR MAINTAINING PRIVACY IS HAVING ENOUGH SPACE AND ROOMS FOR EVERYONE.”

-- Margarita Afanasyan, 45

getting killed.

What is essential for maintaining privacy in a dwelling situation?

I think that the most important part for maintaining privacy is having enough space and rooms for everyone. For example, in our case, there are five people in my household, and everyone needs their own space and privacy.

How did you find housing after moving to Armenia?

We received help from some of my husband's relatives when we were looking for a place to stay in Armenia, which is how we found the apartment we are currently staying in.

Do you prefer to live in Armenia or abroad? Why?

I would much rather prefer to live in Armenia. Mainly because of the economic constraints. Frankly, it costs a lot to move abroad, and at this moment, we would not be able to afford that.

Would you prefer to live in a community made up exclusively of Artsakh Armenians, or a mixed one with locals?

I'd pick a mixed community.

What type of meetings do you think are contributing to an enhanced community experience?

In my opinion, religious events would contribute the most to unifying and enhancing the community experience. It would really tighten the bond between everyone inside the community.

What common activities are essential for refugees in a housing setting?

Having chats with everyone would be a crucial activity, I think. Baking zhingyalov hats* once a week with the community is also very important in upholding our traditions.

How can indoor and outdoor spaces contribute to a qualitative dwelling?

In my opinion, it's the endless possibilities that your own home gives with access to everything you have there, such as cooking appliances in the kitchen, which increase the quality of life for someone like me, as I like to cook a lot.

In what way would you prefer to meet the everyday life of a new town, arriving as a refugee? Would you visit places in the village? And if so, what places? What is attractive to do/not attractive / and why?

I'd like to go around visiting the different monuments and areas of the town with my family in order to familiarise ourselves with the town and the townsfolk. I personally love very crowded places because the town feels much livelier when there are people all around the streets.

What are your hopes for the future—for yourself, your family, and your community?

At this point in time, I cannot see any sort of future. All my hopes for a healthy and happy future have been shattered since our home was taken away from us.

How do you imagine your life evolving in the coming years? What dreams or goals do you have?

I have many dreams, but none of them seem to be in my reach. One of my current goals is to open my own start-up business where I sell jams and juices from rose petals, as well as different kinds of fruits and berries.

What opportunities would help you achieve your goals?

Some financial aid for start-up companies would go a long way in helping me with my goal of opening up my very own start-up business.



“HAVING CHATS WITH EVERYONE WOULD BE A CRUCIAL ACTIVITY, I THINK. BAKING ZHINGYALOV HATS ONCE A WEEK WITH THE COMMUNITY IS ALSO VERY IMPORTANT IN UPHOLDING OUR TRADITIONS.”

-- Margarita Afanasyan, 45

*Zhingyalov hats are a staple traditional dish of Artsakh Armenians.



“AT THIS POINT IN TIME, I CANNOT SEE ANY SORT OF FUTURE. ALL MY HOPES FOR A HEALTHY AND HAPPY FUTURE HAVE BEEN SHATTERED SINCE OUR HOME WAS TAKEN AWAY FROM US.”

-- Margarita Afanasyan, 45

LUSINE VANYAN | 37



“BY MEETING UP WITH OTHER PEOPLE FROM ARTSAKH TO SHARE OUR EXPERIENCES WITH EACH OTHER AND HELP EACH OTHER OUT TO THE BEST OF OUR ABILITIES, AND BY SUPPORTING EACH OTHER EMOTIONALLY, WE CAN HAVE STRONGER COMMUNITY.”

-- Lusine Vanyan, 37



“IN MY OPINION, HAVING SPACE OUTDOORS TO PLANT VEGETATION ADDS TO THE QUALITY OF LIFE AT HOMES.”

-- Lusine Vanyan, 37

Can you describe what your home in Artsakh was like? Was it a house, apartment, etc.?

We had a three-bedroom apartment in the centre of Stepanakert with our very own garden in the back.

How was the process of leaving Artsakh for you and your family? What challenges and decisions did you face during the evacuation?

It was very difficult, both physically and emotionally. We had to make the extremely difficult decision of leaving our kitten behind, along with many of our cherished items. It hurts me to this day.

What do you feel you've lost due to the conflict and your displacement (e.g., family members, friends, homes, livelihoods, sense of identity)?

Many things. I lost my home, I lost my job, I lost many friends who were very dear to me, and I have felt my own health deteriorate as a result of it all, both physically and mentally.

What would you have liked to bring with you from Artsakh to Armenia?

This may sound strange, but I would have liked to bring my collections of books and carpets from there. Those meant a lot to me.

What memories from Artsakh bring you the most comfort?

Sometimes I find myself reminiscing about the peaceful times when I'd be reading a book while my kitten slept on my lap. It was peaceful and perfect.

How have you coped with the emotional strain of displacement and war?

What has helped you stay resilient?

I've been going to therapy, which has helped me quite a bit, but I haven't managed to overcome all of the pain yet. I'm still far from a complete recovery.

How do you feel about the future of Artsakh, and how does that affect your emotional well-being?

I genuinely don't know how to answer that question. It's very hard to say.

What are the most urgent needs you and your family are facing right now (e.g., housing, healthcare, employment)?

I am most urgently in need of employment and healthcare. Ever since I lost my job back home, I've had difficulties finding a new one in Armenia.

How has access to education, healthcare, and other essential services changed since you've been displaced?

I haven't noticed any major differences since my displacement and would say that all of those are just as accessible to me now as they were before.

What does a safe dwelling mean to you?

To me, a safe home is a place without any risk of being attacked, ransacked or killed.

What is essential for maintaining privacy in a dwelling situation?

Having my own private room is pretty important; otherwise, not much else.

How did you find housing after moving to Armenia?

I searched on Facebook until I eventually found an apartment with an okay rent. It's not the best but I have to make due.

Do you prefer to live in Armenia or abroad? Why?

It's a very difficult question. I am very conflicted about my answer, so I don't

know how to answer.

Would you prefer to live in a community made up exclusively of Artsakh Armenians, or a mixed one with locals?

I would be fine with either. It doesn't really matter.

What type of meetings do you think are contributing to an enhanced community experience?

By meeting up with other people from Artsakh to share our experiences with each other and help each other out to the best of our abilities, and by supporting each other emotionally, we can have stronger community.

What common activities are essential for refugees in a housing setting?

Eating food together with family and friends.

How can indoor and outdoor spaces contribute to a qualitative dwelling?

By giving one the space to improve and work on themselves, while also being very comfortable and enjoyable to lounge and relax in. In my opinion, having space outdoors to plant vegetation adds to the quality of life at homes.

In what way would you prefer to meet the everyday life of a new town, arriving as a refugee? Would you visit places in the village? And if so, what places? What is attractive to do/not attractive / and why?

I would really like to wander around the town and visit some of the surroundings. Maybe some of the more popular places.

What are your hopes for the future—for yourself, your family, and your community?

I hope to be able to find a decent job for myself or to be able to start a business of my own.

How do you imagine your life evolving in the coming years? What dreams or goals do you have?

I see myself integrating more in Yerevan and gaining more job qualifications that are relevant to many jobs here.

What opportunities would help you achieve your goals?

Professional support and grants from large foundations would help me a lot in achieving my goals.

EMMA PETROSYAN | 29



“I LOST MORE THAN A HOME—I LOST THE FEELING OF BELONGING. EVERYTHING THAT FELT STABLE JUST VANISHED. FRIENDS, NEIGHBORS, EVEN MY SENSE OF ROUTINE. I ALSO HAD TO GIVE UP PLANS I’D WORKED FOR—THINGS I WAS BUILDING FOR THE FUTURE. IT FEELS LIKE I’M TRYING TO START AGAIN WITH HALF OF MYSELF MISSING.”

-- Emma Petrosyan, 29

Can you describe what your home in Artsakh was like? Was it a house, apartment, etc.?

I lived in an apartment in Stepanakert—a place that wasn’t just four walls and a roof, but a space filled with warmth, love, and memories. Every corner held a piece of our lives: the kitchen where we shared meals and laughter, the living room where we gathered with friends and family, the windows that framed a city that felt like an extension of my soul. It was more than a home. It was a part of my identity.

How was the process of leaving Artsakh for you and your family? What challenges and decisions did you face during the evacuation?

Leaving didn’t feel real at first. It was fast and full of panic, like being pulled out of your life with no warning. We didn’t have time to think, only to move. It wasn’t a choice, it was survival. What hurt most was not knowing if we’d ever come back, or what we were really walking away from.

What do you feel you’ve lost due to the conflict and your displacement? (e.g., family members, friends, homes, livelihoods, sense of identity).

I lost more than a home—I lost the feeling of belonging. Everything that felt stable just vanished. Friends, neighbors, even my sense of routine. I also had to give up plans I’d worked for—things I was building for the future. It feels like I’m trying to start again with half of myself missing.

What would you have liked to bring with you from Artsakh to Armenia?

Honestly, I wish I could’ve carried my entire home with me—brick by brick. But more than stuff, I wish I had brought a sense of peace. I forgot to take photos, little items that meant something...and more than anything, I wish I’d brought some kind of hope that we’d be able to go back.

What memories from Artsakh bring you the most comfort?

It’s the little things I miss most. The early mornings when the streets were quiet, the smell of fresh bread, kids playing outside, and familiar voices calling out from balconies. I find comfort in remembering family gatherings, celebrations, and the traditions that made us who we are. No matter where I go, those moments still live in me.

How have you coped with the emotional strain of displacement and war? What has helped you stay resilient?

There is no single way to cope with something like this, but I’ve found strength in staying active and focused. I channel my energy into work, learning, and helping others who are going through similar experiences. The support of family and community has been a lifeline. I haven’t sought professional help, but I do recognize the importance of processing these emotions and taking care of my mental well-being.

How do you feel about the future of Artsakh, and how does that affect your emotional well-being?

It’s painful to think about Artsakh’s future because so much of it feels uncertain. The thought of losing our homeland, culture, and heritage weighs heavily on my heart. But I also believe in the strength of our people. No matter where we are, we carry Artsakh with us, and I hope that one day, in some way, we can rebuild what was lost.

What are the most urgent needs you and your family are facing right now (e.g., housing, healthcare, employment)?

Like many displaced families, housing and financial stability are ongoing concerns. The emotional and psychological impact of displacement is also something we navigate through on a daily basis. We are trying to rebuild the lives we lost to the best of our abilities, but the process is long and arduous.

How has access to education, healthcare, and other essential services changed since you've been displaced?

There are more opportunities in Yerevan in some ways, but adapting to a new system is not easy. Access to services exists, but the financial strain and emotional toll make everything more complicated. The biggest challenge is not just availability, but feeling like we truly belong here.

What does a safe dwelling mean to you?

It means knowing I won't have to pack up again. A safe home is a place where I can rebuild, where I can feel like I have control over my future again.

What is essential for maintaining privacy in a dwelling situation?

Just having a corner of your own makes a big difference. A space to be quiet, to think, to breathe. Even a curtain or door means a lot when everything else in your life feels exposed.

How did you find housing after moving to Armenia?

It was really hard. We leaned on friends and family, took what we could find. It wasn't about choosing a place—it was about taking whatever was available and trying to make it livable. Turning it into something that felt a bit like home.

Do you prefer to live in Armenia or abroad? Why?

Armenia is my homeland, but stability and opportunity play a huge role in long-term decisions. I want to be where I can grow, contribute, and build a future, while still staying connected to my roots.

Would you prefer to live in a community made up exclusively of Artsakh Armenians, or a mixed one with locals?

A mix of both. Being around others from Artsakh provides comfort, but integration with the broader community is important for moving forward and feeling truly at home.

What type of meetings do you think are contributing to an enhanced community experience?

The kind where people actually talk to each other. Share stories, listen, and help. Whether it's cultural events, support groups, or just neighbors having tea. These small connections help build something bigger.

What common activities are essential for refugees in a housing setting?

Maybe community-building activities, support groups, cultural events, and skill-development workshops can help create a sense of purpose and belonging.

How can indoor and outdoor spaces contribute to a qualitative dwelling?

Outdoor spaces give you room to breathe, especially when emotions are heavy, while cozy indoor spaces create a sense of comfort and personal stability.

In what way would you prefer to meet the everyday life of a new town, arriving as a refugee? Would you visit places in the village? And if so, what places? What is attractive to do/not attractive / and why?



“A SAFE HOME IS A PLACE WHERE I CAN REBUILD, WHERE I CAN FEEL LIKE I HAVE CONTROL OVER MY FUTURE AGAIN.”

-- Emma Petrosyan, 29



“BEING AROUND OTHERS FROM ARTSAKH PROVIDES COMFORT, BUT INTEGRATION WITH THE BROADER COMMUNITY IS IMPORTANT FOR MOVING FORWARD AND FEELING TRULY AT HOME.”

-- Emma Petrosyan, 29



“OUTDOOR SPACES GIVE YOU ROOM TO BREATHE, ESPECIALLY WHEN EMOTIONS ARE HEAVY, WHILE COZY INDOOR SPACES CREATE A SENSE OF COMFORT AND PERSONAL STABILITY.”

-- Emma Petrosyan, 29

I'd want to explore places that help me feel connected, such as markets, cultural centers, and public spaces where I can learn and engage. Nature is also important as it offers a sense of peace in times of uncertainty.

What are your hopes for the future—for yourself, your family, and your community?

I hope for stability, for opportunities to rebuild, and for a future where our identity and history are preserved. For my community, I dream of resilience, dignity, and the chance to thrive despite everything we've had to endure.

How do you imagine your life evolving in the coming years? What dreams or goals do you have?

I want to continue growing professionally, contribute to meaningful projects, and build a life where I feel secure and fulfilled. My dreams are centered around personal growth, career development, and ensuring that I never lose my connection to my roots.

What opportunities would help you achieve your goals?

Access to education, professional development, and financial stability. Having support networks, mentorship, and a sense of direction would help me rebuild and achieve my goals.

I would like to personally thank E. Agahajanyan, S. Adamyan, M. Afanasyan, L. Vanyan, and E. Petrosyan for taking part in the interviews, and I wish nothing but health, prosperity, and good fortune as they rebuild their lives.