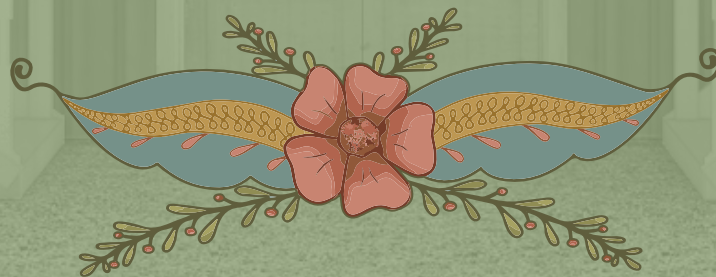


Rural Revitalization



Grim Istemo Tjernström
Examiner : Anna Braide | Supervisor : Jan Larsson

Chalmers School of Architecture
Department of Architecture & Civil Engineering

2024



Rural Revitalization

Architecture and Advanced Programmes | 2024

Grim Istemo Tjernström
Examiner : Anna Braide | Supervisor : Jan Larsson

Chalmers School of Architecture
Department of Architecture & Civil Engineering



Acknowledgments

I want to express my gratitude and thanks to the people who helped me throughout this thesis.

My supervisor Jan Larsson, who has supported me through the whole development of this thesis with invaluable expertise and motivation.

My girlfriend, for being there for me and supporting me through thick and thin during all my years at Chalmers.

My profile classmates, for moral support, guidance, and working countless late nights with me.

My parents, for sharing their interests in art, architecture, construction, and history with me.

My sisters, for giving me countless happy memories in Hälsingland. Without these memories my love for the nature and culture of rural Sweden would not be the same.

My uncle whose farm I'm using for the project, and my cousin who grew up there, giving me insights, pictures, and helped me develop a respectful proposal.

A final thanks again to my girlfriend who created the floral illustrations seen through the project, and my younger sister, who created the illustrations of the four families.



Contact

Grim Istemo Tjernström

Phone: (+46)76 093 38 66

Email: grim.tjernstrom@gmail.com



Abstract

Old farm buildings throughout Sweden represent a great example of built heritage, as quintessential with the traditional image of Sweden as meatballs and long winters. This heritage consists of thousands of buildings across the country, but with a relatively recent shift in the typology of agriculture, many of these farms face future decay and disrepair if not given a new purpose.

Meanwhile, there is a clear trend emerging which states that young people now more than before are looking to leave cities to find a new home in the countryside, partially the consequence of rising house prices and burnout in cities.

This thesis explores the possibility for these beautiful old farms to be transformed into small scale social communities, giving young families a realistic alternative to urban life.

The communities are inhabited by multiple families, each either renting an apartment or owning a private home with their own garden, with land, equipment, and vehicles being shared between them.

Existing buildings are renovated and repurposed into a variety of new functions. Through exercises and references, I identify some of the best visual and technical qualities in barns that can be utilized.

The resulting proposal consists of a repurposed large barn with space for commercial venues and multiple apartments, supplemented with four large private homes for growing families.

The new developments take special care to respect their surroundings and the historical architectural traditions in the region.

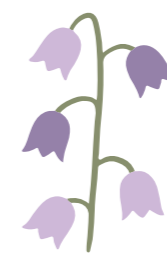
While the thesis presents a tangible proposal, the concept is designed to be generic enough to be easily applicable across the country on farms of different sizes and styles.

Contents

1. Background	01	7. The Site	21
1.1 Societal Background	02	7.1 Inventory of Existing Buildings	22
1.2 Deteriorating Cultural Heritage	03	7.2 Details	26
1.3 Issues	04		
<hr/>			
2. Aim, Method and Research Question	06	8. Proposal - New Functions in Old Buildings	29
2.1 Aim	06		
2.2 Method	08	9. Creating The New Homes	35
2.3 Research Question	09	9.1 Shape, Function, and Number of Additional Houses	37
<hr/>			
3. Contributions and Delimitations	09	9.2 References For New Homes	38
3.1 Contribution	09		
3.2 Delimitations	09		
<hr/>			
4. A Personal Context and Advanced Programmes	10	10. Proposal - The New Homes	41
4.1 A Personal Context	10		
4.2 Advanced Programmes	11	11. All The Pieces Put Together	49
<hr/>			
5. The Existing Buildings	13	12. Discussion and Summary	54
5.1 The Typology	14	12.1 Wider Application	55
<hr/>			
6. New Functions in Old Buildings	16	13. References	57
6.1 Farms in Hälsingland	16		
6.2 Exercise Exploring Barns	17		



1.
BACKGROUND



1.1 Societal Background

Housing and Working life

Today 85% of Swedish residents live in cities (Urbanisering – från land till stad, 2015), but more and more young Swedes are looking for an alternative.

There is a studied increase in people looking to live in small towns or the countryside (Färre unga vill flytta till storstäderna, 2021) (Landsbygden lockar storstadsbor - inte tvärtom, 2017), and 7 out of 10 people would like to live in a house with a garden, a number much larger than the amount of Swedes that currently live that way (7 av 10 vill bo i småhus, n.d.).

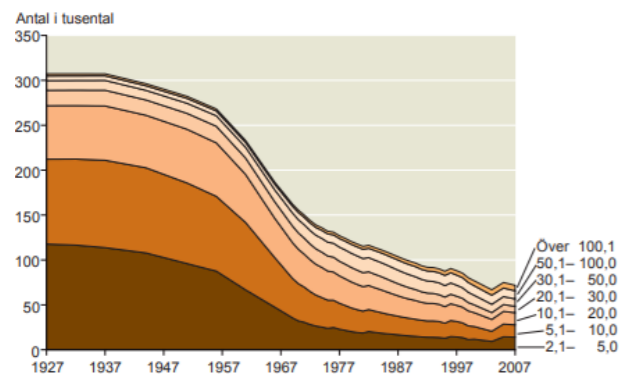
Studies show that there is a lesser focus than previously on having a successful career. Young Swedes today would rather have a job that feels meaningful and has good benefits than one that is competitive and has a high status, a factor that historically attracted people into cities. (Insikter från ungdomsbarometern, n.d.) (Kamlin, 2019)

Another huge factor as to why fewer and fewer young Swedes move into the larger cities is the rising housing costs and unavailability of affordable options. House prices are rising much faster than wages can keep up with, neither houses nor apartments near big cities are attainable for a huge part of the population.

Mental health

Come the last few years, the focus on mental health and well being has skyrocketed and more people than ever report being burnt out and stressed (Fler yngre drabbas av stress - så här känner du igen symptomen, 2024). One of the major reasons for burnout is anxiety and stress over their working life and having to perform, a consequence of the constant exposure to others successes and accomplishments (Därför blir fler unga utbrända, 2019).

I've noticed a longing for closeness to nature and space to breathe, away from the hustle and bustle. Space to grow your own food and own livestock. A place to raise your kids and slow down the pace of modern life.



Graph showing number of farms sorted by size. X-axis showing year and Y-axis numbers of farms, counted in thousands. The size of the land is counted in hectares.

Image source: (Antal företag storleksgrupper 1927-2007, 2011)

1.2 Deteriorating Cultural Heritage

Following urbanization and industrialism, farms in Sweden have gradually become dramatically fewer in numbers and larger in size. Farms have gone from supplying the towns they surround to being part of a huge industry, not even restricted by national borders.

This historically sudden shift in ownership of land has left thousands of farms without purpose and buildings without function. Many of these farms are beautiful old wooden buildings, filled with history and great craftsmanship. These are buildings in workable condition, able to stand many more years, but without a function their existence loses necessity and they risk falling into further decay and eventually being lost to time.

But, being abandoned and disused so recently also presents us with a critical window of opportunity. It's time to save this great part of Swedish cultural heritage while they're still in condition to be saved, and find them a new function that will grant them generations of love and care.

Possibilities

Luckily, with a generation that yearns for fresh air and land of their own, the simultaneously deteriorating heritage could be just the two challenges we needed to face both problems at once.

These rural farms present so many qualities that urban living currently cannot. With plentiful and cheap land, the common dream of owning a house with a garden that was previously so far from reach is suddenly not as impossible.

Responsibilities

While it can be relatively affordable to buy the farmhouse of your dreams, this carries huge responsibilities in many regards. Adjusting to a rural life can be challenging if you're not used to it and while it is certainly an option to urban life, there are now new challenges that present themselves. I've decided to categorize some of the main challenges into two basic categories, practical issues, and social issues.

1.3 Issues

Practical issues

Swedish farms vary greatly in their condition and need for renovations. There's not always fully equipped bathrooms, they're lacking in accessibility concerns and the supporting structures like barns sometimes need huge renovations that quickly become costly.

Living far from urban communities there can be a lack of job opportunities, although this is an issue that sees potential for improvement in the future with the advent and popularization of remote work.

Living far from commercial zones means a higher dependency on car-ownership, both an ecological and economical issue.

Public transport can be insufficient or even unavailable, although this isn't true everywhere and finding a farm withing bicycle-distance to a train station is not impossible.

Few options exist for education, with elementary schools often requiring school buses or relying on parents to transport their children, and higher education often requires the students to move or get their own vehicle. Often in the shape of a moped-car or A-tractor, popular with youth in many parts of rural Sweden.

Social Issues

While the practical issues are real, the heart finds a way, and the social issues become a larger hurdle for many. Maybe the biggest difference between living in a rural and urban setting is the social opportunities, or lack thereof.

Cities have a much larger supply of activities, events and opportunities to meet new friends and form romantic relationships, something that is often lacking in rural settings and small towns.

Low density means fewer neighbours and less opportunities to meet new people. Bad public transport means those you do get to know have a harder time visiting and socializing is more often done at the workplace or in school than at home. Moving anywhere far away often results in losing contact with friends you've made in the region you moved from.



2. Aim, Method and Research Question

2.1 Aim

I aim to develop a flexible method for converting old disused barns into social communities with space for multiple homes, amenities, and commercial venues, utilizing existing qualities and features.

I aim to develop a type of residential house specifically designed to fit on any redeveloped farm, with carefully chosen qualities to comfortably support a growing family in a rural setting.

In search of a solution

I, too, share the attraction with rural living that many others have. Therefore I write this thesis out of a personal frustration with all of these hurdles, and through these pages I aim to explore some possible solutions, while opening up for further debate considering the challenges we face.

A social community in a rural setting

As the largest hurdle is social, it is also the main focus point of the project. Living on a farm could be a social endeavor with multiple families living in their own houses but sharing the farmyard and supporting structures like barns and sheds.

These families could be groups of friends, siblings with families, or generational living, with multiple generations living as neighbours. Choosing your neighbours and living in close proximity to your family and friends could strengthen bonds and reinforce a focus on sharing and working together, whilst still offering privacy for each family and a space of your own.

Some of the units could also be used as seasonal living or rentals for those who want a vacation home for a shorter amount of time.

As children grow older they have the option to move out into their own dwelling while staying close to the family. Aging parents can for much longer live in their own home while still getting support from their children, and people with mental and physical disabilities can also experience independence and self-governance with the security of someone you trust always being near.

Practical benefits

Sharing of land comes with many opportunities and benefits. Most equipment purchased to maintain and improve gardens can be shared between everyone, and the cost of many things becomes much more attainable. Families can pool their money together to buy either objects of higher quality, or save the remaining money for other purchases. Larger pool, larger grill, better vehicles, more sporting equipment and more money for savings and travel.

Many things that you only need one or a few of can also be shared, such as tools, lawnmowers, gardening equipment, and cars.

You are not only able to share objects, but also responsibilities. With many families and many children, parents can take turns driving the kids to school, and staying home to watch the kids as other parents make plans.

You don't need to worry about watering plants, watching children, or feeding your pets and livestock when you want to take a vacation, as you have neighbours you trust to help you out.

Farmhouses usually have multiple supporting buildings, and the opportunities to transform these are endless. These buildings could for example be residential, shared by all, or commercial. This will be explored properly in a later chapter.

Not all farms are created equal

Some farms are more appropriate for a transformation than others. With thousands of options there are some factors that can be kept in mind.

Farmhouses on the market have often been inhabited up until today, often by retired farmers and older generations. This means the residential houses are generally in good shape, with reasonably low needs for large renovations. The same can't be said for supporting buildings. These buildings, previously barns and sheds, have sometimes been standing disused for decades without a proper function beyond cold storage. When purchasing a farm it is critical to look at the condition of these buildings, as even a little care over the years can go a long way. Some owners, while not fully utilizing all buildings, have still painted them and done small repairs as needed over time. Without insulation as most are, they are well ventilated and assuming a proper roof can stand for maybe centuries more.

A good candidate farm would have close proximity to either bus routes or a train station. The importance of public transport, even if at a small scale, is hard to overstate. This is much easier in certain regions than others. In some areas where normal public transport isn't available, buses can be requested to your location at the same rate as other bus routes. A good option, but insufficient for many.

While constantly improving, cell coverage and internet speeds can be a deciding factor. Unreliable internet connection with low speeds can make the option of remote work impossible.

A good site might be in close proximity to a larger road with higher traffic. This is preferably not a highway, but could be a country road near an attractive area like a ski resort, tourist attraction, town centre or other points of interest. The increased number of people makes it easier to open a successful business, rent out units, and is often accompanied by better public transport and larger investments in local infrastructure. Starting a successful business in the right area can attract further businesses, benefiting a thriving region with an increased flow of visitors.

2.2 Method

To reach the aim of the project,
I must thoroughly appreciate the spatial and
structural qualities of barns in Hälsingland

I have personally grown up spending much of my childhood in rural Sweden, specifically on the different farms and houses of my family in various parts of Hälsingland. For this thesis I have chosen one of these farms as the site of the specific proposal.

On this farm sits a common type of barn found in Hälsingland with great qualities both in its construction and spatial qualities. A big part of the methods used throughout this thesis will aim to explore these qualities and properly utilize them.

These qualities and the common prevalence of this kind of barn in northern Sweden is part of why this site was chosen. This type of barn and its flexible volume and construction will be detailed in a later chapter.

A lot of effort has also been spent on collecting and analyzing appropriate references for the expression and function of the new buildings.

2.3 Research Question

In what way can disused rural Swedish cultural
heritage be revitalized and repurposed

In what way can an alternative to urban life be
developed, incorporating some of the comforts
and social experiences of urban living?

3. Contribution and Delimitations

3.1 Contribution

This thesis aims to lay the groundwork necessary to answer the research questions as stated above. The intention is not to provide a fully finished proposal ready to be constructed, but to start a discussion around a decaying cultural heritage and ways to give disused buildings a future with new functions. By creating a modern social typology in a rural setting, this thesis also touches on secondary topics such as, traditional construction methods, sharing of property and land, and qualitative rural life. As a result I aim to contribute to a socially and economically sustainable alternative to urban life.

3.2 Delimitations

References, sources, images and discussions will mostly be based in a Swedish context. The project is designed to be flexible and applicable in many different scenarios and regions, but qualities are designed specifically with the defining factors of central and northern Sweden in mind.

With the goal of the thesis being a basis for discussion, many topics may be considered started but unfinished as I do not strive for absolute answers to every topic raised.

4. A Personal Context and Advanced Programmes

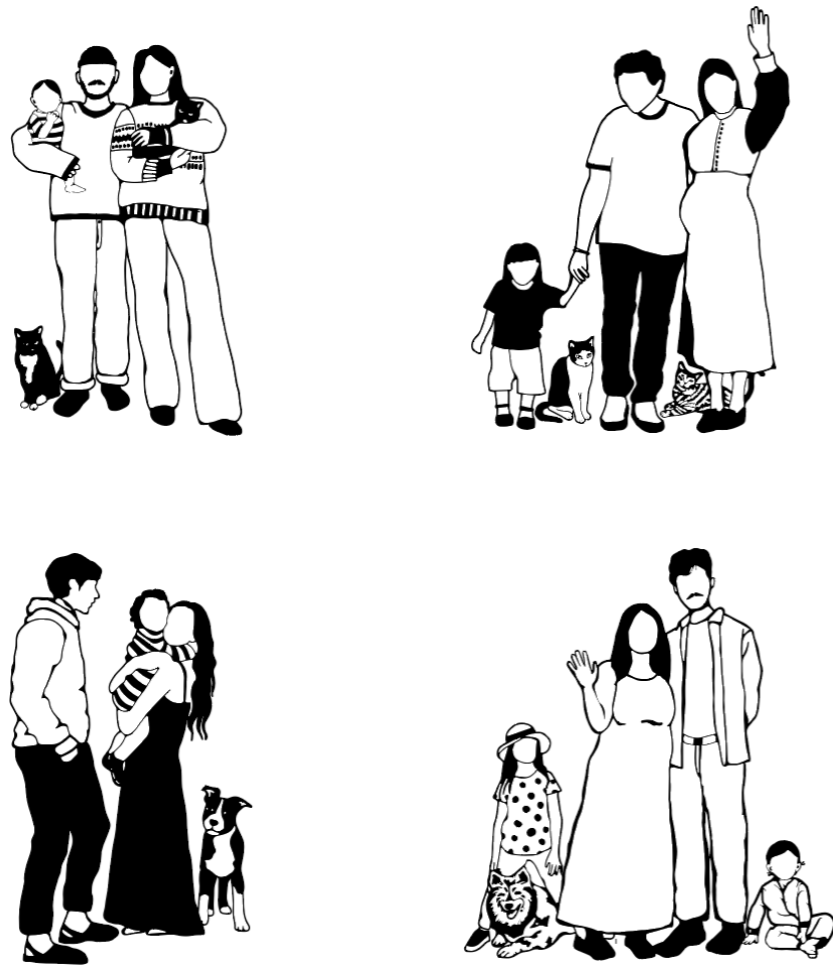
4.1 A Personal Context

I feel it's important to underline that the proposal and the supporting background is intended to be viewed as a general solution applicable in a larger scale to multiple farms, but for a realistic proposal I see the importance of incorporating a real site with real clients.

I am part of a large family with many cousins in close contact with each other. Many of us share the attraction with the countryside and as we all grow older, find partners and form larger families of our own, we are in the talks of exploring the idea of living together in the future.

Part of the aim in this thesis is to explore the feasibility of this idea by having my family as the client for this proposal. Numbers of houses and functions in them will therefore reflect the needs of our collective families.

The families I will include as residents is based on my family in a future scenario set 20 years in the future. This scenario was decided together with those mentioned.



The four proposed families. Illustration made by the authors sister.

4.2 Advanced Programmes

To help guide the development of both the new houses and the new functions in the old spaces, I developed a programme for the aforementioned families

New homes:

- Kitchen
- Dining room
- Living room
- 3-4 bedrooms
- 2 bathrooms
- Office or flexible room

The new homes will all be identical or mirrored. They will also be developed as twin-houses both as an economical move, and an effort to encourage socializing while having clear private zones. Visually they need to communicate with the existing structures and the heritage therein.

Existing Structures:

- Smaller apartments
- Exhibition space
- Storage space
- Garage for 3+ vehicles
- Venue for ceremonies etc.

These new functions will all be planned within the existing barn, utilizing its spatial qualities and flexible structure. The barn will need to be insulated in certain spaces. The exterior will be opened up for a more inviting expression, and additional focus will be put on socializing and easy movement both horizontally in and out of the barn and vertically between floors.

The garden should be zoned appropriately to ensure that there's plenty of private and social spaces. While mainly designed for the residents, the yard needs to be sufficiently welcoming for guests and visitors to the venue and exhibitions



5.
THE EXISTING BUILDINGS



5.1 The Typology

Hälsingegårdar

Also called “Decorated Farmhouses of Hälsingland”, Hälsingegårdar is a collective name for older, well preserved farmhouses in the Hälsingland region of Sweden. A collection of these buildings were recently declared one of Sweden’s World Heritage Sites by UNESCO, with 7 farms representing the most well preserved examples.

These farmhouses are set apart from other farmhouses in the region with their good condition and beautiful interior mural paintings. The features and look of a Hälsingegård is hard to define as they vary greatly across the region, but they’re usually constructed entirely of wood, utilizing traditional construction methods, and are large in size.

The buildings are usually lavishly decorated in wooden details and paintings, with entire buildings sometimes used solely for festivities and socializing.



Courtyard of Gästgivars, Vallsta
Image source: (Swärdhagen, 2020)



Bedroom in Jon-Lars, Alfta
Image source: (Jon-Lars, 2021)

Trebyggd gård

Most Hälsingegårdar are examples of variations of a “trebyggd gård”. This is a type of farmyard consisting of three buildings surrounding a central yard. The main residential building is commonly the middle one, with two supporting farm buildings flanking it on each side. This was a fairly popular type of farm seen throughout all of Hälsingland.

Many exceptions exist, such as “fyrbyggda gårdar”, enclosed courtyards with four buildings, and instances where the main building is not the central one. In any case the quality of interest with these farms is the well-defined space created between the buildings, forming a feeling of community and unity to the buildings.

Repurposed farm buildings

This is not the first attempt to repurpose old farms, but rather a fairly popular topic that has taken many different forms. Amongst all of them, barn-weddings could be one of the most popular reason to repurpose farms. Getting married in a renovated barn is a popular type of wedding for those who don’t wish to celebrate in a religious setting, or see the rustic and rural qualities of a barn-wedding as something romantic and less “posh” compared to a traditional wedding.



Barn at Gästgivars furnished for a wedding
Image source: (Världsarvsgården Gästgivars, 2022)

Not everyone who buys an old farm wants to renovate it, some see the beauty in the rough and old. North of Delsbo in Hälsingland you’ll find Bananrepubliken, an exhibition space housed in a series of old farmhouses and barns. The barns are leaning and worn, but serve the purpose of exhibiting art perfectly with big windows and large open rooms. The owner of the farm Maria Norén both displays her own art and hosts exhibitions for local artists.



Wooden art on one of the barns at Bananrepubliken
Image source: (Bananrepubliken n.d.)

6. New Functions in Old Buildings

6.1 Farms in Hälsingland

The size of farms vary greatly across the country. Farms can have different specializations and the size of the land belonging to a farm affects the amount of buildings needed too.

In Hälsingland in the north of Sweden, population isn't as dense, and farmers historically owned larger plots of land, meaning the farms themselves were usually larger in size compared to more southernly farms.

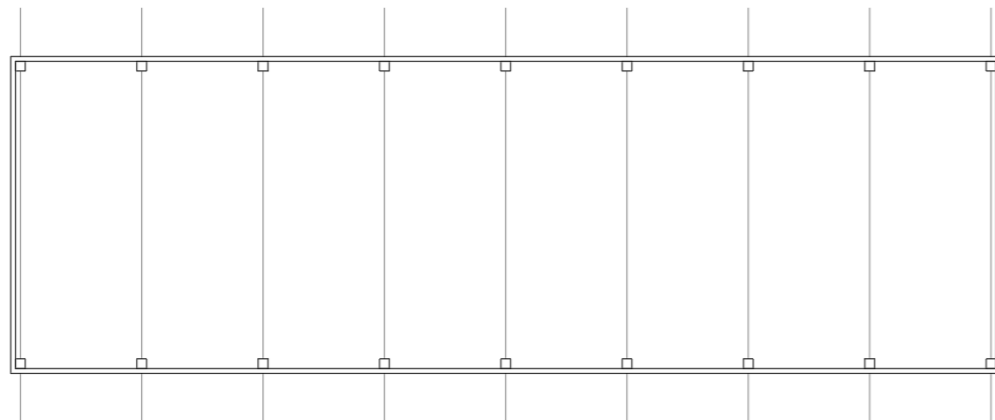
There is of course a great variation in farm sizes even at a local scale. Some farms are closer to towns and work mainly with livestock, while others are more rural and have large extents of forest and fewer animals.

In this project we're looking at disused farms and the potential of new functions in the old structures, therefore a large variation in sizes of structures means an equally large variation in possible new functions.

The main structure, the barn

A structure most farms have in common is the barn. The barn is usually the largest structure on a farm and is therefore very flexible in its potential functions. In Hälsingland the barns are usually in good condition compared to other supporting structures on the farm, such as sheds.

One of the common types of barns found in Hälsingland has traces of standardized measurements with repeated load-bearing pillars allowing for great interior spaces with immense flexibility and spatial qualities.



Plan of a typical barn with repeating dimensions

6.2 Exercise Exploring Barns

To explore the feasibility of different new functions on farms an exercise was conducted.

Considering their standardized measurements, generally good condition and large size, barns would be the perfect platform to explore a general feasibility study.

The first step would be to look at multiple farms in the area, note down the number and size of their structures, and more closely measure the depth and width of the barns.

Below is a collection of some of the farms that were analyzed, and the size of their main barn, all barns are constructed using the aforementioned system.

Approximate dimensions of main barns on various farms in the area



10.8x35 meters



10.6x46 meters



10.4x28 meters

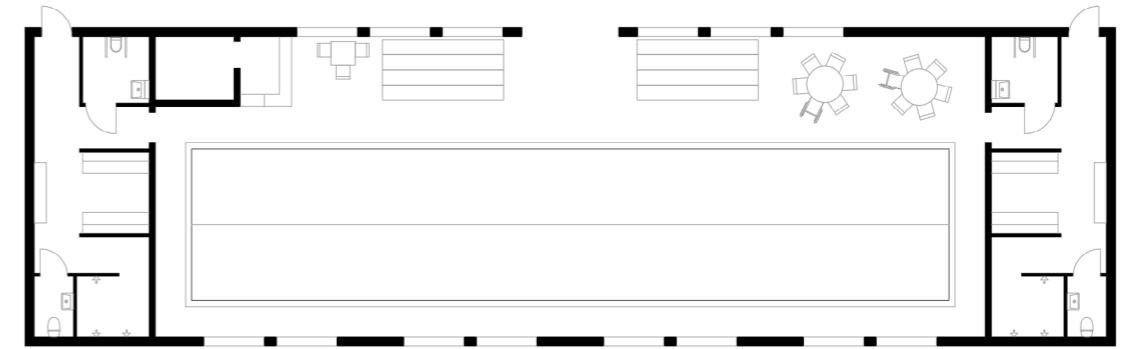


10.9x26 meters

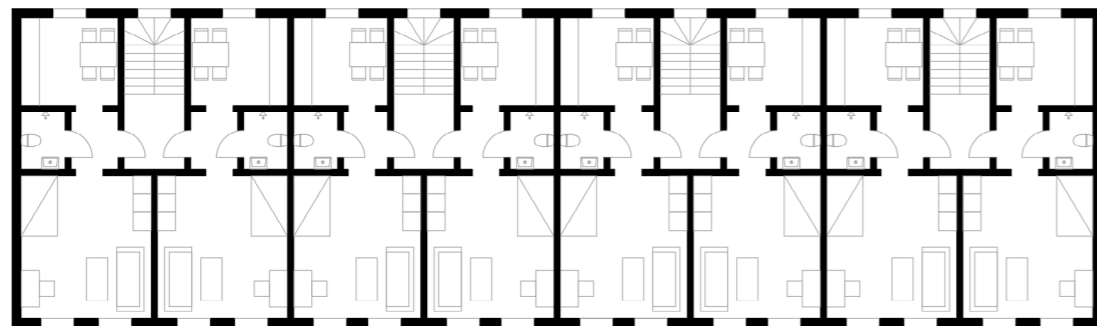


By looking at our references of barns in the region, a standard barn of general measurements can be created. The model above shows a barn of 10.5 by 36 meters in scale 1:250.

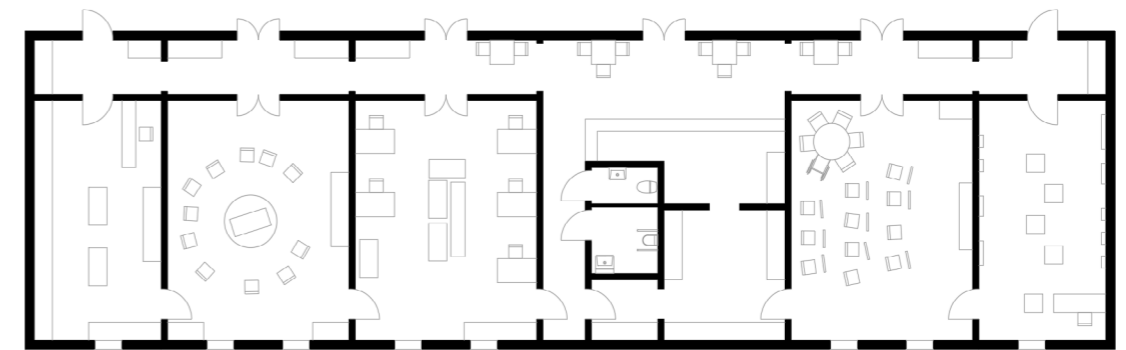
This shell will now be shown in multiple very different configurations, helping us grasp the true size and potential of the barn.



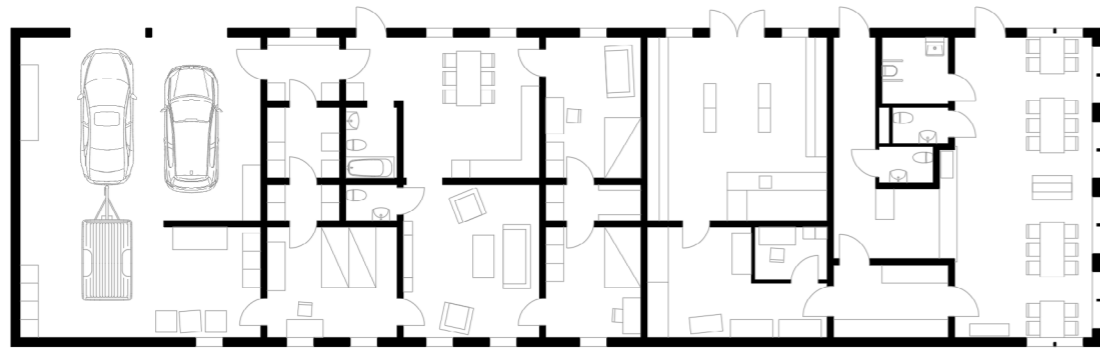
Here's a more creative, but still fully functional use of the space. The generous width allows for a full size 25 meter swimming pool, flanked by changing rooms in either end and bleachers in the middle.



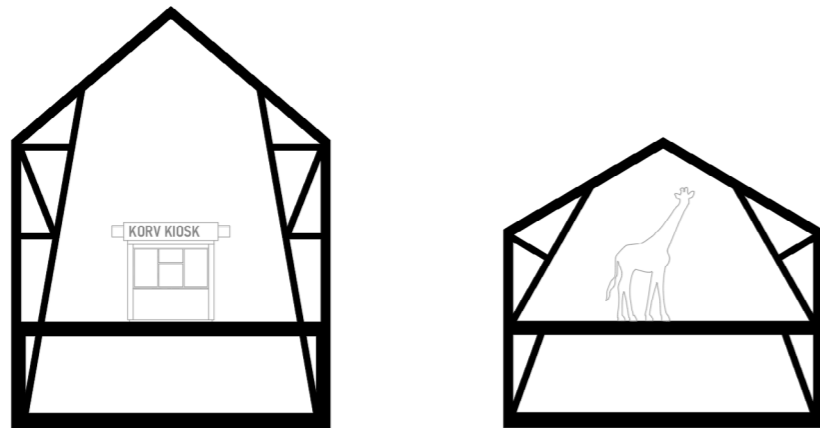
The first experiment places a traditional "Landshövdingehus" within the measurements of our standard barn. The depth of 10.5m is perfect for residential development and no changes need to be made to comfortably fit 8 apartments of 37sqm each side by side.



Our standard barn can be modeled to house larger general rooms for multiple purposes. In the example above it's possible to fit five large rooms for courses, exhibitions and workshops, joined by a shared café in the middle.



The final experiment aims to include a width of many possible functions all at once. From left to right you see a deep two-car garage with storage, seamlessly flowing into a four room house with laundry and generous rooms. Further right you find a general store with a big storage room out back shared with the spacious diner at the end.



While the width and depth is fairly consistent between barns in the area, the height can vary a lot. Most barns are at least two stories tall, with cattle and farming equipment on the lower floor, and a hay loft taking up most of the space on the second level.

Some barns give vehicle access to the loft via exterior ramps and some use vacuum systems to transport hay.

7. The Site

Iste 13:1

North of Bollnäs in Hälsingland, nestled between the river Ljusnan and lake Iste lay Petters, a farm of 216 hectares that has been in our family's possession for almost 200 years. This farm will be used as the primary reference for a typical farm in Hälsingland, and is the site where the proposal will take place.

Petters could be considered a fairly standard farm in the region, both considering size of the land and buildings. Most of the land is forest with circa 13 hectares of agricultural land.

The farm buildings are situated in the north part on top of a hill with views in all directions.

A meandering creek lay downhill just north of the farmyard.

Like many farms in the area, large parts of the supporting structures on the farm are unused and merely serve as storage and a reminder of the past life on the farm. The owner still works the surrounding forests and leases much of the agricultural land to neighbouring farms, but the future of the farm is unsure, as it will eventually be passed down to a younger generation with different ambitions.

Today only the owner, my uncle, lives here. But the children of the younger generation have spent many a summer here and no one wants to lose the farm, nor would anyone like it to fall into disrepair.

A new purpose is needed.



View from the farmyard towards North

7.1 Inventory of Existing Buildings



The farm today consists of a large main building and two auxiliary storage sheds. These sheds function as storage for tractor equipment and firewood storage for the furnace in the main farmhouse.

The sheds are 12.5 by 10 meters and 17 by 6.5 meters respectively. They're closed on three sides with simple wooden walls and corrugated metal sheet roofing.

The main building is much more complex, consisting of three main interlinked parts: the main farmhouse, the old farmhouse, and the barn.

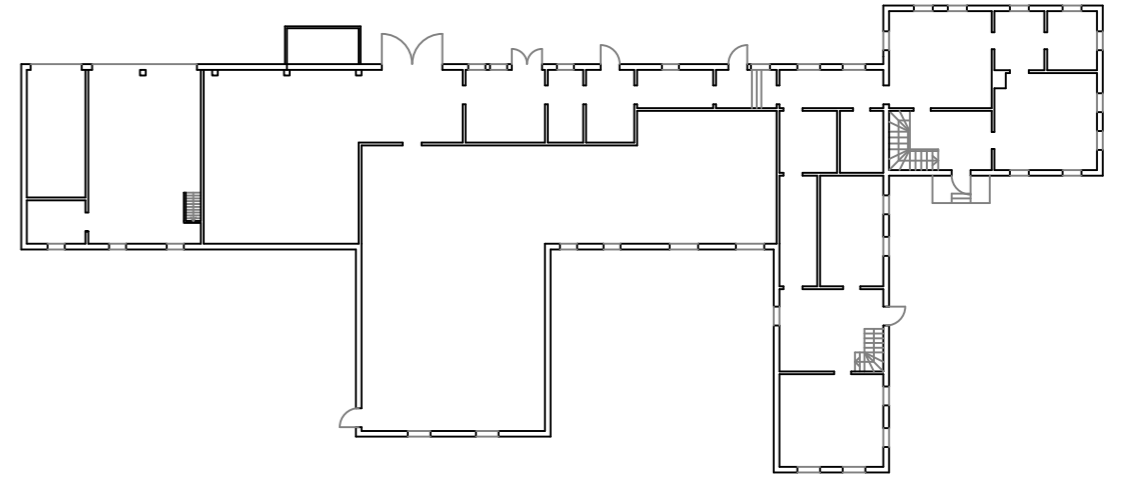
As can be seen on the plans, the two farmhouses used to be very connected, both through the interior and via the shared courtyard that was once well kept and filled with gravel, today a lawn. The southern farmhouse of the two is the old one, and has since long stood empty. There has never been running water or an equipped kitchen in this building, but electricity has been installed. Today the building is in very bad condition with leaning walls and a leaking roof. Repairs have been made over time but with no apparent function it has been left to decay and would be costly to save. It is speculated that the collapse of this wing is a question of when, not if. As part of this project, the old wing will not be given a new purpose.

The northern residential building is in good condition and is the house where my uncle lives today. This building has undergone repairs and modernizations over time. It features a fully equipped kitchen, two bathrooms and a laundry. The house is heated with a wood burning stove.

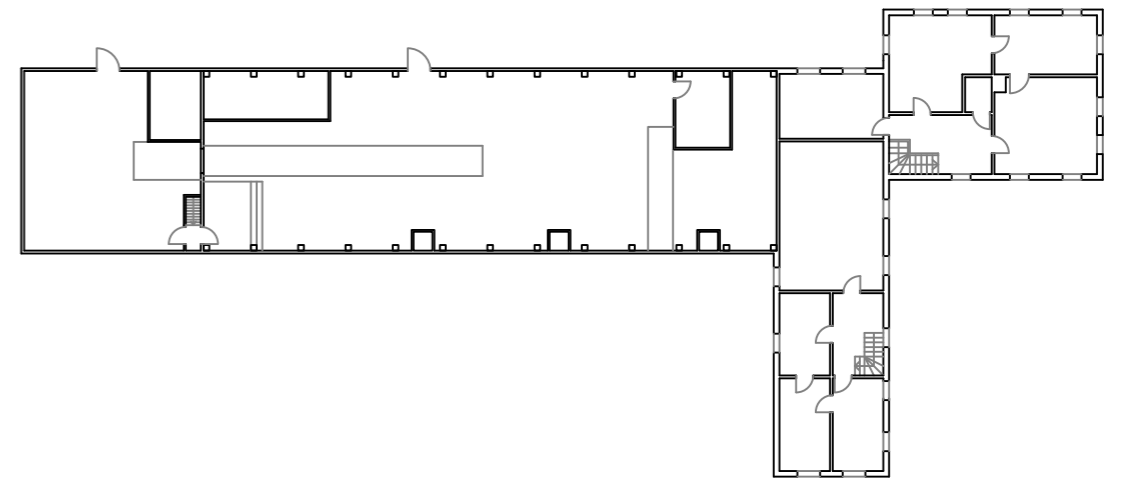
The final and largest section of the farm is the barn. The barn today consists of many small rooms, but these can be modified as none of the walls are load bearing. Like most barns in the area, the weight is distributed down through large roof trusses with an equal and repeated pattern.

The ground floor of the barn is slightly bigger with an extension to the south east, allowing for windows in many directions. The first floor, while smaller, is much taller with the dramatic roof trusses complimenting the volume, making for a spectacular space.

The barn also lends itself well to residential development by being relatively shallow, allowing for bright interiors. The exterior facade would benefit from an addition that makes it look more formal, perhaps done with a porch or decorative extrusions.



Plan 1 1:400



Plan 2 1:400

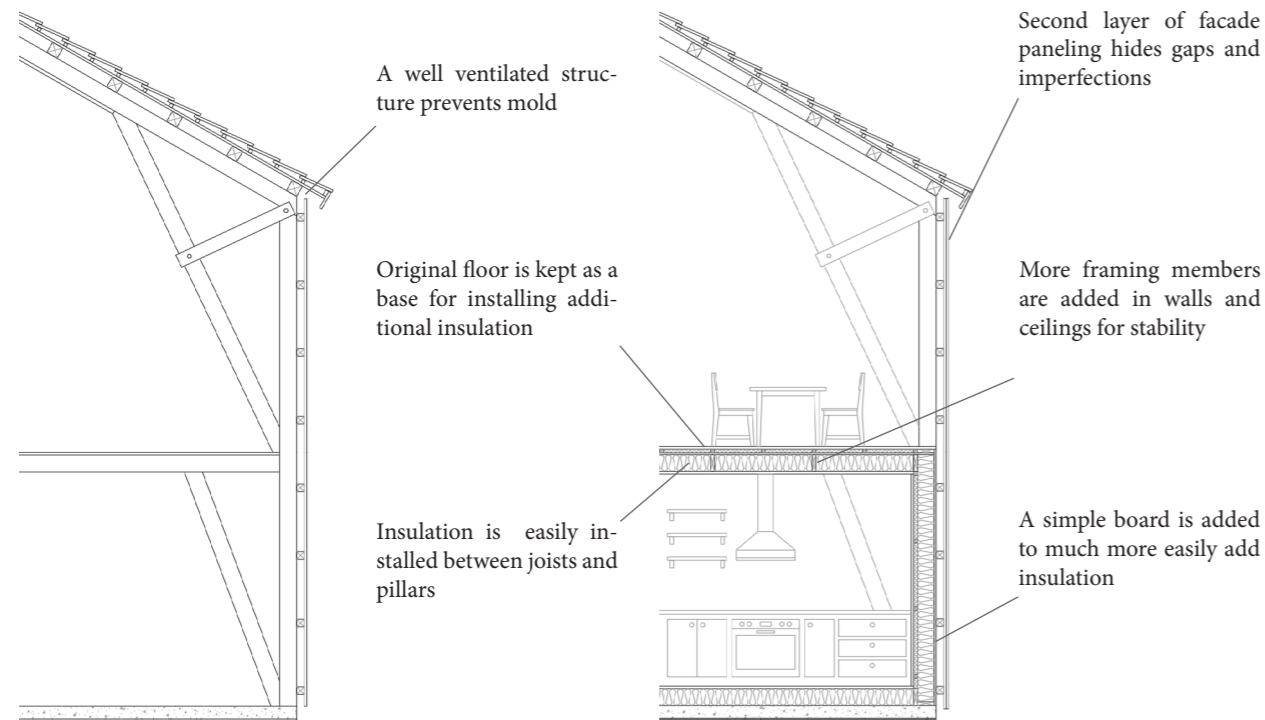
Top left: The hayloft with its spacious and flexible volume

Bottom left: Exterior view of the northern facade of the barn

Right: Plan drawings of both floors of the farm, loads are carried down through pillars in the exterior walls, none of the interior walls are necessary for the structural integrity of the building

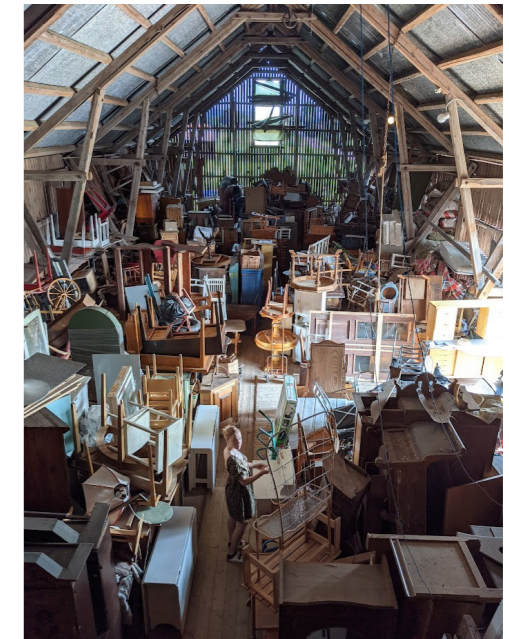
7.2 Details

1:100



Example of typical historical execution

Schematic proposal for added insulation



The trussed construction of the barn lends itself to easy renovations and additions of layers. The function of the new spaces dictate whether insulation is needed or not.

The example above shows an uninsulated top floor with seating for events, and a lower floor renovated for habitation. In this case insulation is added not only in the walls, but also between the beams in the ceiling and on the floor.

To ensure both good insulating properties and comfortable ceiling heights, the floor of the second story is raised if more insulation is needed.

The barn is a generously ventilated structure, designed to dry hay and let air pass through gaps in the structure, considering this the natural ventilation is embraced and the additional insulation is installed without any plastic layers, allowing moisture to travel through the layers freely.

The exterior facade is jagged and filled with gaps, but can easily be patched with a second layer, in the style of a vertical board-and-batten facade.

A simple construction is easier to service and renovate, leading to a longer lifetime.

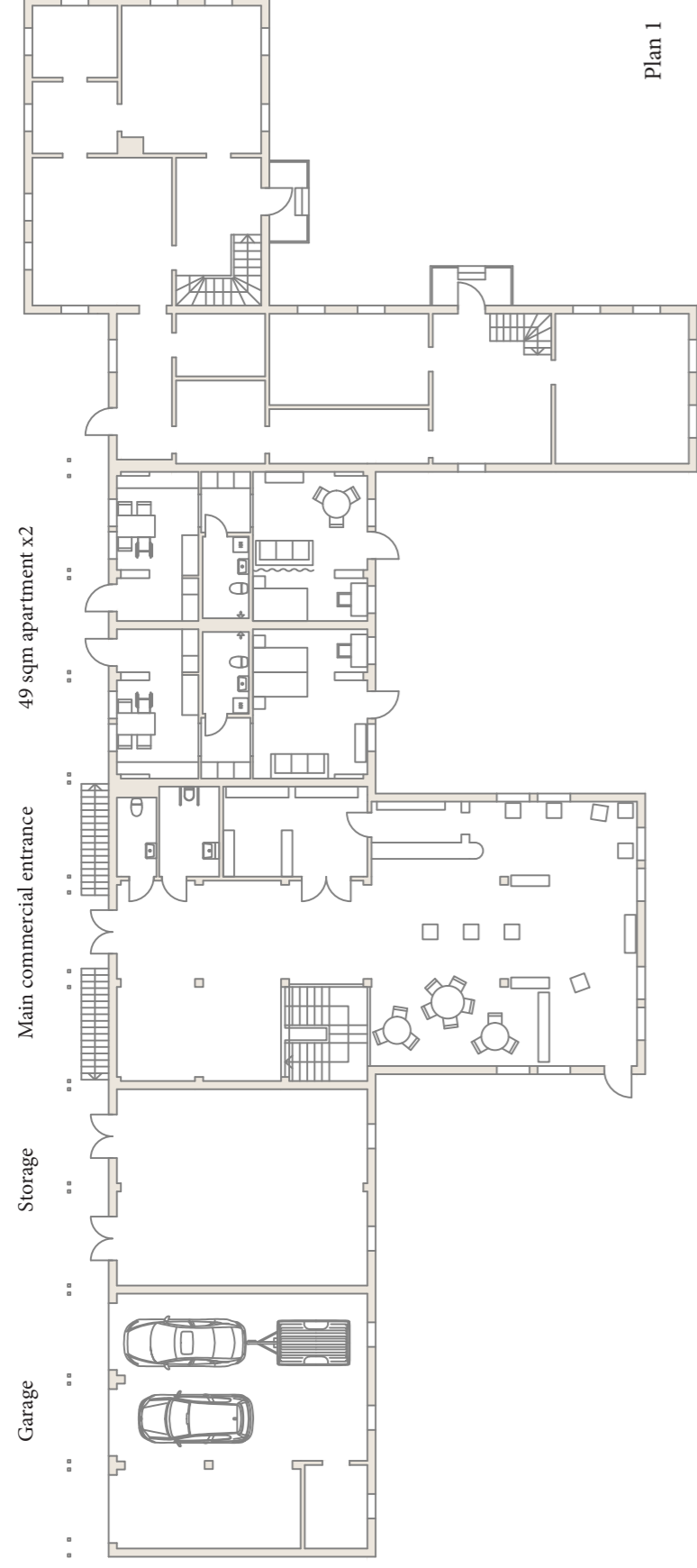




8.
PROPOSAL -
NEW FUNCTIONS IN OLD BUILDINGS



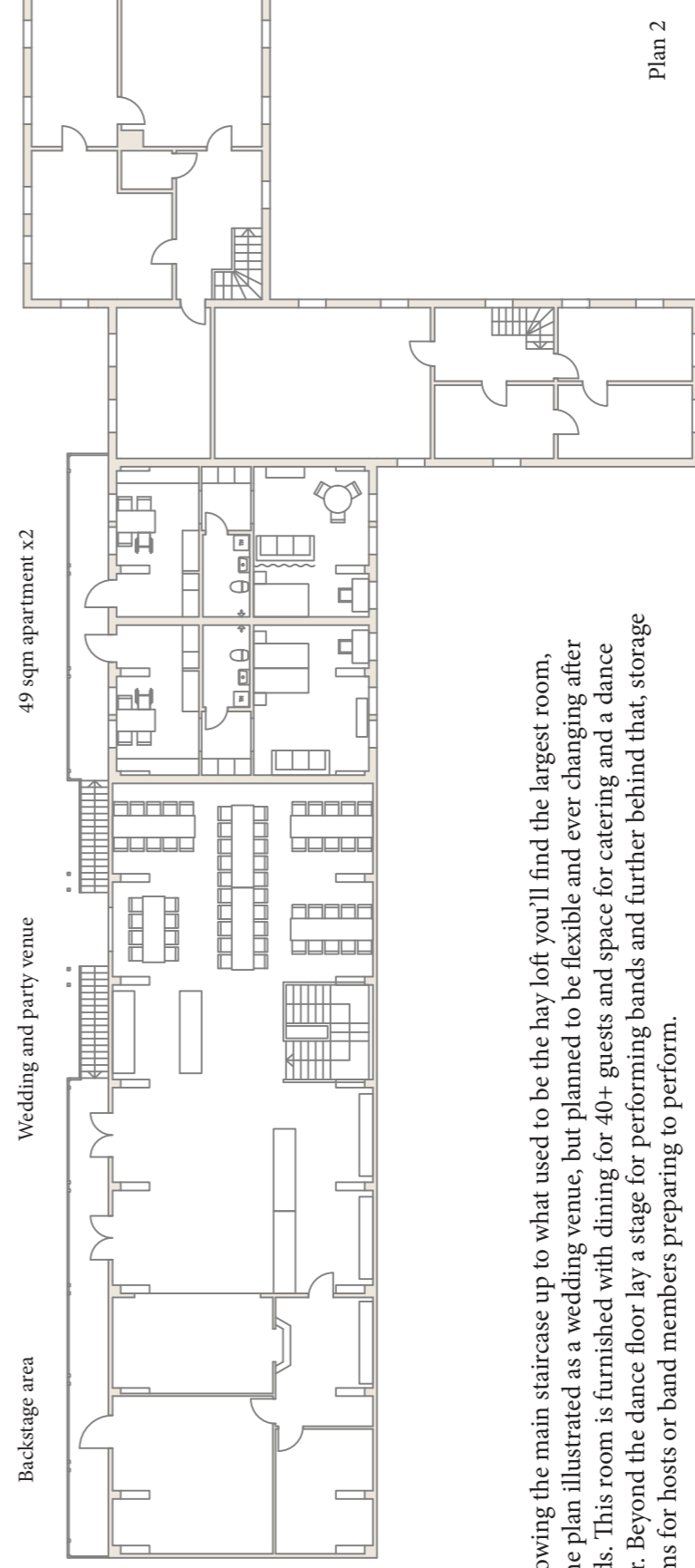
Rotate 90°



Plan 1 1:250

Following the logic of the repeated trusses, the barn has been divided into slices of different functions. One part is kept undeveloped for general storage or as a flexible room.

The central part of the ground floor plan is used as the main entrance for all the commercial and social functions. The entrance leads into a grand lobby, with two bathrooms, a staircase leading upstairs, allocated space for an elevator if needed, and storage for the exhibition space. The exhibition space is a spacious room for artwork with windows on three sides for views and ample of natural light.



Plan 2 1:250

Following the main staircase up to what used to be the hay loft you'll find the largest room, in the plan illustrated as a wedding venue, but planned to be flexible and ever changing after needs. This room is furnished with dining for 40+ guests and space for catering and a dance floor. Beyond the dance floor lay a stage for performing bands and further behind that, storage rooms for hosts or band members preparing to perform.

The rightmost section of the barn is identical on both floors with a total of four 49 sqm apartments. These apartments can be suitable for anyone, either long term renters, seasonal lodging, or as supporting apartments for the families that live in the larger houses on the farm. Ideal for older children who want independence, family members in need of assisted living, or simply smaller constellations like couples without children or guests.

The upper apartments are reached by an externally built wooden loggia.



To revitalize the tired facade of the barn, I designed a wooden loggia as a decorative and highly functional element. The loggia covers and protects the facade and functions as a cover from the elements for guests and residents alike. Two staircases flank the main entrance, one leading up to the top apartments and the other to two double doors directly connected to the large venue.

The structural repetition in the loggia mimics the repetition in the trusses of the barn, this means that windows and doors will always be centered between visual elements, and garage ports are never obstructed by the supporting pillars.



The main entrance to the commercial and social parts need to be a focal point and therefore large and visually appealing.

I have designed the main door in four parts, the double doors have a design heavily inspired by traditional panel doors in the region. Windows are omitted to draw the eye upwards.

Above the door sits a panel decorated with a hand painted floral pattern, this pattern is inspired by Kurbits, an art style originating in the neighbouring region Dalarna, but seen elsewhere too, adorning entrances and walls. In the place of this painting could be the name of the farm or the business that resides there.

Above the painting I have designed a large and decorated window, this window sits right behind the bride and grooms table on the top floor, functioning as a frame for the couple.

The top of the casing ends with a stained and leaded lunette window.

The space outside of the main door also functions as the entrance zone for both the loggia staircases.



Render of the renovated hayloft,
furnished for a wedding reception

9. CREATING THE NEW HOMES





9.1 Shape, Function, and Number of Additional Houses

Let's reflect back to the description of my personal context back in the method chapter of this thesis. There I described that we were four families interested in living together, all with the wish to have their own home with a garden. I also argued for twin houses, for the economical and social benefits.

With this constellation and building type there will need to be a total of two twin houses beyond the additional apartments for guests and family members proposed in the barn in the previous chapter.

Before designing the buildings, a few strategies were set.

Visual strategies

New structures should not be taller than the existing farm buildings.

New structures should visually adhere to local tradition, and visually relate to existing buildings on the farm.

Materials and colours should match or closely resemble those in the area.

Functional strategies

The interior layout should reference traditional residential layouts.

Rooms should be generously dimensioned.

Flow of movement should prioritize social interaction over flexibility and parallelity.

The decided placement of these houses result in a well defined space, enclosed on one side with the barn, and the other with the new houses, open on two ends for road access and sunlight.

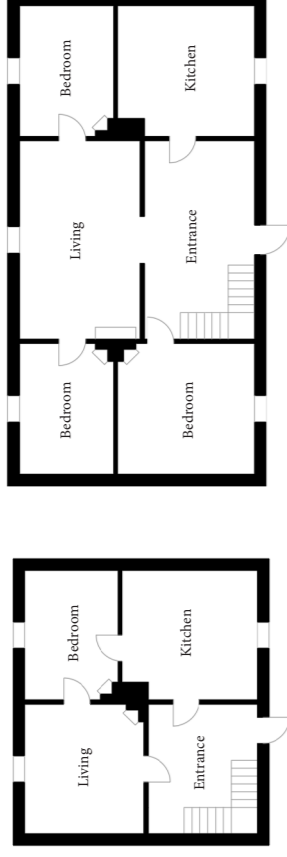
On the next pages follow some references used in the development of the houses.

9.2 References For New Homes

Korsplan and Sexdelad plan

Korsplan or “Crossplan” is a historical type of floor plan, common in older Swedish rural buildings. It consists of four rectangular rooms organized in a square, centered around a chimney core. The chimney often included fireplaces in multiple rooms for heating and/or cooking.

Sexdelad plan (Six-part plan) is another common type of plan, often seen in more affluent homes. It is very similar to the “Crossplan” but two additional rooms are added, making the plan symmetric. The living room and entrance is also larger. In the smaller house the top floor was typically unheated, while the larger house sometimes featured two additional bedrooms on the gable ends.



Typical execution of “Korsplan” and “Sexdelad plan”

Hälsingegårdar - exterior expression

We’ve already discussed the traditional farmhouses in Hälsingland called Hälsingegårdar as a reference for great rural typology. With their beautiful exterior they’re also a great aesthetic reference for the new buildings.

Hälsingegårdar are typically painted in the traditional red colour, Falu rödfärg, either in the light or regular shade. The corner and window trim is traditionally painted white, but can often be seen in the same shade of red as the rest of the building. The facade is typically timbered or clad in wooden paneling, sometimes with decorated and painted porches. Windows are large and plentiful. The roof is usually gabled, mansard or jerkin-head.



Image Source: (Hälsingegård Hisved, 2023)

Earthship

Earthships are a style of architecture specifically designed to be passive shelters made from both local natural resources and up-cycled materials. Earthships use minimal amounts of electricity and water, using sophisticated methods to collect and filter water in multiple stages. They are a rare type of building, most often built in warm climates but are sometimes insulated to adapt to colder climates. An interesting reference for possible technologies and local, low-impact material choices.



Earthship. Image Source: (Maren, 2020)

Egnahemsrörelsen

Egnahemsrörelsen was a movement started in the late 19th century that strove towards giving the working class people of Sweden access to their own homes. It initially focused mainly on giving agricultural workers and social workers their own or an improved housing situation in the shape of an “Egnahem”

In modern times Egnahem are often related to suburbs in cities, but the earliest constructed examples were actually on rural plots with accompanying plots of land to farm for ones own family. They were cheap to produce and modest in size, but well planned and well built, meaning many are still standing and inhabited today.

Egnahem could be for one or two families, and even in cities the gardens were planned to support farming of berries and fruit.

The attractive qualities here are many. Especially the simple modest houses that are cheap and easy to construct, something that would be critical to make a successful proposal that is realistic to implement.



Typical Egnahem, Stockholm 1962
Source: (Egnahem För Arbetare Vid Stockholms Superfosfatfabrik AB Exteriör, n.d.)



10.
PROPOSAL -
THE NEW HOMES



Ground floor

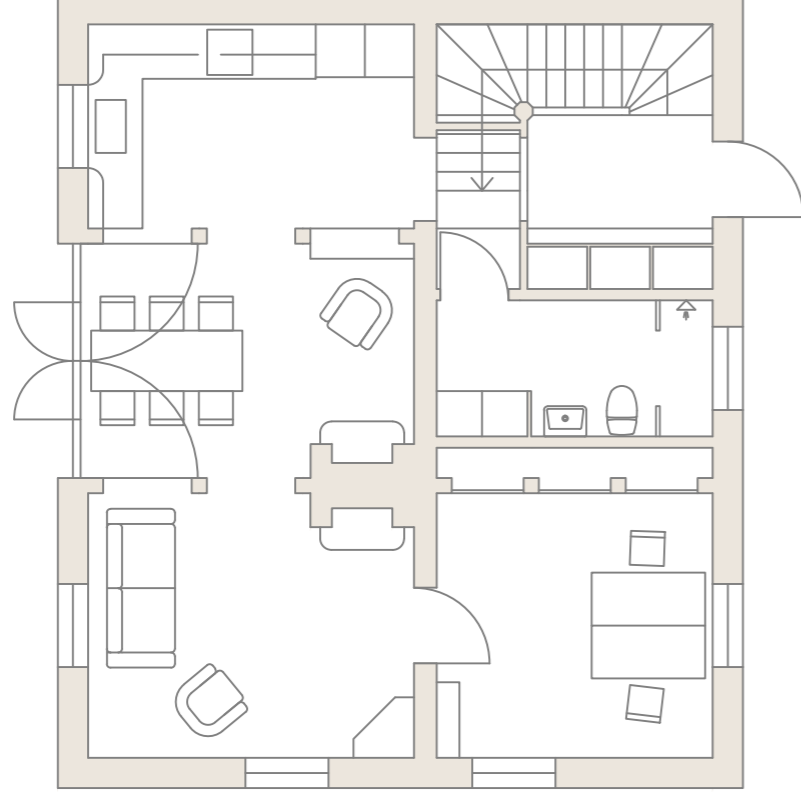
The proposed house is a large twin house of 160sqm, split over two floors. A social downstairs and a private upper floor.

The ground floor features clearly defined rooms with great qualities such as a cozy but roomy foyer with plenty of storage, a large bathroom and laundry, and a large flexible office with built in storage.

Most qualitative of all though are the three social rooms, the kitchen, dining room and living room. These three rooms are connected but clearly defined as their own spaces, creating focused zones while maintaining social flow between them.

Between the living- and dining room sits a two-sided furnace, strategically placed to heat all the necessary rooms during a cold winter. If needed, the office transforms into a bedroom, indirectly heated by the same fireplaces.

1:100



Upper floor

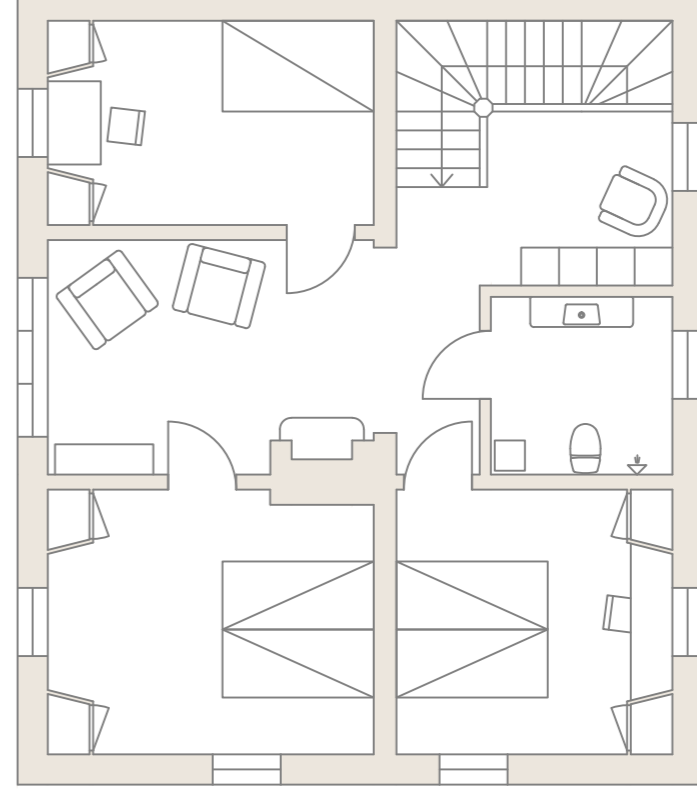
A ground floor focused on socializing and activities demands an upper floor with private and quiet spaces for resting and recharging.

The upper floor features three large bedrooms. all bedrooms are easy to furnish with built in closets and space for desks by the window.

If multiple people want to socialize at the same time, one group can use the smaller upstairs living room with a third furnace and space for seating and a bookshelf or TV.

The back of the fireplace protrudes slightly into the main bedroom, ensuring that after a night by the fireplace, the bedroom is comfortable and warm.

1:100





Render of the dining room
and kitchen

Together, the three connected social rooms act as the natural focal point of the house.

Cleverly designed with careful measurements, these rooms offer plenty of flexible and defined zones for both lively events and cozy evenings.

The interior design is a great mix of modern features and traditional details, harking back to the architectural heritage of the area. Natural materials, wainscoting, colorfully painted floors and hand painted floral details contrast with striking colors, contemporary Scandinavian design and clean lines to create a familiar, comfortable and cozy home.

The social spaces are designed to feel slightly separated from the private zones of the house, focusing energy and flows, and intentionally framing the garden.

The structural wooden pillars help as a visual separation between spaces, while clearly presenting the structural system of the building, a reference to the clearly tectonic barns

Four large glass doors separate the dining room and the garden.

When the weather permits, the inner two doors can be swung outwards to let in a breeze or to access the deck outside.

On clear summer days, the outer doors can be swung inwards, framing the dining room beautifully with the garden reflecting in the windows, reaching inside the home. In this position the doors act as dividers to the neighbouring rooms, and the level deck can act as an extension for a larger table when hosting big gatherings.





The two residences are seamlessly paired as mirrored versions of one another, visually joined together with a shared covered porch.

The richly detailed porch is designed as the functional and visual threshold between the shared and private zones of the houses.

In between the two private entrances there is an open segment, adorned with a rising sun and a bench in the shade. This portion of the porch aims to underline the nature of sharing that I want to encourage on the farm. It's clearly a zone that no one directly owns but rather shares, placed right at the point where the private ends and the social begins.

Many parallels can be seen with the various "Hälsingegårdar" in the region. Some hints of this are the window sizes that decrease in height on the upper floor, window placement being repetitive and structured, roof angle, and of course the materials and traditional red colour.

While many details give homage to traditional buildings, there are also plenty of modern and unusual details in the expression of the facade.

The execution of the window framing, paneling, and rounded details under the second story windows are clear but respectful hints that this building is designed far more recently than its older neighbours.

The gable side facade breaks the pattern of smaller upstairs windows, with two equally sized openings on both floors. This is the most strict facade and the one that most closely resembles the typical "Hälsingegård".

The back of the house presents the most open facade. Four large doors connect the garden with the dining room, and four smaller windows reference the smaller upstairs living room behind them.



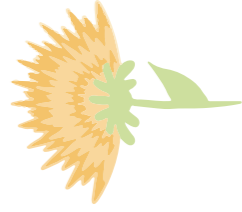
Side facade



Back facade



11.
ALL THE PIECES PUT TOGETHER





Site plan 1:500

With the barn repurposed and the four houses added, the now revitalized farm has been improved in many ways. Much of the original character has been kept, and special care has been taken to fell as few trees as possible.

Every home is placed centrally within their own private garden, with space on three sides for a varied garden with a range of private and public zones.

Between the two twin houses lay a path down to a creek, also functioning as access to the pastures if they're further divided into smaller lots in the future.

The four homes frame the improved shared yard, with better green spaces and parking both for visitors and residents. There's space for outside dining, playing, cooking and entertaining.

Many vehicles will be used on the farm so road access is important, but roads are kept curvy and tight to slow down traffic and improve safety.



The final look and composition of the houses, barn, and yard together take a lot of inspiration from many directions. I wanted to reference the sense of community found on old traditional farmyards and the planning of small quaint villages of northern Sweden.

Childlike nostalgia for the stories of Astrid Lindgren and the beautiful illustrations by Sven Nordquist fueled the want for red picket fences, wildflowers and hand crafted details that come together for a farm that alludes comfort, safety and calm for residents and visitors alike.

The houses and barn do not compete but complement each other in creating an enclosed space that feels temporary but lasting with natural malleable materials like grass, gravel and vegetation.

Everything can be pretty on a summers day, but colourful painted surfaces and a variation in depth and materiality stay interesting and pleasant year round.

12. Discussion and Summary

This thesis has functioned as an investigative tool in analyzing and managing a cultural heritage currently in decay.

The background analyzed societal issues like stress, mental health, career, and housing prices in an urban setting.

While it is true that more and more young people are looking to live in the countryside, many still enjoy urban life and not every person of every profession is able to thrive in a rural setting.

These issues were then compared with the more practical issues of the decaying cultural heritage of northern Sweden, illustrating the existing cultural qualities and the pertaining issue with the lack of purpose present in old farm buildings.

It was decided that for this thesis, the best way to save some of these older farm buildings was to give them a new purpose, and therefore a more certain future.

Two facts were combined to make this decision. The societal trend of more and more young people wanting to live on the countryside, and the existence of thousands of rural buildings standing disused.

Living on the countryside also comes with many problems, perhaps the biggest one being the social distance that is often accompanied with the lower residential density of rural Sweden. Many young people simply don't want to live in a setting where their friends and loved ones live far away.

The solution to this issue became the heart of my thesis. By renovating and populating farms with additional simple houses, a small-scale community can be created where friends and family can live in close proximity to one another while preserving their private integrity and personal space.

In these communities groups of families live in their own private houses, constructed like twin houses to save on material and heating costs. The gardens are private, but the farm grounds surrounding the houses belong to everyone and can be used to socialize and share amenities like outdoor seating, barbecues, and equipment.

This is not a perfect solution and there is bound to be issues. Sharing structures, land, and equipment can be the cause for arguments and monetary disagreements. Therefore it's important that the groups of families that live here either are in a very close relationship with one another, or a clear hierarchy needs to be created with a defined owner of the land with tenants paying rent.

The existing structures on the farm like the barn can be renovated and repurposed in many ways. I previously mentioned that the barns in this region follow a very similar set of dimensions and construction methods to one another, and are very flexible and easy to renovate.

While this is true in many cases, I have not thoroughly examined how widely this practice was spread or if there's innate issues with the existing structures that might have been overlooked. Therefore the proposal focuses less on the importance of a specific technical solution, and more on general methods of conversion that could be approached.

A simple barn can house anything from commercial venues and galleries, to simple storage and additional apartments for smaller households. A few of these functions are presented in the proposal and preceding exercise, but the possibilities are numerous and the proposed solution is just one of many possible.

A successful transformation does not necessitate a total renovation of interiors and exteriors, smaller scale transformations can be much more approachable and affordable.

To produce a realistic proposal I decided on a specific farm to do the experimental transformation on, and a specific group of families to act as the residents. The farm in question is my uncle's farm, a large farm that faces the risk of future disuse, but with great spatial qualities and potential. The proposed families consist of myself and a combination of my siblings and cousins, with imaginary future family constellations and number of kids/pets.

The finished proposal presents a community of four private houses with gardens, accompanying the old renovated barn, now housing exhibition spaces, apartments, storage, garages, and a large wedding venue, taking full advantage of the beautiful structure in the old hay loft.

This proposal is merely a concept and does not include reflections on cost, labor, or a timeline for construction.

12.1 Wider Application

If there is one thing I want readers of this thesis to take with them, it is that the result of this investigation is not specific to one farm and one group of people.

Rural revitalization is a necessary step in every corner of rural Sweden if we want to prevent an avoidable loss of architectural and historical heritage.

The specific aesthetics of the presented project is not out of necessity or taste, but out of utmost respect for the existing traditions of materials, details and colors.

The methods presented in this thesis are designed to be general enough to be applicable to any farm in any region where there's a disused barn and a motivated person who sees the overlooked beauty in its simplicity.

Thank you



13. References

Image and Figure sources

- Antal företag storleksgrupper 1927–2007. (2011). Swedish Board of Agriculture, Agriculture in Figures Years 1866-2007.
- Bananrepubliken. (n.d.). Delsbo.org. <https://www.delsbo.org/kulturkorgen>
- Egnahem för arbetare vid Stockholms Superfosfatsfabrik AB
Exteriör. (n.d.). Digitaltmuseum. <https://digitaltmuseum.se/011015009778/egnahem-for-arbetare-vid-stockholms-superfos-fatsfabrik-ab-exterior>
- Hälsingegård Hisved. (2023, May 3). Hälsingegård Hisved. <https://halsingegard.hisved.com/>
- Jon-Lars. (2021). Läns museet Gävleborg. <https://lansmuseetgavleborg.se/kulturmiljo/halsingegardar/>
- Maren. (2020). Dreaming of earthships. Dream Into Change. <https://www.dreamintochange.com/dreaming-of-earthships/>
- Swärdhagen, A. (2020, June 16). Säsongspremiär för världsarvsgården Gästgivars i Vallsta: "Man äger inte bara ett världsarv, man förvaltar det." Ljusnan. <https://www.ljusnan.se/2020-06-16/sasongspremiar-for-varldsarvs-garden-gastgivar-i-valls-ta-man-ager-inte-bara-ett-varldsarv-man-forvaltar-det>
- Världsarvsgården Gästgivars. (2022). Restaurangen - Café - Catering. <https://gastgiveriet.business.site/>

All figures, images and illustrations without sources are produced for use in the thesis.

Literary sources

- 7 av 10 vill bo i småhus. (n.d.). TMF. <https://www.tmf.se/bransch-naringspolitik/branschutveckling/branschprojekt/bygg-fler-smahus/7-av-10-vill-bo-i-smahus/>
- Broomé, S. (2019, October 2). Därför blir fler unga utbrända - Kollega. <https://kollega.se/stress/darfor-blir-fler-unga-utbranda>
- Egnahemsrörelsen. (2023, June 5). Wikipedia. <https://sv.wikipedia.org/wiki/Egnahemsr%C3%B6relsen>
- Färre unga vill flytta till storstäderna. (n.d.). Fastighetstidningen. <https://fastighetstidningen.se/farre-unga-vill-flytta-till-storstaderna/>
- Insikter från Ungdomsbarometern. (n.d.). Digital Revolt. <https://digitalrevolt.se/attraktiv-arbetsgivare/insikter-fr%C3%A5n-ungdomsbarometern.html#:~:text=N%C3%A5got%20som%20enligt%20unga%20skapar,17.00%20%C3%A4n%20att%20jobba%20%C3%B6vertid.>
- Kamlin, A. (2019, October 15). Färre tycker att jobbet är meningsfullt - Kvalitetsmagasinet. <https://kvalitetsmagasinet.se/farre-tycker-att-jobbet-ar-meningsfullt/>
- Landsbygden lockar storstadsbor – inte tvärtom. (2017, December 12). Land. <https://www.land.se/landkoll/darfor-lockar-landsbygden-for-storstadsbor/>
- Fler yngre drabbas av stress – så här känner du igen symptomen. (2024, January 13). SVT Nyheter. <https://www.svt.se/nyheter/lokalt/smaland/fler-yngre-drabbas-av-stress-sa-har-kanner-du-igen-symptomen>
- Urbanisering – från land till stad. (2015, March 3). Statistiska Centralbyrån. <https://www.scb.se/hitta-statistik/artiklar/2015/Urbanisering--fran-land-till-stad/#:~:text=F%C3%B6r%20200%20%C3%A5r%20sedan%20bodde,land%20till%20stad%20som%20avses.>
- Earthship. (2023, November 18). Wikipedia. <https://en.wikipedia.org/wiki/Earthship>

