Anna Saurova

Abandoned airfield revitalisation - placemaking based on the principles of nature

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Abstract

During the last century, the landscape of Latvia has been strongly affected by the era of industrialization, which has left behind remnants of the former industrial boom: abandoned and ruined factories, hangars, railway sections and other structural elements, including mighty horizontal structures in the form of abandoned or unused military and agricultural airfields, which degrade both urban and rural landscapes.
This study is based on three basic aspects: landscape as a part of the quality of human life, waste landscape as an inevitable aspect of the human cultural landscape, and placemaking as a philosophy and a process of place transformation. Humanity is an integral part of nature, and the two constantly interact with and influencing each other in both positive and negative ways. Through the study of the needs of nature and people, a solution is sought for a harmonious and equal coexistence of both participants.
In response to the question of whether it is possible to create a new place with a new functional and sociocultural purpose by recycling and reusing existing degraded landscape structures, the author provides spatial design guidelines for the creation of a community village of aviation enthusiasts on the territory of the former military airfield in Vaiņode.
In the course of the research, it is revealed that by applying a special development strategy and using elements of cultural-historical landscape identity and placemaking principles, it is possible to give the territory a new identity, revive it by attracting people, and create a sustainable and self-sufficient community village of flying enthusiasts.

Keywords

landscape, wastescape, drosscape, placemaking, airfield

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Introduction

Remnants of the legacy of the industrial boom can be found today, in varying degrees, both in the urban environment and in the rural landscape. One form of this heritage is abandoned or disused (defunct) airfields. These buildings are also closely related to natural pollution, so they especially attract the attention of various specialists and professionals, including landscape architects and urban planners, who see potential in the development of such areas. In Latvia alone, there are dozens of abandoned and/or unused runways and airfields that "haunt" the middle of meadows. This study draws attention to the fact that humanity is an integral part of nature, and the two constantly interact with and affect each other in both positive and negative ways, for example, creating a landscape of waste, polluting the environment, and contributing to the threat to biodiversity and the ecosystem as a whole. However, there are opportunities for humanity to improve the situation in a smart way by cleaning up the environment, restoring the diversity of nature, and creating a useful, harmonious and healthy environment. This opportunity is sought by determining what elements identify the landscape, what challenges must be faced in working with a degraded landscape and whether it is possible to create a new, functional and harmonious environment, partly using and recycling waste landscape elements based on an unused, partly ruined former military airfield.

Landscape as a part of the quality of human life

Landscapes are an essential part of a person's quality of life. Humanity is increasingly thinking about landscapes, their immeasurable value, and wants to enjoy quality landscapes, as evidenced by decisions made by international organisations. For example, in the framework of the European Landscape Convention, the Council of Europe has recognised the cultural, ecological, environmental

and social role of society as an essential part of people's quality of life in urban, rural, degraded and high-value areas. It is committed to greater unity between the Member States to protect this common heritage (The Council of Europe, 2000). According to the definition of the European Landscape Convention, "'landscape' means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors" (The Council of Europe, 2000). This definition is quite broad and does not provide a deeper understanding of the nature of landscapes. It is necessary to identify the elements that describe a landscape to determine its quality. Each landscape is unique with its special character formed by landforms, type of vegetation, human settlements, etc. By determining the quality of a landscape, it is possible to understand whether it is being improved as a result of human activity or whether it is losing its unique value.

Landscapes are studied in a wide range of disciplines, such as geography, geology, geomorphology, ecology, history, archaeology and landscape architecture. Each of these sciences distinguishes aspects of a landscape. In landscape ecology and natural geography, the concept of landscape is related to human perceptions and sociocultural relations with territories (Simensen, Halvorsen and Erikstad, 2018).

A landscape's nature defines people's self-image and sense of place, which distinguishes one region from another. It is a dynamic background for people's lives. A landscape can be as diverse as agricultural land, a landscape park or a desert. The range of landscapes is extensive, such as icy polar landscapes, mountain landscapes, vast desert landscapes, islands and coastal landscapes, and densely wooded landscapes, including boreal forests and tropical rainforests. The transformation of the visible elements of the earth's surface is called landscaping (Conti et al., 2016).

According to Stobbelaar and Pedroli (2011), landscape identity consists of several aspects:

- places or existential identity
- spatial identity
- personal and cultural identity
- cultural landscape identity

They summarise the different theories and approaches to landscape identity in a diagram, "Landscape identity circle" (Figure 1).

This circle provides an opportunity to identify blind spots in landscape identity projects. Researchers and practitioners can use this system to determine which types of landscape identity will be addressed in their projects. As shown, identity is a multifaceted concept that affects how different stakeholders are taken into account – individual citizens, pressure groups, experts and policymakers – emphasising other parts of the landscape identity circle (Stobbelaar and Pedroli, 2011).

The traditional landscape of Latvia is characterised by flower meadows, narrow country roads, rustling birch groves, winding rivers and streams, rustling forests, and farmsteads. But this beauty is beginning to disappear. Picturesque landscapes are being replaced by angular cuts, straight lines, and overgrown fields. The Latvian landscape is losing its richness of natural diversity, stored in people's memories and paintings by old masters. (Latvijas Dabas fonds, n.d.)

The existence of natural meadows requires close cooperation between man and nature. It takes many years to restore them. One hundred years ago, 30% of Latvia's landscape comprised natural meadows. At present, they constitute only 0.7% and continue to disappear (Sniedze-Kretalova, 2017).

The dominance of natural lines and accents plays a vital role in maintaining the aesthetic quality of a landscape. Landscape conservation can be facilitated by a forest landscape plan, a farmyard plan, the preservation of open views, the display of individual landscape elements, and certain small landscape elements. Overgrazing and dross do not contribute to maintaining the aesthetic quality of a landscape *www.youtube.com.* (2017).

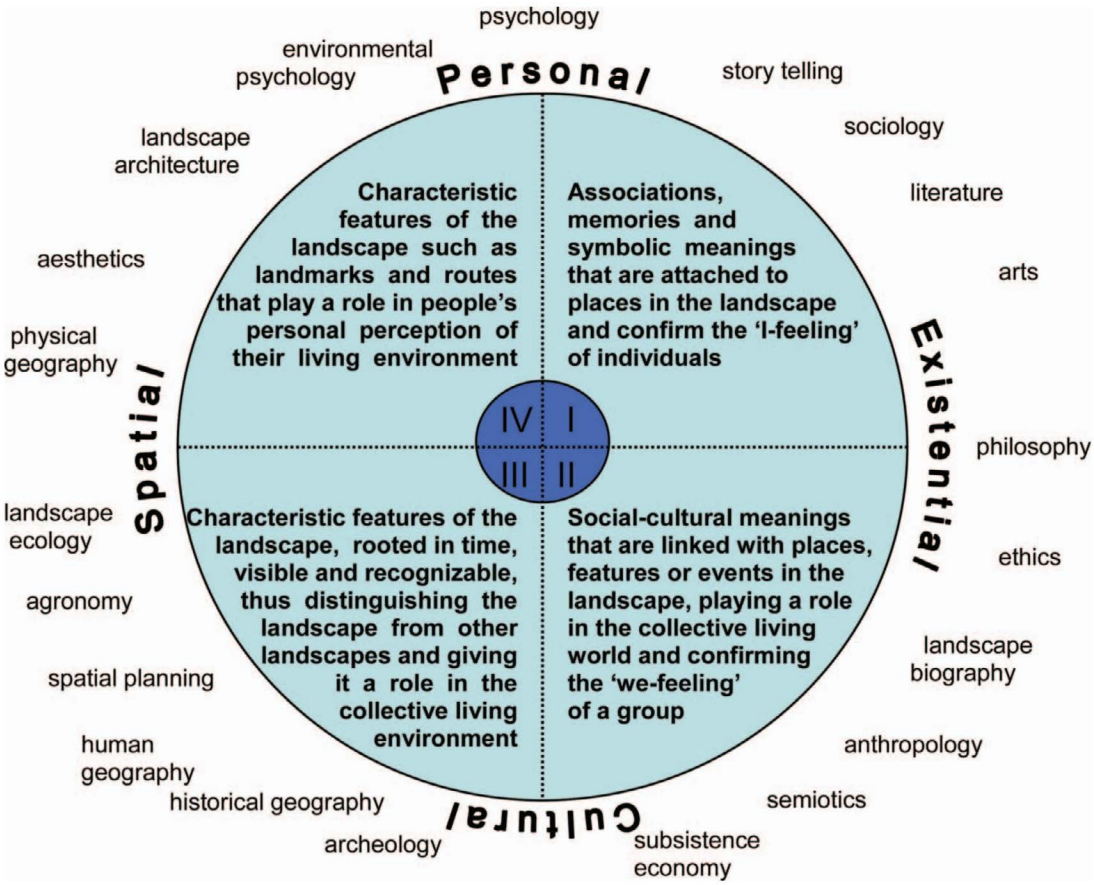


Figure 1. Landscape Identity Circle. [diagram] [diagram / picture / survay / table]
Stobbelaar, D.J. and Pedroli, B. (2011). Perspectives on Landscape Identity: A Conceptual Challenge. Landscape Research, 36(3), pp.321–339.

Drosscape as an inevitable aspect of the human cultural landscape

Cultural landscapes are natural or artificial landscapes recognised as a value to be preserved and need to be monitored. The UNESCO World Heritage Convention (1992) distinguishes between three categories of landscape: deliberately developed landscape, organically grown landscape and associative landscape.
Alan M. Berger, a professor of landscape architecture and urban design at the Massachusetts Institute of Technology, has dedicated his research to a changed and renewed landscape world, where new landscapes are constantly being created and others being destroyed (Berger, 2007).
In his book *Drosscape: Wasting Land in Urban America*, Berger looks at America's ugly, abandoned, and industrially polluted areas.
He forms a link between urbanisation and deindustrialisation and American cities' vast

horizontal waste landscapes. Berger distinguishes three types of waste landscapes: actual waste, wasted places, and wasteful places.
Drosscapes create a new state in which vast, wasted, or wasted lands are modelled according to new programmes or new sets of values that remove or replace real or seemingly wasted aspects of geographic space (vty, 2006).
In essence, a drosscape is neither good nor bad but a natural result of consumer, industrial and economic activity. However, deindustrialisation is in full swing in the developed world, and the proliferation of toxic waste and wasteful lands is taking place. A waste landscape indicates healthy urban growth (Berger, 2007).
Although Berger's work is specific to the United States, it is just as relevant to the rest of the world. The United States, Germany, and Israel are leaders in drosscape cleanup, but most of the world's environmental control is still in its infancy. Drosscape landscaping of yesterday can be a new cultural landscape today. The Latvian landscape also underwent significant changes with the gaining of independence in 1991, which significantly changed the previous management system and people's habits, as a result of which countless drosscapes have emerged and still exist in both urban and rural areas (VARAM, 2021).
According to Berger, the task of designers is not to fight waste but to create more flexible and aesthetic strategies for its transformation (Shannon, 2006).
Researching and analysing waste landscapes has revealed several challenges in working with the following types of objects:

1) environment (pollution)
2) landscapes (fragmented landscape)
3) management (strict rules that prevent changes in the landscape)
4) social cohesion (unauthorised action, confiscation)
5) economics (lack of funding)
6) individual perceptions (factors that negatively affect life satisfaction)
7) consciousness (common understanding of waste landscapes) (Amenta and van Timmeren, 2019)

Most of the above elements, such as degraded land and water, abandoned buildings, construction debris, etc., can now be found at Vaiņode Airport, indicating a clear waste landscape. The aerodrome is in a waiting phase and will have to overcome several social, economic and environmental difficulties and challenges to revive.
Urban metabolism ideas based on resource flows involved in urban processes can help identify problems related to waste management, which can help identify urban contractions involving building infrastructure, remote areas and the abandonment of contaminated soil. An approach based on metabolism can quickly identify an impending crisis and reveal the fragility of social democratic systems, especially concerning environmental issues, which gives an idea of garbage landscapes (Amenta and van Timmeren, 2019).
Summarising the above, it can be concluded that recycling waste landscapes allows discarded and weak areas to regain their value.
To revitalise and relocate the territory of Vaiņode Airport, which is to be classified as an abandoned and underused area, it must first attract people with common interests. To attract people, this area must be made extraordinary; it must be given new meanings and new functions, and a new place must be created that would be attractive to fans of light aviation, for example. The creation of a multifunctional village for aviator enthusiasts on the territory of the former military airfield in Vainode would largely coincide with the county's vision of a "green", sustainable living environment based on nature and scenic values. It would be a safe living space with a diverse cultural and sports life". (Vaiņodes novada pašvaldība, 2014).

Placemaking as a philosophy and a process of place transformation

Each science has its subject which it studies; for example, astronomy explores outer space, history explores time, and geography explores place. Canadian geographer Edward Relph (Relph, 1976) writes about this in his book *Place and Placelessness.* Relph's research methodology is the phenomenology of place. Phenomenology is the study of human experience, such as situations, events, and meanings, as it fits into everyday life (Relph, 1976).

A place is not a void or an isometric plane or a kind of container that contains space. To gain an experience-based understanding of a place, it must be explored considering what people experience / perceive in it. Without a thorough knowledge of a particular place, it is difficult to describe why it is special and how it can be broken down or restored (Seamon and Sowers, 2008).

The identity of a place is related to meaning, perception, memory and experience. If these elements are lost, then the site itself and its feeling are lost, so the identity of the place or landscape is very closely connected with the creation of the area (Othman, Nishimura and Kubota, 2013).

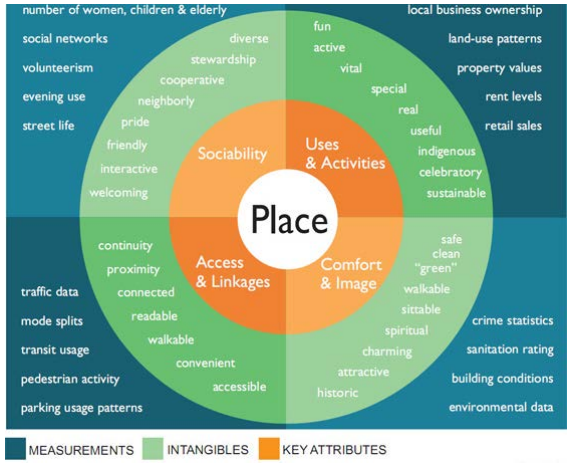
Over four decades ago, the placemaking movement emerged with trailblazers such as Jane Jacobs and William H. Whyte, who introduced revolutionary concepts concerning Americans and their interaction with urban environments. At that time, this perspective didn't have an official label; rather, they demonstrated the importance of creating cities that prioritize people, featuring pedestrian-friendly streets, inviting public areas, and vibrant communities (Project for Public Spaces, 2017).

In the 1990s, the nonprofit organisation Project for Public Spaces (PPS) from New York focused on building communities. PPS began using the term "placemaking" to describe their approach to building communities around a place (Project for Public Spaces, 2017).

As shown in the following diagram (Figure 2), each

Figure 2. Basic principles of placemaking [diagram]. "The Placemaking Process," Project for Public Spaces, 21 Dec. 2017, assets-global.website-files.com/581110f944272e4a11871c01/6063d3b880d64b4d2b36a3d6_Placemaking-process-pps.png. Accessed 12 Feb. 2022.

Figure 3. Conditions that make the great place [diagram] Available at: http://placemakingchicago.com/about/qualities.asp [Accessed 12 Feb. 2022].



Airfields type	WORLD	EU	LV	LT	EE
balloonport	35	6	0	0	0
closed	8546	1224	17	6	12
heliports	16999	1436	5	2	2
large airport	446	118	1	1	1
midium airport	4741	981	5	6	5
seeplane base	1097	29	0	0	1
small airport	37947	5630	50	54	19
	69811	**9424**	**78**	**69**	**40**

Figure 4. Types of aerodromes in the world [map] OurAirports (n.d.). Members in the World @ OurAirports. [online] ourairports.com. Available at: https://ourairports.com/members.html

new space has its basic principles and sequence of actions.
Placemaking encompasses both a philosophy and a tangible approach to revitalizing public spaces. It revolves around the act of closely observing, actively listening to, and engaging with the individuals who inhabit, labor, and recreate in a specific locale. This proactive engagement seeks to comprehend their requirements and hopes for that particular space and the broader community it serves. The placemaking process can either retrofit an existing space or plan a new area. Because every situation is different, the steps are not always the same, nor do they always happen in the same order. The most important part of the spatial planning process is to ensure that the new space's vision meets the community's goals.
Creating a place comprises not just the creation or arrangement of space; it is a process that contributes to creating important public destinations – places where people feel very interested in their communities and are committed to improving things. Local community resources, inspiration and potential are used to create sites, resulting in suitable public spaces that promote human health, happiness and economic well-being.

The conditions that make up a great place are graphically summarized in Figure 3 (Placemaking Chicago, 2008). Regarding the creation a new site in the territory of the former Vaiņode military airfield, this diagram helps us to understand what qualities need to match and with what tools it can be measured. For example, access must be equally good by car and plane and on foot, and there must be good connectivity with the nearest town and surrounding villages so that people living in the pilot village can easily access the services provided by the city, and citizens can use the air services and entertainment offered by the park. Comfort is equally important for the residents and users of the airpark, for example, limiting the noise level by flying only during daylight hours. The social and activity factor is also very important for the airpark to function properly.

Life cycle of large abandoned structures – airfields

Over the last hundred years, thousands of airports and airfields have been built worldwide, significantly affecting the landscape. Due to the rapid development of air traffic and aviation, many airports are functionally obsolete and abandoned due to inappropriate location or size.
Aerodromes are impressive infrastructures that have inspired landscape architects and urban designers from the very beginning of aviation history. They have a significant impact on transforming the urban environment and natural landscapes and are defined as borders, junctions, gates, squares, infrastructures, and social and cultural sites. Aerodromes are very rarely considered landscapes and even less often is the opportunity taken to create a new productive landscape from a functionally obsolete, abandoned aerodrome.
Nevertheless, airfields transcend being mere engineering endeavors and architectural structures; they evolve into intricate urban ecosystems with substantial environmental ramifications.

Figure 5. Airfields in the World, 2017 [map]
Favargiotti, S. (2018). Renewed landscapes: Obsolete airfields as landscape reserves for adaptive reuse. Journal of Landscape Architecture, 13(3), pp.90–100.

Figure 6. Decommissioned Airfields in the World, 2017 [map]
Favargiotti, S. (2018). Renewed landscapes: Obsolete airfields as landscape reserves for adaptive reuse. Journal of Landscape Architecture, 13(3), pp.90–100.

These airfields have already presented designers, municipal authorities, and developers with novel and hitherto unexpected prospects, laying the foundation for the creation of fresh landscapes. (Dumpelmann and Waldheim, 2016).
Globally, more than half of airports have an unknown future or are in danger of closing. There are around 70,000 different types of airports worldwide (public, private, military), of which 8,546 are closed (Figure 4), and most of them are in Europe (Figure 5).
According to the "Our Airports" website (Figure 4), there are currently 9,424 airports in the European Union, of which 1,224 are closed, abandoned or underused. That's almost 10 per cent of all aerodromes. This problem is not widely discussed, only mentioned in some projects in Europe and North America (Figure 6).
Landscape architects worldwide have begun to take an interest in aerodromes as a basis for designing biological or ecological strategies for aerodrome management.
Combining centrality, emptiness, environmental contamination, and economic capability makes airfields exceptional case studies from a landscape perspective (Favargiotti, 2018).

In general, the growing population, the need for new housing, and the central location of airports in cities contribute to their transformation into new urban sites or parks. Transforming a lost aerodrome is a complex but straightforward design process at different levels.
According to the website myairfields.com, created by aviation enthusiasts, Latvia's fields and meadows hide more than 50 abandoned and unused aerodromes for general aviation, military, and agriculture. Many of them harbour historically significant facts, brave and passionate pilots and aircraft designers, and architecturally and culturally substantial values. There were many achievements in Latvian aviation in the interwar period, but most of the vestiges have been lost, destroyed, or closed. However, some of them still could be useful.
The number of unused and abandoned airfields in Latvia is 78 airfields, of which 17 are closed and 50 are small airfields with an undetermined function. (Figure 4).
Functionally obsolete and abandoned airports pose many problems: used land, urban or rural pollution, and economic losses to owners who cannot manage and maintain them.

Figure 7. Latvian landscape from a bird's eye view [photo] Anna Saurova, 2021

Aerodromes form long horizontally stretched structures, changing the natural pattern of the landscape (Figure 7). The changes in the natural landscape caused by abandoned linear objects in the form of runways are shown in the following figure (Figure 8).
According to the *Journal of Landscape Architecture* (Favargiotti, S. (2018)), four aerodrome transformation scenarios can be distinguished:

1) The airport has been completely refurbished and replaced with a specific combination of public parks and housing and a new form of city, such as Stapleton Redevelopment.
2) Airports are being transformed due to natural processes, such as in Frankfurt am Main (Maurice Rose Airfield).
3) The airport has been partially remodelled, while other parts have been left intact, such as in Berlin (Tempelhofer Feld).
4) The airport is on standby until the final deactivation of the airport, for example in Catalonia (Lleida–Alguaire Airport).

Dismantling inactive aerodromes is not considered to be the best solution. Alternative uses are usually found for them. On the one hand, these projects demonstrate that the conversion of obsolete and decommissioned airfields can be an effective lever for urban, social, economic, and environmental redevelopment programmes. On the other, such experiences also highlight the resulting deleterious political, social, and environmental impacts if they are kept, abandoned, and underutilised over time. Therefore, airfields can be considered landscape reserves, owing to their capability to be turned back into the landscape and generate a new productive landscape (Favargiotti, 2018).
Many abandoned aerodromes have performed other functions; many have begun new life cycles, giving new impetus to development in the cities or landscapes in which they operate. The challenge for the airport lies in its size, openness and horizontality, which offer a unique convergence of local characteristics. Figure 9 shows the aerodrome life cycle curve over time compared to the product life cycle curve. Unlike a product, an aerodrome can gain new life through recycling. Converted airfields include environmental sustainability, preserving the local agricultural heritage, restoring endangered habitats and commemorating the aviation history of their former airports.
The redevelopment of an abandoned aerodrome can stimulate local and regional growth processes by introducing new productive ecological and cultural activities. Growth activity involves the accumulation of local resources and values. It can take the form of land management, the creation of new habitats and ecosystems, or the development

Figure 8. Abandoned airfields of Latvia [photo] myairfields.com. (2022). MyAirfields. [online] Available at: https://myairfields.com/# [Accessed 5 Feb. 2022].

of a community where it did not exist before (Favargiotti, Yang and Harvard, 2017).
The conversion of an abandoned aerodrome provides many activities that were not possible before, such as open spaces, educational programmes, and passive and active recreation. However, the preservation and reflection of the site's natural and historical heritage must accompany the introduction of new opportunities. For example, existing hangars can be saved for aviation museums or educational and social spaces. Remaining in virtually every aerodrome site, a hangar can create many new experiences and interactions for site visitors. (Favargiotti, Yang and Harvard, 2017)
Site materials and media can be stored, recycled and reused to create less waste and preserve a local sense of place and history. For example, concrete from a former runway can be reused as an aggregate for new roads or used as landscape features such as benches and sidewalls. It follows that salvaged media must be assessed to determine their condition and level of contamination. When new materials and media are introduced, they must

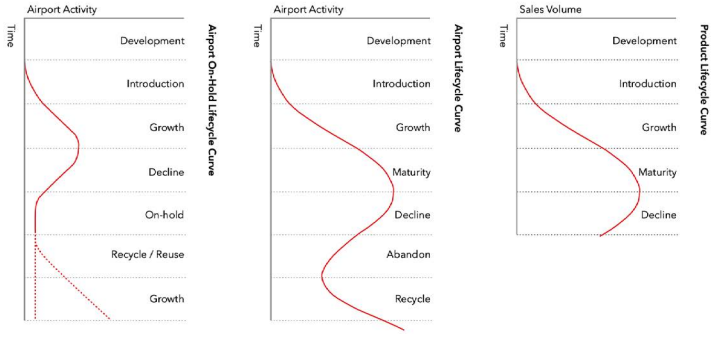
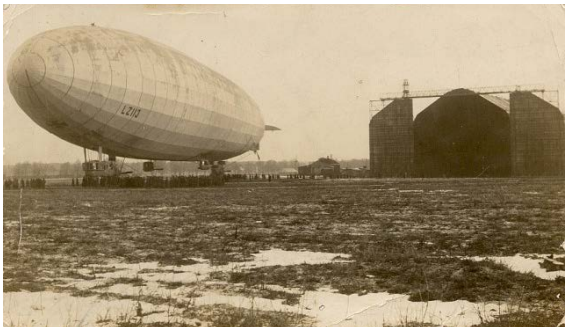


Figure 9. Aerodrome life cycle diagram [diagram] Favargiotti, S. (2018). Renewed landscapes: Obsolete airfields as landscape reserves for adaptive reuse. Journal of Landscape Architecture, 13(3), pp.90–100.

be sustainably designed and waste-neutral to avoid jeopardising the environmental objectives of the conversion project.
One such abandoned airfield in Latvia, the skilful conversion of which would benefit landowners and residents of the neighbourhood as well as the aviation sports and enthusiasts industry in general, is Vaiņode Airport (Figure 10).
Vaiņode airfield has historically been one of the largest military airfields in the Baltic States and is considered one of the cradles of aviation during the independent state of Latvia in the interwar period. The construction of the Vaiņode airfield began 110 years ago for the needs of the German army. In 1916, two 240-metre-long, 37.4-metre-high and 47.2-metre-wide airship (zeppelin) hangars, Walther and Walhalla, were built in the territory of the airport (Figures 11, 12).
These were impressive buildings with a paved highway and rails connected to the Liepāja-Romni railway line.
The airships soon lost their military significance, the hangars were demolished, and their structures were moved to Riga in 1924 to construct the central market pavilion (Nacionālā kultūras mantojuma pārvalde., 2021).

Figure 10. Vaiņodes lidlauks [photo]
Leismalite.lv. (n.d.). Vaiņodes lidlauks – Leišmalīte. [online] Available at: https://leismalite.lv/ vainodes-lidlauks/ [Accessed 26 Feb. 2022].

Figure 11,12. In the photo, German Zeppelin hangars were built during the First World War [photo]
Tomsons, V. and Latvijas Nacionālā bibliotēka (n.d.). http:// www.zudusilatvija.lv/objects/ object/30927/. Zudusī Latvija.



Only the upper parts of the hangars were used for the pavilions of the Riga Central Market; the buildings themselves are made of masonry and reinforced concrete 20.5 metres high and 35 metres wide (Rīgas Centrāltirgus, n.d.).
Now the former airship hangars have become a landmark for both the residents of Riga and the city's guests (Militārais mantojums, 2020).
During Latvia's independent interwar period, Latvijas Aeroklubs was active at Vaiņode Airport. Air glider events took place here – the gliders "Dūja", "Pārsla", and "Zelta vārpa", built in Latvia, took to the air.

In 1940, the airfield was taken over by the Soviet army, and a headquarters was established in the building of Vaiņode manor (Figure 13).
A standardised concrete slab runway was started to the south of the manor. After the Second World War, the Soviet Air Force's 54th Guards Fighter Regiment was stationed in Vaiņode until 1992 (Figure 14). Maintenance, security and various farm units were also located at the Vaiņode base (Militārais mantojums, 2020).
After the restoration of Latvia's independence, the territory of the airfield was left in excellent condition, preserving both the German and Soviet heritage (technical, economic and residential buildings). However, from 1995-1997, the Vaiņode airfield was partially demolished (Nacionālā kultūras mantojuma pārvalde., 2021).
The life cycle diagram of Vaiņode Airport shows that it is currently in an abandoned / standby mode. Still, it has the potential and opportunity to develop, improving the landscape's quality and creating a new space for light aviation enthusiasts (Figure 15).

Figure 13. Vaiņodes muižas pils [photo]
Locs, M. and Latvijas Nacionālā bibliotēka (n.d.). Vaiņodes muižas pils. Zudusī Latvija. Available at: http://www.zudusilatvija.lv/objects/object/14995/.

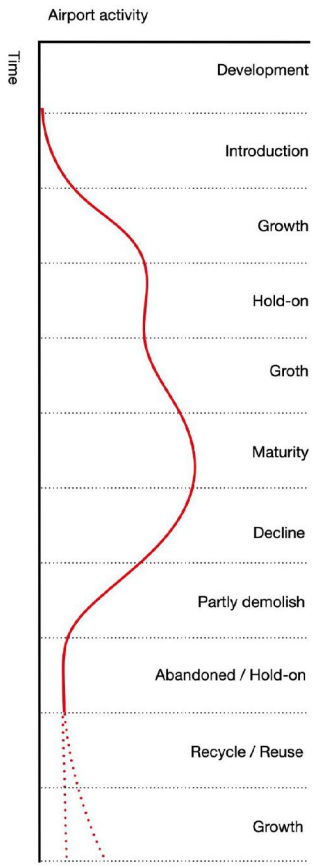
A scenario for the transformation of an abandoned structure on the basis of a former military airfield

To assess the possibility of recovery of the aerodrome, it is necessary to study the area from different angles. As the size of the airfield is quite large (300 ha), initial reconnaissance was carried out from the air by flying around the area and capturing it by photo and video (Figure 16). When conducting an aerial survey, the entire territory is transparent, its structure is understandable, and the consequences of past and present human activities are visible. The same study was conducted on the ground by walking around the aerodrome and its areas and taking photographs from a human point of view (Figure 17).
Surveying a place primarily affects various human senses: sight, hearing, smell, touch, inner feelings. A mapping method was used to understand the diversity of elements, their location, and their impact on the quality of the landscape in the territory of Vaiņode aerodrome. Figure 18 shows the variety of all the elements.
Most of the aerodrome area is covered by construction debris left over from the aerodrome's former buildings. As the buildings were blown up, construction debris was scattered over a large area, making it difficult to use the land. Such elements are considered waste that degrades the landscape and must be disposed of (Figure 19). On the other hand, the surviving hangars are good enough to be reused. In addition, the hangars are covered by a layer of grass, which has historically been used for camouflage so that the hangars are not visible from the air. However, this layer of grass can now be used as a cultural and historical element and can integrate these elements into the landscape by blending them to the maximum.
Different landscape elements give people different experiences, allowing them to identify a particular place. Changing, renewing, or adding an item changes the perception and experience. This creates a new place.
The conceptual idea of the project is based on the

Figure 14. Enlargement - In the northeast, there is an anti-aircraft missile site (circular structure). Source: U.S. Geological Survey [map]
Military Airfield Directory Cold War Airfields (n.d.). Vaiņode Air Base, Latvia. [online] www.mil-airfields.de. Available at: https://www.mil-airfields.de/lv-latvia/vainode-air- base.htm [Accessed 13 Feb. 2022].

dream of flying and living in a hangar. Vaiņode Airport is an area of approximately 300 ha in the SW of Latvia, 4 km from the Lithuanian border and 2 km from the city of Vaiņode. The site is surrounded by forests on three sides. The former military airfield with two 2,500-metre-long and 60-metre-wide runways, technical buildings, and road infrastructure has been partially demolished. There is only one 1,800-metre-long runway left, 16 aircraft hangars, and countless rubble and building ruins throughout the area, thus creating a waste landscape. The theoretical part of this study deals with the possibility of revival of the airfield by replanting the existing elements of the waste landscape, creating a new place, and respecting the details of the natural rural landscape. Therefore, creating a multifunctional airpark that would attract fans of various light aviation sports and recreation is an excellent opportunity to revitalize Vaiņode Airport and unite aviation enthusiasts.
A four-stage development plan was developed for the creation of the pilot village, first creating a public area with a school for flying enthusiasts, then a technical area with workshops, a residential area with hangar houses for passionate pilots and finally a recreation area around the historic Vaiņode manor (Figure 20).
Within the project framework, a pilot village with an area of 17.5 ha is being developed in the NE part of Vaiņode airfield at the location of the historic aircraft hangars. As part of the design, nine hangars are offered, adapted for different types of families to live in and accommodating one light aircraft each. Villagers have direct access to the runway

Figure 15. Vainode airfield life cycle diagram [diagram] Anna Saurova, 2021



from each hangar. This area has a taxiway wide enough to be used as an access road to the hangar homes for both aircraft and cars. All hangars are located by the runway. They have additional access in the form of a path leading to the main entrance. The use of the runway is intended only during daylight hours to not disturb the peace of the villagers and the surrounding area during the night. (Figure 21)

The design concept uses the main identifying elements of Vaiņode airfield: the existing hangar covered with grass for camouflage purposes and the long, wide runway, where the view extends to the horizon. (Figure 22)

The historical reinforced concrete cylindrical hangars are adapted both for living and for parking light aircraft. The main element of the buildings is the arched glazing at both ends of the hangar. The doors of the hangar garages are also made of glass with a mirror effect, reflecting the diversity of the surrounding landscape and providing additional integration of the buildings into nature. Glazing is embedded in the middle of each hangar house, which brings light into the 28-meter-long structures.

The central entrance is located in the middle of the

Figure 16. Vainode airfield from a bird's eye view [photo] Anna Saurova, 2021

Figure 17. Existing structures and ruins [photo] Anna Saurova, 2021

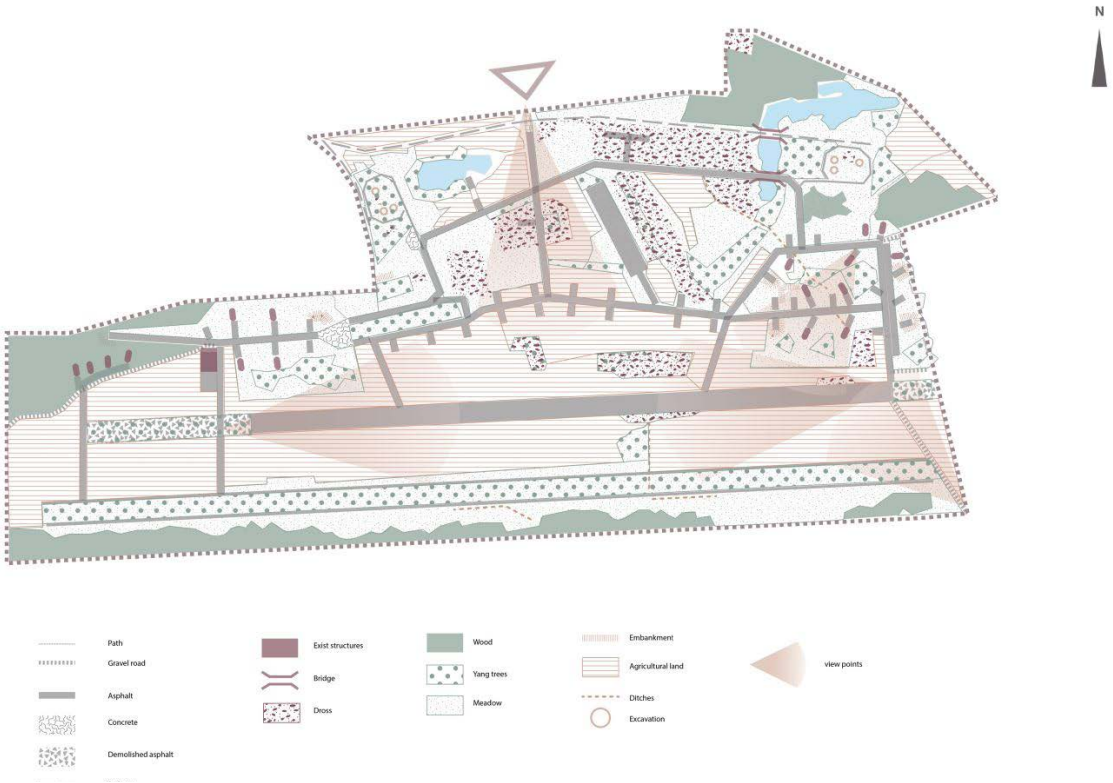
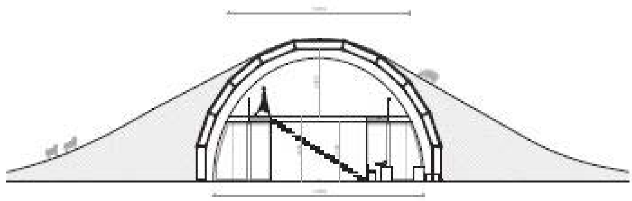


Figure 18. Landscape elements [map]
Anna Saurova, 2021

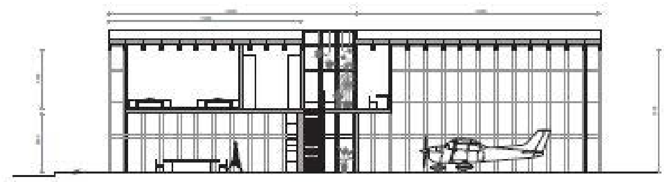
Figure 21. Hangar home floor plans and sections [drawing]
Anna Saurova, 2021

MODULE 1



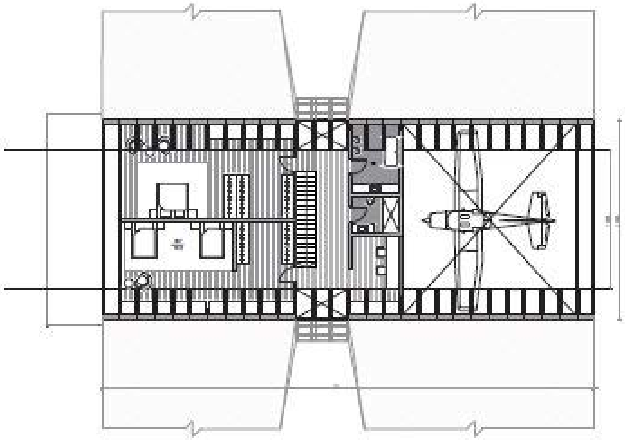
SECTION 1

Model scale



SECTION 2

Model scale

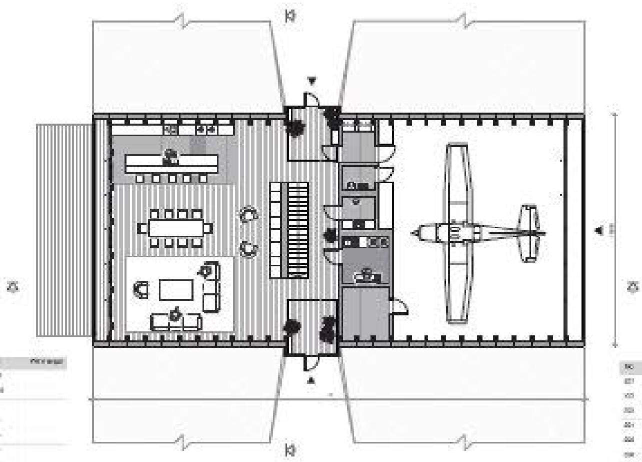


FIRST LEVEL FLOOR PLAN

Model scale

GROUND LEVEL FLOOR PLAN

Model scale 1:10



NO	ROOM	M²	[illegible]
101	HALLWAY	[illegible]	
102	KITCHEN | DINING | LIVING	[illegible]	
103	WARDROBE	[illegible]	
104	WC	[illegible]	
105	WC	[illegible]	
106	LAUNDRY	7.2	
107	TECHNICAL ROOM	7.2	
108	HANGAR	[illegible]	
	TOTAL	[illegible]	[illegible]

NO	ROOM	M²
201	HALLWAY	[illegible]
202	VISITOR BEDROOM | WARDROBE	[illegible]
203	BATHROOM	[illegible]
204	BATHROOM	[illegible]
205	HOME BUREAU	[illegible]
206	WARDROBE	[illegible]
207	BEDROOM	[illegible]
	TOTAL	[illegible]
	GRAND TOTAL	[illegible]

building, from which both the living area and the hangar can be accessed equally well. (Figure 23) The project offers three types of modules for different kinds of families. The living area of each building has access to an outdoor terrace with sweeping views of the runway.

Conclusions

This study aimed to prove the existence of a waste landscape in the Latvian countryside, which consists of abandoned or underused structures for various social, economic and other reasons and adjacent areas, such as dilapidated buildings, barns, factories, etc. The waste landscape in the study framework comprises the former military airfield of Vaiņode, abandoned by the Soviet Army. It is an area of more than 300 ha, where most of the former structures have been demolished and are practically unused, forming a waste landscape.
In the course of the research, it has been found that such objects as airfields have great potential, from the point of view of both landscape architects and urban planners. As there are many abandoned and defunct aerodromes globally, their reuse is being further explored.
Most aerodromes are converted into residential areas with a long linear park instead of a runway. One of the research tasks was to determine the quality of the landscape of the existing Vaiņode aerodrome area and its identifying elements. For this purpose, the territory was mapped. As a result, the region's geography, architecture, and waste were clarified. Summarising historical information, interviews, and data available in the media and information leaflets, the main identifying elements are the hangars, the long and wide runway, and the memories of the zeppelin hangars, the constructions of which now support the pavilions of the Riga Central Market.
Mapping, photo fixation, and a physical survey of the territory helped determine the set of elements to be preserved and dismantled for further implementation of the region's development vision – the creation of the airpark. The study has shown that it is possible to restore a degraded environment by recovering and reusing waste elements, creating a new site, giving it new functions, and preserving the area's cultural heritage.
In many parts of the Vaiņode airport, nature has taken over artificial structures. This must be respected to give people a quality landscape, and architectural design must be done with minimal interference with natural processes.
The study's conclusions show that it is possible to create a place that can function while coexisting and preserving the diversity of nature and the quality of the landscape.
By applying the right development strategy and using the elements of cultural and historical identity and the principles of creating a place, it is possible to give the area a new identity, attract people and create a sustainable and self-sufficient community of aviator enthusiasts in the former military airfield in Vaiņode.

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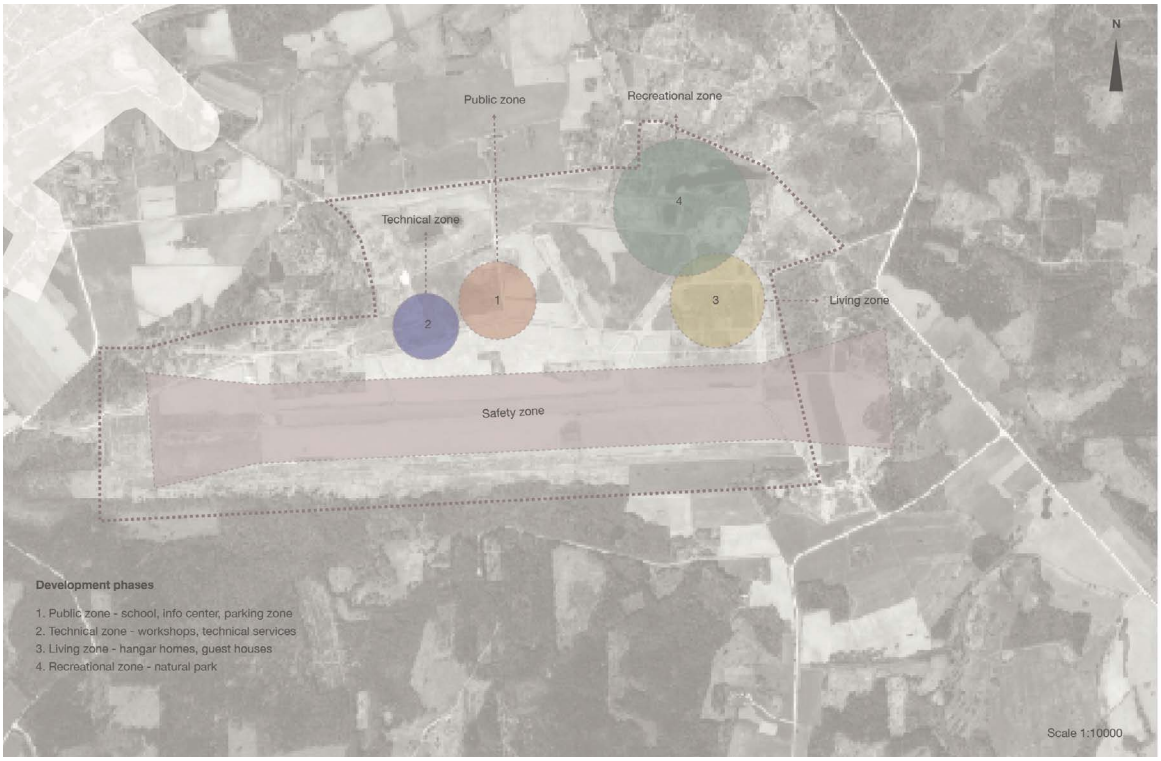

Figure 20. Possible development phases of the airfield [map]
Anna Saurova, 2021


Existing structure (hangar)
Possible place for hangar home
Design border
Embankment
Agricultural land
Meadow
Forest
Bushes
cut grass
Shared plane & car road
Path
0
25
50
75
100

Figure 23. Hangar homes plan [map]
Anna Saurova, 2021

Figure 22. Hangar home visualization [drawing]
Anna Saurova, 2021

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