# War-Emergent Architecture

# Responsible Rehabilitation and Recycling Waste Materials in Ukraine

P. Rebeca Barbu | 5734371

City of the Future | Faculty of Architecture | TU Delft

Delft University of Technology
Faculty of Architecture and the Built Environment
Graduation Studio Cross Domain: City of the Future | AR3CS100

P. Rebeca Barbu (Author)
Joran Kuijper (Design tutor)
Heidi Sohn (Research tutor)
Piero Medici (Building Technology tutor)

June 2024

# _Table of Contents

# _Abstract

This socio-architectural research is a critical reflection upon post-war rehabilitation methodologies and outcomes. The paper observes the current national and international aid response, and other involved actors to the war in Ukraine. Concepts such as “taking re-sponsibility” and the “ability to respond” serve as guidelines for assessing and critiquing dif-ferent stakeholders and actors. It also looks at what influences the outcomes of post-war recovery, as well as the importance of citizens involvement in the different stages of plan-ning and project developments. It is through the identification of different means of communication and the reach of emergency responses that we can explore and analyse the needs of the citizens, their resilience and hopes for the future of Ukraine. Moreover, the study aims to break down the ambiguous relationships between response-ability, becoming and com-munity resilience to create a clearer connection between the three. This would allow the architectural research to narrow down on post-war resilient design, going beyond the tradi-tional route of emergency/temporary housing or shelter provision, and valuing community resilience, as well as flourishing local economies and public participation.

**Keywords:** post-war rehabilitation, Ukraine, responsibility, response-ability, belongingness, shared concern, becoming, community resilience, post-war reconstruction, resilient design

# _Introduction

In a state of ongoing war, Ukraine's population is decreasing and studies show that the war is likely to cause long-term demographic repercussions (Kulu et al., 2023; Rogoża, 2023). As over 70% of the population lives in urban areas, the decrease will drastically affect city resilience and revival of the urban fringe post-war, while further decentralising the development of the rural areas (World Bank, 2022; Davydenko et al., 2021). It is therefore important to assess the resilience of the remaining communities and their contribution to the new perspective of Ukraine.

The duty for the reconstruction of cities, infrastructure and societal recovery following a crisis falls into the hands of those with socio-political and financial responsibility, primarily the national and local governments. However, having endured a transformative political history at the hands of the Soviet Union (USSR), the Ukrainian population harbours a mistrust of the government's decision-making process (Odarchenko, 2020). Historically, such mistrust is not unfounded as post-World War II rehabilitation has shown multiple examples of inconsiderate judgement and oppression on the part of the governments of the world, as evidenced by the construction of the Berlin Wall (Allied Occupation of Germany, 1945-52, n.d.). These narrow recovery actions focused solely on the housing demand, with fast-paced unsustainable (re) construction techniques and capital prioritisation of funds effectively exacerbating societal inequalities.

A current reflection shows that a fair understanding and development of local economic growth and return migration are crucial to the country's post-war rehabilitation (Vonyó, 2019). As the war in Ukraine continues to unfold, questions arise about its reconstruction following the Sustainable Development Goals (SDGs), and most importantly, dealing with societal recovery and the new perspectives of a post-Soviet country in the 21st century. It is not unfounded that in post-disaster large-scale societal recovery, expectations and demands often overshadow the reality and timeline of the possible delivery of housing, goods and infrastructure.

Architects and the parties responsible for urban development have the financial and political resources to address the main concerns of the average citizen, yet the system often fails to react to the emergent needs of the affected population. Here is where the responsibility of the governmental parties and the role of the architects are questioned: *'What are the emergent strategies governmental agents and architects should adhere to when it comes to large-scale population aid and resilience?'*, *'Is the provision of housing going to solve the mental distress and inhibition people develop as a residue of being a victim of war?'*, and most importantly *'Where and with whom does the whole recovery process start?'*.

This research follows a critical and psychological approach to urban development and challenges the traditional approach to post-war urban recovery by assessing the (political) power architects and citizens have over their future through different media and aid responses. This paper also looks at the opposition between the responsibility and 'response-ability' of architects in emergent situations, following the intersection of design ethics and situated knowledge of response action in war-emergent architecture.

Responsibility is the state or fact of having a duty to deal with something or of having control over someone and being accountable for it (Oxford English Dictionary, 2023). Architects observe the way urban and architectural planners address emergency responses and the responsibility that comes with relieving another from war traumas and losses. In this way, they find themselves in the middle of an imbalanced field of possible solutions to turn a wasteland into an oasis. Although another question arises: *'How long does it take for architects to take action and for projects to come into existence?'.*

On the other hand, Donna Haraway regards 'response-ability' as "the ability and willingness to respond to what we learn … habits of curiosity and compassion – responding to new knowledge by seeking to learn more, by feeling for those about whom you have learnt, and by acting, insofar as possible, to reduce suffering" (Israel & Sachs, 2012). Thereon, response-ability exhibits a level of "empathic attunement to the needs of another … in the face of uncertainty about what the ethically 'right' decision is" (Ibid.).

By amalgamating the responsibilities that come with post-war rehabilitation and the activation in the face of an emergency, the relationship between urban development processes and the anticipation of the people should rebalance. After all, regrouping their focus towards a shared concern reshapes the responsibility and response action of government agents and drives architects to action. And through vulnerability and belongingness people develop empathic attunement, respond to emergencies and build resilience.

The phenomenon of 'shared concern' wherein individuals find connection over shared or similar (past) traumatic experiences seems to be the key for people to become more receptive to empathising and offering aid to others (Bastian, B., 2014). On the other hand, studies show that while one can be eager to listen, it does not mean that they will relate or find connections to the story of others. Despite their similar (traumatic) backgrounds, it could cause tension due to different viewpoints or levels of vulnerability displayed (Krishnan, 2021). Now to create community resilience in war torn countries such as Ukraine, one needs to understand the dynamics of human relationships in space and time. Hence, before talking about cooperative action, studying the human behaviour and (emotional) attachment of Ukrainians, this paper refers to the architectural concepts of a becoming, belongingness and togetherness.

The research is drawing attention to architectural developments that should be prioritized alongside the housing demand during the period of refuge and displacement. This phase conveys the burden of possible homelessness and separation from familiarity, however, this study is focused on empowering displaced Ukrainians and reestablishing their position in the socio-economic urban fabric. Currently there is a lack of third spaces for social gatherings and trading of goods and knowledge in many cities and rural areas across Ukraine. This sets limitations for internally displaced individuals to find their communities, have access to information or make ends meet. Socio-economic architectural characteristics for community stimulation (e.g. urban context, materialization, functionality) can be used to provide guidance and aid for the displaced population, creating safe and financially resilient spaces for the next generations of Ukrainian cities.

To address the research problem the following question is framed:

*How can architects create responsive opportunities for vulnerable groups dealing with loss in emergency situations?*

# _Theoretical Framework

This socio-architectural research looks at the phenomenology and sociology aspects of community resilience in relation to the political sphere of post-war city planning. It addresses the embodied experiences of citizens, common social-spatial practices and their emergent recovery actions.

Through concepts such as “responsibility” and the “ability to respond”, parties involved in the rehabilitation of Ukraine are critically evaluated. Subsequently, a comparison is drawn between the actions of said parties and the shared concerns of the displaced communities to assess the helpfulness of the employed efforts and provide suggestions for improvement. Subjective qualitative and quantitative data such as films, news, photographs, interviews and statistical reports are used to understand ties between belongingness and shared concern which can lead to togetherness and resilience within the displaced communities.

Using the sunflower as a symbol of Ukraine’s resilience and outlook for the future, the theoretical framework portrays a metaphorical timeline of a flower’s growth to maturity. Split over the design timeline, each step of the ‘gardening’ process has major effects on the outcome of the ‘harvest’. The different steps are based on four main theories – Responsibility, Belongingness, Becoming and Community Resilience, which will ultimately have their subdivisions as the research goes on. The agricultural metaphor taps into the vernacular knowledge of architecture and positions the citizen as the leader and builder of ‘city of the future’.

**PRESENT**

Contaminated,
Deserted Land

After P1 **DECONTAMINATION**

(Identify threats & risks of actions)
- Map & analyze the public concerns
- Define vulnerable groups
- Clarify employed responsibility & actions

P1-P2 **PLOWING THE SOIL**

(History digging & factoring truths)
- Identify responsible actors
- Address imbalances of response actions
- Formulate needs & requirements of public

P2 **SCATTERING THE SEEDS**

(Implementing knowledge)
- Draft concept scenarios
- Clarify response-ability role
- Position site of action & actors

P2-P3 **WATERING**

(Providing opportunities)
- Define architectural qualities
- Draft design processes incl. response-ability
- Determine position of public in scenario

P3 **THE DAYLIGHT FACTOR**

(Shining light on response abilities)
- Manual of architectural development
- Community led design processes
- Adaptability & performance

P4 **THE HARVEST**

(Developing with care)
- Final design proposal & permanence
- Reflection on process & maintenance

**FUTURE**

Prosperous,
Livable Land

# _Responsibility

*"State capacity is not a given; it is a dynamic concept that can change over time and is shaped by both structural and agential factors." - Philip G. Cerny*

The repositioning of architectural responsibility lies in understanding the dual nature of recovery: rebuilding physical infrastructure and addressing the psychological and social impacts on affected populations. Architects must balance between rapid urban development and thoughtful creation of spaces that promote healing and functionality. This thesis proposes examining the role of architects and planners in shaping spaces that foster said community resilience. Furthermore, it evaluates the socio-economic revitalization options that address the immediate and long-term needs of affected communities; the ethical dimension of responsibility demands consideration of the broader impact of their decisions on future generations and the sustainability of the urban environment.

Inspired by Donna Haraway's concept of 'response-ability', architects' ethical duty to respond to human suffering with compassion and innovation is explored as part of the design process and requirements (Hofman, 2023; Haraway 1988, 2008). This involves the provision of third spaces and fostering environments that encourage curiosity, empathy, and an active response to the emergent needs (e.g. psychological recovery and social cohesion) of war-torn communities.

Studying the past and present of post-war cities' recovery, and the experiences of soldiers and civilians through the lens of visual arts evokes a deeper understanding of Ukraine's society agents and their socio-political views. It provides insight into the attachment between individuals and their homes, and familiar environments, as well as the fluctuations in the sense of responsibility amid conflict.

# _Belongigness

Patrick Devine-Wright and Susan Clayton emphasize the impact that the physical environment has on an individual's sense of self, noting that identity plays a crucial role in mediating behaviour (Devine-Wright & Clayton, 2010). This relationship extends to feelings, morals, and behaviours that are intertwined with the environmental context to which an individual believes they belong. Place attachment, a key concept in environmental psychology, refers to the emotional and cognitive bonds people form with specific places. This bond encompasses elements such as place identity, dependence, and familiarity, all contributing to how people perceive and connect with environments (Escalera-Reyes, 2020).

In the context of post-war recovery, belongingness refers to rebuilding of place attachment to provide a sense of stability amidst turmoil, supporting both individual and collective recovery. Rebuilding efforts must consider these emotional and psychological dimensions, ensuring that redevelopment initiatives resonate with the local culture and heritage, thereby promoting a sustainable and inclusive recovery process that supports the community's well-being and resilience. The challenge lies in designing adaptive urban spaces that can evolve with the changing needs of the community, nurturing a sense of belonging and ownership among its members.

In this case, interviews, media articles and journals are useful to provide first-hand discussion on the past and present influence of war on a person's sense of belonging, as well as gain insight into the mentality and needs of the average citizen.

# _Becoming

Drawing on Deleuze's philosophy of 'becoming,' this theoretical framework explores the dynamic processes of change in the post-war urban landscape. 'Becoming' is a continuous process of transformation that is responsive to the needs and inputs of the community (Deleuze, G. & Guattari, F. L., 1987).

Moreover, in "Becoming Child, Becoming Other: Childhood as Signifier", David Kennedy presents a nuanced exploration of the concept of childhood as understood by post-modern philosophers, particularly Gilles Deleuze, Felix Guattari, Jean François Lyotard, and Walter Omar Kohan. Kennedy delves into the philosophical and psychoanalytical implications of 'childhood' as a construct, offering insight into how this concept has been interpreted in philosophical discourses. Kohan's interpretation of childhood, influenced by Heraclitus' philosophy, is centred around the concept of 'aionic' time — a non-chronological, intensive experience of temporality. In this view, childhood is not confined to a particular life stage but is an enduring force that permeates existence. This perspective aligns with Deleuze and Guattari's notion of 'becoming-child,' which Kennedy describes as escaping traditional categorizations of identity and experience.

Kennedy emphasizes that 'becoming-child' is not a regressive return to childhood but a profound transformation of subjectivity. It entails de-territorializing and deconstructing established forms of subjectivity, leading to a nomadic existence that continuously encounters and adapts to new realities. The author also touches upon the broader cultural and historical significance of the 'child' as a signifier. He notes how each era has its representation of childhood that reflects and problematizes its dominant ideologies and cultural narratives. Kennedy concludes by linking the philosophies of Marcuse, Deleuze, and Guattari, noting their convergence on an epistemological model that challenges the traditional dichotomies between social and natural, object and subject. This shift supposedly heralds a new era of subjectivity aligned with the concept of 'becoming-child,' signifying an evolutionary step towards a more interconnected and adaptive form of existence (Kennedy, 2018).

In architectural terms, this translates to designs and urban plans that are adaptable and participatory, allowing inhabitants to play a role in shaping their environment. This approach challenges traditional top-down planning methods and emphasizes the potential of architecture to facilitate the emergence of new social structures, which are essential for the communal healing and development post-conflict.

# _Community Resilience

In post-war urban planning, community resilience encompasses the capacity of communities to recover from conflicts, adapt to new circumstances, and thrive. Architectural and urban planning strategies play a crucial role in enhancing this resilience by providing the physical and social infrastructure necessary for communities to sustain themselves and grow. The thesis will investigate how architectural interventions can foster community resilience. This entails creating spaces that not only provide shelter but also promote social interactions and economic activities among displaced individuals. The role of 'third spaces', communal areas that facilitate the exchange of goods and ideas, will be crucial in this analysis.

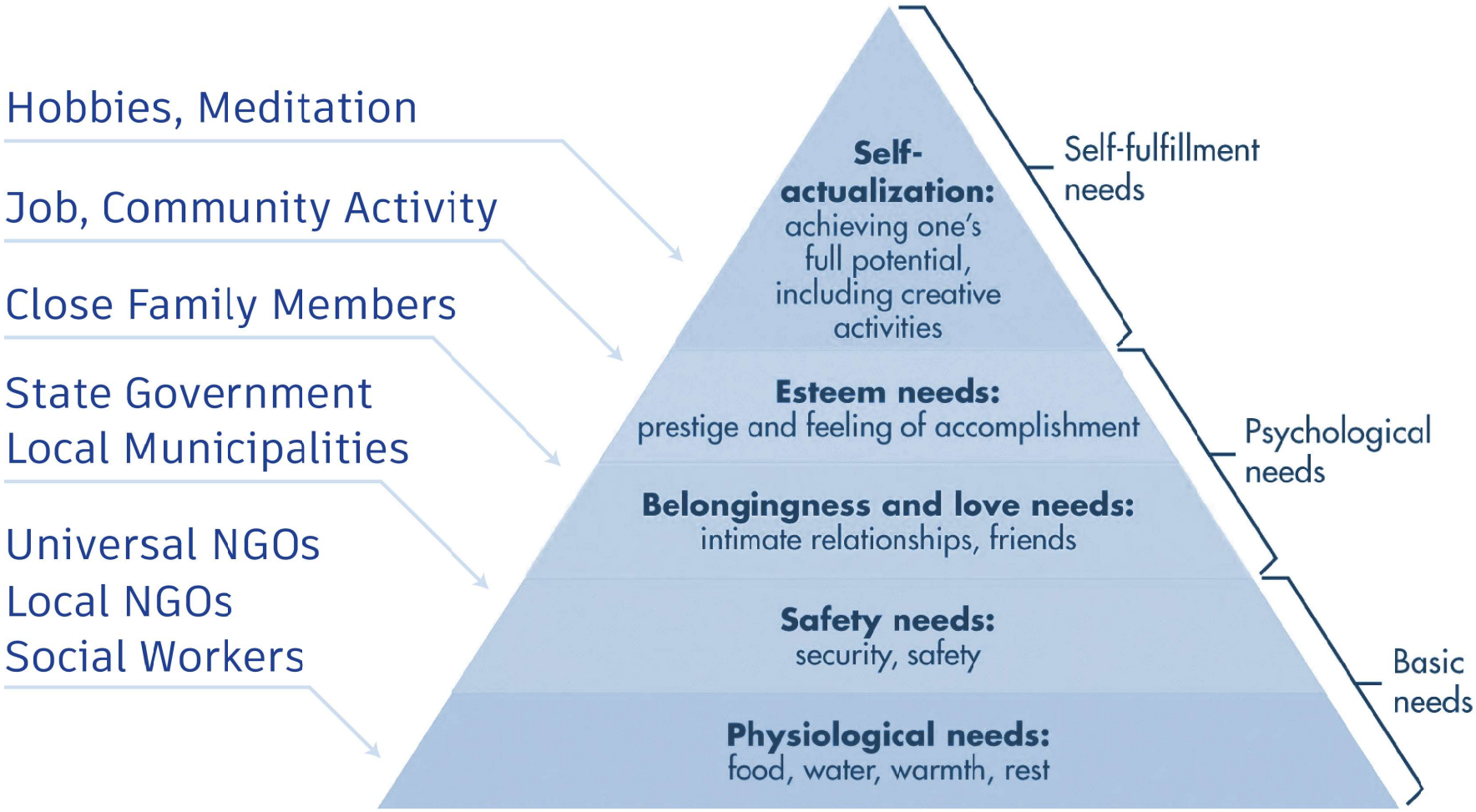
In a podcast interview with Rumana Kabir, Professor Ian Davis shares his insights on community resilience, drawing from his extensive experience in post-disaster recovery and housing. His perspective is deeply influenced by personal experiences of displacement during World War II, which gives him a unique understanding of the traumas associated with such disasters. He highlights the importance of understanding the emotional and social dimensions of place attachment in communities affected by disasters. His reflections underscore the significance of place attachment in rebuilding efforts, particularly in how these emotional connections can help stabilize communities and aid recovery. By focusing on the needs and experiences of the affected populations, and integrating them into the rebuilding process, recovery efforts can be more effective and culturally sensitive, ultimately supporting the resilience and long-term sustainability of communities (Mymarsmantra, 2023).

*"shelter is not merely a non-food item, or a covering or a structure. It has to be regarded as a foundation for livelihoods, a location where building skills are taught, a place to recover damaged identities, an opportunity for psychosocial recovery for a family as they re-group and a structure that is environment friendly"*

*- Shelter After Disaster, Second Edition (2015)*

Professor Ian Davis's ideas on community resilience underscore the significance of addressing both the emotional and social dimensions of place attachment in post-disaster rebuilding efforts. His approach can be effectively framed within the context of Maslow's hierarchy of needs, which posits that fulfilling basic physiological and safety needs forms the foundation for achieving higher levels of psychological well-being and self-actualization. In an architectural context, this implies that the initial focus must be on providing secure housing and essential services to displaced communities. Once these fundamental needs are met, architectural and urban planning strategies can then prioritize the creation of communal spaces that foster social interactions, a sense of belonging, and cultural exchange. By designing environments that not only offer physical protection but also promote social cohesion and personal development, architects and planners can facilitate community resilience through growth and self-discovery.

This approach is particularly relevant to war-torn areas like Ukraine, where the reconstruction of both physical and social landscapes is crucial. The principles Davis discusses can guide efforts to restore both the urban and social fabric, helping communities to heal and rebuild their sense of identity and belonging in the aftermath of conflict.


Hobbies, Meditation
Job, Community Activity
Close Family Members
State Government
Local Municipalities
Universal NGOs
Local NGOs
Social Workers
Self-actualization: achieving one's full potential, including creative activities
Esteem needs: prestige and feeling of accomplishment
Belongingness and love needs: intimate relationships, friends
Safety needs: security, safety
Physiological needs: food, water, warmth, rest
Self-fulfillment needs
Psychological needs
Basic needs

# _Relevance

Architects and government agents are pressed for a response to the crisis in Ukraine. According to the United Nations report from March 2023, over 13 million people have left their homes, making this the largest displacement and refugee crisis in Europe since World War II. The related financial crisis put 90% of the population at risk of poverty and forced over half of businesses to suspend their activities or switch to providing military aid. Most importantly, almost 20 years of socio-economic development has been lost to the Russian aggression (UN Annual Results Report 2022: Early Recovery Efforts in Ukraine, 2023).

It is therefore of utmost importance that architects and urban developers alike open the discussion about possible action and the manner in which urban fabric rehabilitation is to be approached. It is not in the interest of the real estate agencies, the politicians or the international firms who commodify a sterile 'utopian' future, void of cohesion and compassion; but in the interest of the public that can't afford the 'new future', the vulnerable communities who slowly lose hope for said future, as well as the immigrants questioning their return. Quoting Christian Walloth at the 48th ISOCARP Congress in 2012:

*"If planning should be effective, it must overcome the limitations of today's approaches and reposition itself within the metrics of fast (bottom-up) and slow (top-down) dynamics as an actor fast enough to trigger change and slow enough to guide other actors' dynamics."*

In order for Ukraine to grow into a prosperous, sustainable, European country of the 21st century, reliable actors and response-ability are key to regaining the population's trust and securing the country's socio-economic growth. Therefore, this research will investigate beyond the housing sector and delve into the public sphere. While there are limitations to testing and site visits to Ukraine, the study of media, live news and past approaches to post-war reconstruction should give a base for understanding the state of emergency and the response of the people and involved actors.

This paper aims at expanding people's awareness of the complexities of dealing with post-war rehabilitation. And through providing an understanding of architecture's capacity in addressing complex narratives, architects can lean into the public sphere of disaster resilience.

# _Decontamination

The first stage when it comes to soil preparation in agriculture, the Decontamination of the design process implies the re-positioning of responsibilities amid war and the designation of involved actors and target groups.

## _Framing our "Response-ability"

As the concept of responsibility traditionally implies a duty or obligation to perform or abstain from performing certain actions, it is often prescribed by societal norms or legal frameworks. It involves being accountable for one's actions or the welfare of others, encapsulating both individual actions and collective duties. In society, responsibility manifests in many forms—from a parent's duty to care for their child, to a government's obligation to protect its citizens or to an architect's task to design and execute a project. The essence of responsibility is founded on predictability and the normal functioning of societal systems, fulfilling roles as means for security and reliability. In war zones, the conventional understanding of responsibility undergoes profound transformations as the usual controls disintegrate and the primary focus shifts to daily survival.

Pre-war responsibilities, such as business operations, schooling, and community events, give way to such tasks like securing food and safety, finding shelter, and protecting loved ones. The structures of governance and social order are disrupted, placing civilians in situations where traditional roles and responsibilities are no longer feasible or relevant.

Zygmunt Bauman, author of "Liquid fear" (2006), in an interview for Al Jazeera explains that *"We are walking…on a mine field. There are no solid structures…on which we can rely and in which we can invest our hopes and expectations."* and that *"There are two crucial values without which human life is simply inconceivable. One is security, a measure of security, feeling safe. The other is freedom, ability to self-assert, to do what you really would like to do."* (Al Jazeera English, 2016). Addressing 'survival mode' in war-affected populations might include fostering community cohesion and resilience, enhancing social support systems, and developing strategies that allow individuals and communities to navigate obstacles effectively. These approaches would aim to create a sense of stability and security, even in challenging conditions, enabling people to move beyond mere survival towards a more sustained recovery and normalcy.
For architects and urban planners, the responsibility shifts from merely creating aesthetically pleasing and functional spaces to designing environments that protect life and contribute to physical and psychological well-being during and after crises. The actions associated with these responsibilities also change significantly. Efforts focus on quick adaptability, emergency responses, and the creation of resilient structures. Designs may incorporate bomb shelters, durable or recycled materials, modular, easily repairable components, or temporary solutions for complex problems.

While responsibility relates to predefined duties and societal roles, response-ability refers to the capacity to react effectively to changing circumstances. In war zones, where the usual parameters for responsibility are disrupted, response-ability is about adaptability, resilience, and innovation in the face of unforeseen and rapidly evolving difficulties. For architects, it means designing spaces that can adapt to both the needs of normal civilian life and wartime exigencies. This includes creating multi-functional spaces that can serve as, among other things, community centres, shelters, and supply distribution points.

Therefore, the responsiveness of architecture to the immediate needs of displaced populations and the flexibility to adapt to fast-changing ground realities are paramount.

Response-ability is also reflected in how communities organize and govern themselves in times of crisis. Decentralized decision-making, community-led initiatives, and local solutions to displacement and shelter needs exemplify high response-ability under daunting conditions. People and architects of Ukraine have shown their solidarity through community-led initiatives and NGOs, ranging from digital architectural platforms such as RE:Ukraine Villages, online heritage encyclopaedias: Strikha, Old Khata Project and Garne Selo, to hands-on residential repair charities like Repair Together and Rayon Nomer 1.

As the critical nature of architectural response is highlighted, the shift from traditional responsibilities to a focus on response-ability is not just semantic but involves a fundamental reorientation of actions and expectations in the architectural field and among civilians, and policymakers. What is not yet seen in the discourse of war architecture is the focus on the socio-economic sphere. Are people so burdened by their homelessness that they refuse to engage in social cohesion activities or are there strategies architects can employ to promote the unification of the displaced population? Would sharing services and resources help aid communities, and in what way?

## _IDPs Settlements

Understanding the scale, demographic profile, and needs of internally displaced persons (IDPs) is crucial for effective architectural and urban planning responses. This chapter explores the current state of IDPs in Ukraine, analysing their geographic distribution, intentions and demographic classifications. Furthermore, analysing their specific needs based on vulnerability can provide a comprehensive framework for targeted architectural solutions.

As of 25 September 2023, the conflict in Ukraine has resulted in approximately 3.7 million internally displaced persons (IDPs), according to reports from the International Organization for Migration (IOM). This displacement has not only strained resources but also challenged the existing urban infrastructure across various regions (IOM, 2023). At the beginning of the full scale invasion, the majority of these IDPs were concentrated in areas less affected by the conflict, primarily in the western and central regions of Ukraine. Cities like Lviv, Ivano-Frankivsk, and Kyiv saw significant increases in their populations. The movement patterns of IDPs primarily dictated the intensity of conflict in their home regions, proximity to the frontline, and the availability of infrastructure in host communities. However, as the war progressed, there has been a return to the eastern regions of Kharkivska and Dnipropetrovska, followed by Zaporizka and Donetska Oblast (IOM Reports, 2022-2023).

The intentions of IDPs can be broadly categorized into short-term and long-term plans. In the short term, most IDPs focus on immediate safety, shelter, and access to essential services such as food, water, and medical care. Their long-term intentions often hinge on the duration of the conflict and the possibility of returning to their homes. In their study, the IOM indicates that while 62% of IDPs hope to return home in the long-run, about 18% consider permanent relocation to their current location. In contrast, 59% of IDPs chose to stay in their current location temporarily and 22% hope to relocate (IOM, 2023). The intentions of IDPs typically align with their prospects for return or resettlement. Those intending to return keep close ties with their communities and are likely to settle temporarily in areas closer to their original residences, waiting for cessation of hostilities. Others who choose permanent relocation tend to integrate more into the host communities, seeking employment and educational opportunities, particularly in major urban centres.
IDPs in Ukraine vary widely in age, with significant numbers across all age groups. However, the most substantial proportions are often found among the elderly (23.5%), who find displacement particularly

challenging, and children below the age of 18 (24.4%), who require stable conditions for their development (IOM, 2023). Too often elderly rights to disability accessible social and medical services are overlooked, despite the war in Ukraine being known as the oldest humanitarian crisis in the world.

While 99% of people over 60 receive pensions, the amount is typically too small to cover their basic needs, and 34% of elderly do not have another income source. In addition to low pensions and inflation, poverty among elderly results in reduced food spendings and inaccessibility of medications. Moreover, 55% of elderly stated that the war has influenced their mental health, including negative impacts on sleep and inability to cope. Some elderly also reported uncertainty about their future living situations, which can contribute to anxiety. Despite these experiences, just 2% of the elderly talk to a mental health specialist, and 28% said that they do not have information on how to access psychosocial support services. Lack of information is the most significant barrier to psychosocial support, followed by cost. Nearly 30% of elderly reported that they need access to information but no means, while only 5% said that they have enough information. Of those informed, 48% heard by word of mouth from friends or relatives; 18% learned from the internet, 18% by SMS or messenger app, and 2% from television. (HelpAge International, 2023).

To summarize, the elderly face multiple socio-economic challenges, including reduced mobility and greater difficulty in sourcing information and adapting to new environments. They are often dependent on support systems that are disrupted by displacement, making them particularly susceptible to adverse outcomes in conflict scenarios.

# _Plowing the Soil

The second stage, and one of the most important ones, is Plowing the Soil. At this point in the design process the necessary actions involving the chosen target group are drawn and formulating their needs is imperative for drafting the design requirements.

## _Addressing the response

Where displacement and destruction are prevalent, achitecture and design become pivotal in addressing the immediate needs of IDPs and facilitating long-term recovery. This paper explores the dimensions of human needs and psychological responses to displacement, with an emphasis on how individuals can learn from those seemingly bereft of responsibilities and harness inherent resilience for growth and healing.

In understanding the needs of IDPs, Maslow's hierarchy of needs provides a useful framework. The most fundamental levels of Maslow's pyramid—physiological needs and safety—are often compromised in war zones. For children, this disruption can be particularly damaging, as their development is highly dependent on a stable environment (Maslow, 1943). In contrast, the elderly, who have supposedly reached peak development, often overlook their psychological needs in favour of securing their basic necessities. Needless to say, by adding war and displacement into the equation, their mental sphere takes a toll, especially with the lack of readily available psychological support from loved ones and government actors.

In such settings, architects must prioritize secure, stable, and nurturing environments that facilitate not just the provision of basic amenities but also psychological safety and a sense of belonging for the elderly IDPs.

The concept of responsibility varies significantly across age groups. For children, their primary responsibility is learning and developing within their environments. Adolescents begin to take on more personal and communal duties, while adults are often tasked with the well-being of their families and extensive contributions to their communities. For the elderly, the focus may shift towards preserving their health and imparting knowledge to younger generations. There is much to be learned from individuals who appear to have no strict responsibilities – such as children, particularly in how they experience their environment compared to those who attempt to control it. This perspective is valuable in conflict zones where control, as mentioned before, is compromised. Studies show that individuals who focus on experiencing rather than controlling are often more adaptable to change, a critical trait in unstable environments (Ly et al., 2019).

Philosopher Gilles Deleuze's concept of 'becoming-child' offers the theoretical base for sourcing resilience from within. Deleuze argues that the child's perspective is one of continual transformation (Deleuze, 1997). A model for embracing change, resistance, and innovation is particularly pertinent in an era marked by rapid technological advances, environmental crises, and social upheaval. The concept of childhood is viewed as a symbol of adaptability in our collective consciousness. It challenges us to reconsider our approaches to social organization, advocating for a more fluid, open-ended, and inclusive perspective that values diversity, creativity and the capacity for fundamental change in society and individuals. Also significant in the context of re-evaluating human-nature relationships, it suggests a more integrated and holistic approach, recognizing the interconnectedness of human and non-human elements in our world. This perspective aligns with growing environmental consciousness and the push towards more sustainable and harmonious ways of living (Deleuze, G. & Guattari, F. L., 1987). Here architecture can play the role in creating spaces that encourage this continual adaptation and growth, providing a collective and mentally transformative experience on top of sheltering from adversity.

Empowerment through architectural design involves creating spaces that enable individuals to be active in their communities, despite the overarching conditions of conflict. Sharing and communal learning environments can also facilitate healing and community cohesion. Therefore, integrating communal spaces for people to gather, share experiences, and learn from each other helps rebuild the social infrastructure necessary for long-term recovery and resilience. Nonetheless, the challenges presented by war zones require a nuanced understanding of human needs and responsibilities across different life stages. Therefore, by applying concepts from psychology, philosophy, and social sciences, architecture can transcend its traditional role and actively contribute to the healing and empowerment of displaced communities. The principles of experiencing, learning, and becoming befit the designing of environments that not only meet basic needs but aim to foster resilience and collective growth among the different age groups.

## _Formulating the Needs

In response to the displacement crisis in Ukraine, a range of governmental and non-profit interventions have been initiated. They encompass a broad spectrum of support, including financial aid, resource allocation, physical and mental health services, and social integration efforts. However, as stated before, the majority of elderly people are still lacking the proper tools to handle their psychological needs.

Drafting upon a series of interviews, carried out by the author and other third-party studies, here are some of the most notable findings:

Andriy and wife Olga are a married Ukrainian couple living in refuge in the Netherlands. When asked about their experience with displacement and integration within a new environment, the couple answered that their younger relatives played a significant factor in their day to day lives. They helped in sourcing information and filing documents, as well as providing a direct communication line with other displaced individuals. Before the war started, Andriy and his wife frequented city park walks, hosted family gatherings and ate together, did their grocery shopping and engaged in gardening at their summer house. After being displaced, their out-going lifestyle shifted towards a more domestic one. While short walks are still on the table, they find it hard to engage in social activities – mainly due to language barriers, health and shyness. That being said, they strongly agreed that if a younger relative would invite them to participate in a social gathering or book reading activity outside of their current home, they would be more eager to join and socialize. (Interview done by author, 2024)

In Poland there are more situations similar to Andriy's story. The Polish Centre for International Aid, together with HelpAge International have conducted a series of in-depth interviews and focus group discussions to shed light on the life of the displaced elderly population in Poland. During the discussions, topics such as access to healthcare and information, mental health and participation in social activities have been addressed. The results show that lack of information, language barriers, social isolation and psychological distress are among the top encountered difficulties (HelpAge International, 2023).

One focus group participant, Lyubov (60), expressed her wish that there was a platform or a place for in-person meetings where all necessary information about displacement, subsidies and general announcements would be collected for ease of access. Another study participant, Tetiana (74), feels limited in the amount of activities that elderly can attend. She blames her old age and the lacking accessibility of places and means of transportation. Similar to Andriy's case in the Netherlands, polls have shown that out of the people surveyed, 20-30% have no knowledge of social events happening in their area or do not have a

friend or relative to go with (HelpAge International, 2023). However, some other participants feel differently about social events:

*"My husband and I don't even want to go anywhere. There is no desire to do anything. I don't want anything. The mood is not the same. A different life has suddenly come. Once we went somewhere, once we wanted to see something somewhere, but now we don't (…) we can say that we have a feeling that it is all inappropriate now. Maybe young people perceive it differently. But that's another matter. And so it should be, that's right. Because they are young and they need to live somehow. And we cannot adapt to live here, we cannot get a job. So we are all waiting when we can go home." - Wira, 68*

In Ukraine, the elderly struggle to make ends meet with their low pensions and have to make radical choices when it comes to spending money.

*"Is it possible to live on this pension nowadays? It's just a laugh." - Leonid, 68*

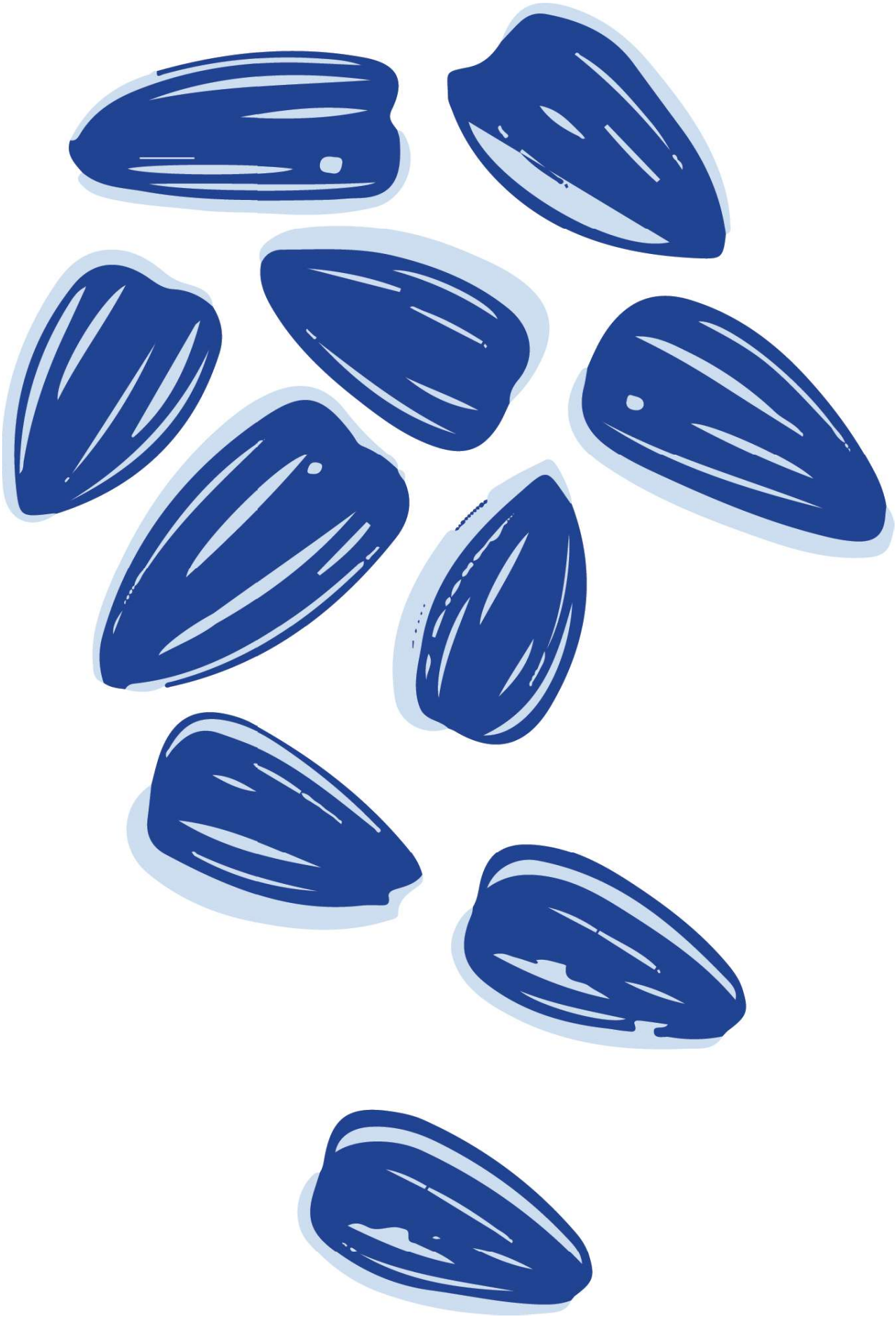
*"You understand that you can buy cheese for 250 or 400 UAH (6 or 10 EUR), or not buy it at all. We will not die of hunger without it. So, I have to restrain myself." - Older man, 60*

In order to cope with their distress, 55% of elderly talk with family and friends. Other activities to manage anxiety and distress include cooking, exercise, spending time in nature, and work. Similarly, focus group participants said they go for walks, exercise, read books or 'light' content on the internet, or communicate with relatives, friends and especially children and their grandchildren. Notably, the easiest way to access information is still 'word-of-mouth'; while it is not the fastest way, many focus group participants have expressed their struggles with accessing the internet in some areas as well as being 'digitally illiterate'. Despite the limited reach, receiving information by word of mouth can be classified as a good sign of regular social contact, where people actively engage in the exchange of information about aid and services (HelpAge International, 2023).

*"Even though I have moved to a calmer place, it's not 100 per cent safe. And there are worries about family, relatives, close ones and neighbours." - Lidiya, 69*

The majority of people HelpAge International interviewed (84%) stated that they had not received support from NGOs and international organisations during the war. Of those that did, more men reported receiving aid than women. When comparing the elderly population with the total population and looking at all sources of available assistance (government, NGO/INGO, businesses, and individuals), 50% of elderly and 47% of the total population received at least one type of assistance in the past month. Given the income insecurity and barriers to accessing services, it is concerning that there is not a greater amount of support going to the elderly. Additionally, most NGO assistance is monetary, followed by food products (HelpAge International, 2023).

Considering the mental distress war has caused among the elderly, the limited discourse on mental health or socio-economic activity initiatives is concerning. In this aspect, architecture response could take the shape of temporary shelters and information centres, elderly and disability-inclusive sports or community centres or shared amenities for cooking and recreation.



# _Scattering the Seeds

The third stage of Scattering of the Seeds drafts the design scenarios and opportunities for development are drawn according to the needs of the chosen target group and the archi-tectural requirements concluded from the previous chapters.

# _Creating Scenarios

This sub-chapter delves into the applied response-abilities of architects in war zones, explores the typical social life of displaced populations, maps their interactions and settlements, and drafts the limitations of architectural designs.

To start the discourse on architects' response to designing spaces for the displaced population within Ukraine, Simon Unwin's view on place attachment and settling quotes:

> *"Specific places are like security blankets; when we are in them we know where we are. That is a sentiment that never leaves us. Wandering is interesting; being settled in a place is security. Even in our early lives we want a combination of both." – Children as Place-Makers (2019)*

From an architecture perspective, Unwin's comparison of places to security blan-kets positions one's spatial needs at a cross-road between wonder and safety. When related to Deleuze's concept of 'becoming' and the fluid nature of conflict zones, spaces must be adaptable to different functions. As for example, shelters might need to convert into medical centres, community kitchens, or educational spaces as the need arises. The response-ability of architects in this context is to create places that can support this transitional need and facilitate the population's security beyond physical safety. Archi-tectural interventions must therefore be able to consider the emotional and psychological needs of the displaced individuals. That is by facilitating social interactions and recreation, providing economical support or using familiar design elements for a comforting atmos-phere.

Understanding the typical social life of the target group is crucial for designing effec-tive and useful spaces. The displaced elderly population experience significant alterations in their social dynamics. They are often separated from family members running away from war due to mobility disabilities, have limited access to legitimate governmental or housing information and are less likely to actively self-engage in new social interactions.

On top of that, there are also limitations to their activities as compared to before the war started. And while taking care of their psychological needs is just as important as se-curing the basics of food and shelter, displaced individuals are currently only using essential services such as religious facilities to elevate their spirits, produce markets, community and information centres, or educational establishments. These activities are often found in the close proximity of governmental or communal shelters, which indicates a short-range mo-bility pattern. Their social interactions are also limited to those present around or in service such as, other displaced individuals, volunteers, aid workers and occasionally locals from host communities. Maintaining and further increasing the frequency of these interactions can foster a sense of belonging in the host communities and help maintain social norms, all while slowly decreasing the feeling of loss and loneliness in the displaced population.

Integrating IDPs into their host communities aids their struggles with socialization, finding job opportunities and alleviate stressful situations. However, where does this inte-gration start? How does one displaced

person becomes a new member of the social fabric within the displaced area? And when it comes to adapting to new environments and people, what about people shifting from villages to cities and vice versa? Architects designing for war zones must balance the immediate needs for safety and security with the longer-term goals of community recovery and psychological well-being. By creating spaces that act as security blankets, architects significantly contribute to the heal-ing and stability of displaced communities, fostering environments that not only protect but also promote self-recovery and resilience. Effective architectural interventions however, must adhere to specific requirements and acknowledge both inherent and war-inflicted am-biguous limitations.

The durability and sustainability of materials is to be assessed according to the short and long-term usage goals of the communities involved. Therefore it is necessary to think about whether the design could resist war-inflicted physical damage or positioning it in the vicinity of an already existing bomb shelter. If the design is not impregnable, modular or flex-ible designs that can be easily repaired or modified could be an alternative.

Besides withstanding harsh weather or war conditions, the availability of materials can become a problem as the unpredictability of war can complicate logistics, from trans-porting materials to accessing construction sites. Locally sourced and recycling materials in this context can serve as an opportunity for community participation in the design process. This could provide both locals and displaced individuals alike with essential knowledge into different construction techniques.

In order to revitalize the social fabric and integrate the displaced population within the host communities the design must also be accessible to all, especially those with disabili-ties. It has to accommodate diverse groups of people such as children, ethnic minorities and elderly, encouraging mixed interactions that can spark conversations about collective chal-lenges. In turn, the probability of IDPs finding their place in the local community increases and creates the base ground for establishing new human bonds and setting roots within their city or village of displacement.

## _Design Opportunities

This sub-chapter discusses the role of the immediate utility and (im)permanence of architectural interventions, typologies, actors involved, resources and sustainability, af-fordability. And with a specific focus on the city of Zaporizhzhia, potential location scenari-os are drafted.

Architects carry the dual responsibility of addressing immediate needs and anticipat-ing future requirements. This involves designing structures that are rapidly deployable yet potentially permanent. The concept of ‘response-ability’ emphasizes an the architect’s abil-ity to respond adaptively to uncertain conditions and needs changing over time. This calls for integrating flexibility early on in the design process, fostering resilience though ease of built and maintenance and introducing people to sustainable alternative materials based on resource availability.

The dichotomy between the need for fast construction and the possibility of perma-nence is critical for emergency situations such as the war in Ukraine. Temporary struc-tures, like modular shelters or container houses, can be rapidly deployed to meet the imme-diate needs of the IDP population. However, it is important to ensure the sustainability of materials, use and long-term societal interest in these structures. First and foremost, the design has to adapt throughout the years guided by the fluidity of human needs and

behav-iours. And secondly, the recyclability or permanence of structures must be considered at a municipal level together with the local community, taking into account the uncertainty of the future whether that is the continuation of war or stabilization of the situation.

Common architectural typology choices in conflict zones vary largely on the ex-pected duration of dis-placement and the resources available. Key concepts include pre-fabricated elements, quick assembly, eco-friendly materialization and most importantly community-centric design, focusing on community participation and social cohesion.

The design and construction process must involves multiple stakeholders such as government agencies and international aid organizations to provide technical support and funding, local communities and IDPs who are the direct users and beneficiaries can provide valuable input and participation in the building process. And last but not least, architects and volunteers are to design, execute and delegate construction tasks. The primary target group of these structures are the displaced elderly population, who can contribute through participatory design processes that ensure the built spaces meet their actual needs. They are not re-quired to participate in the construction of the de-sign unless they express otherwise, then the architect can delegate them with a manageable task. Moreover, after the construction is finished they can also choose to use their life skills and education for community service by either directing or participating in the design's pro-gramme of activities.

As mentioned earlier, the disruption of logistics caused by war implies finding alter-natives to common ar-chitectural materials and honours the use of local resources. Moreo-ver, as war also implies the destruction of buildings and urban infrastructure, the availabil-ity of waste materials could be key in addressing both the affordability and sustainability of the proposed design.

In terms of positioning within the urban fabric, various location scenarios have to be considered based on the availability of land, proximity to existing infrastructure, and securi-ty conditions. Therefore, it is of utmost importance that the design is located within walking distance from a bomb shelter in case of emergency, it is easily accessible for IDPs by both foot and public transportation, and it does not disrupt the surrounding environment. Con-figurations over time can range from clustered settlements for mixed community building to dispersed units for privacy and independence.

Located in the close proximity of the war frontline and Russian occupied areas, yet not drastically affected by shelling, the city of Zaporizhzhia presents a unique testing case for architectural interventions. Before the war, Zaporizhzhia was a large industrial hub with significant capital and new urban developments on the way. Its infrastructure offers a robust foundation for redevelopment and testing site for community em-powerment as it is neighboured by the Oblasts of Dnipropetrovska and Donetska, where the vast majority of IDPs is found (IOM Reports, 2023).

Setting up rules for the design location within the city can provide a better experi-ence for its users and in-creases its chances of regular operation. Therefore, the chosen site within Zaporizhzhia should ideally meet several criteria:

- Zoning and Accessibility: It should be zoned for public use, in close proximi-ty to shelters and/or residential areas where IDPs are present, easily accessi-ble by foot or public transport, and near essential services like hospitals, schools and other social spaced frequented by the elderly or other IDPs.

- Safety: Areas less likely to be affected by conflict are preferred. Although, the positioning of the proposed design in proximity (5 minutes' walk maximum) to a bomb shelter should be enough for evacuation in case of shelling or im-mediate danger.

- Privacy-Publicity Balance: The site layout should balance communal areas with residential or semi-public spaces. In this way people have the oppor-tunity to interact with the designed space as they choose, in their own time, without feeling the strain of active involvement.

- Natural Environment: Incorporating natural elements enhances the built environment, provides calmness and serenity among displaced individuals as well as adding to the overall sustainability of the design proposal.

As for the relationship between the chosen site location and the proposed design, the site's potential should be maximized by aligning the topography and natural features of the site with the accessibility and materiality of the design itself.

Key considerations include following the main geometry of the site, taking advantage of the natural environment and sunlight, and allowing the architecture to blend in with the sur-rounding area. The site should support a mix of private and communal activities to engage the local community while respecting individual privacy. This places the design proposal into the public architectural sphere with a mixed use program suitable for creating a homo-geneous landscape of activities that invites not just the elderly population, but also children and adults with similar needs or curiosities. Furthermore, the materiality chosen reflects on the local context and culture, minimizes waste disposability of reusable construction mate-rials and adds to the sustainability goals. The design language conveys simplicity in assem-bly and provides knowledge for alternative construction techniques, as well as fostering re-silience and adaptability through community participation and care.

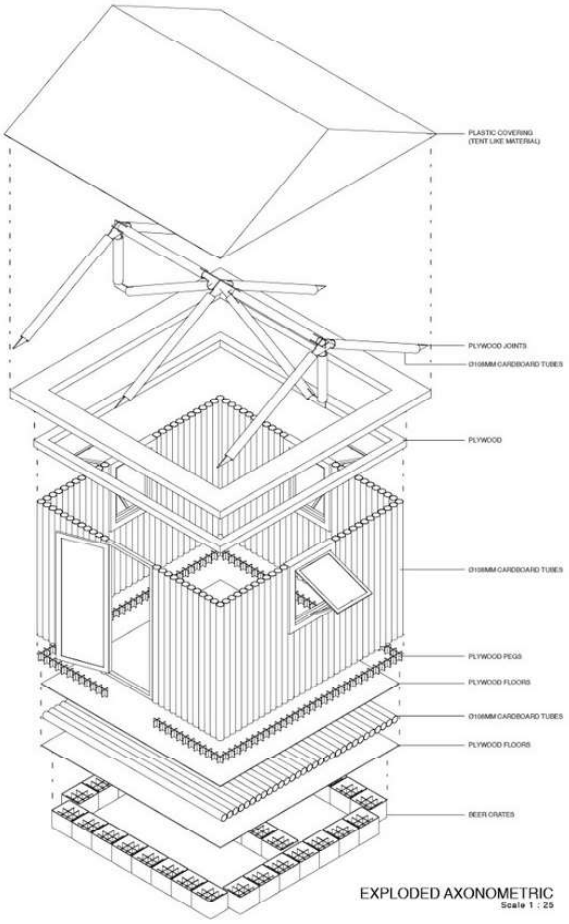
# _Watering

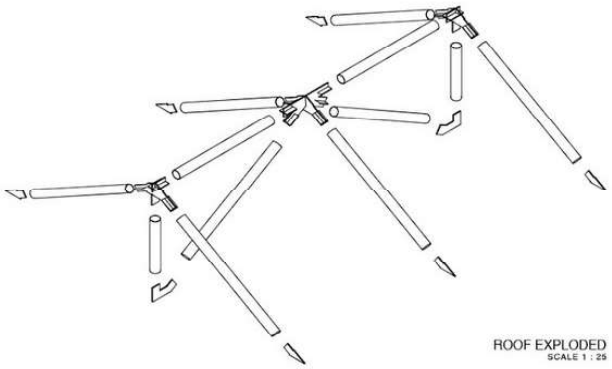
# _Reference Projects

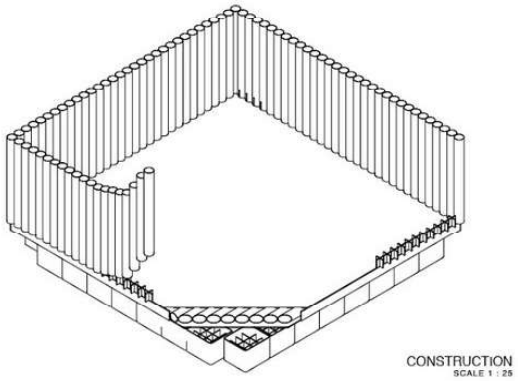
## 1. Emergency & Temporary Shelter Case Studies

**Paper Log Houses**

**Date:** 1995 & 2023
**Architect:** Shigeru Ban & NGO Voluntary Architects' Network (VAN)
**Location:** Japan, Turkey & Syria




**Category:** Residential, Semi-Temporary Structure
**Capacity:** 16 m2, suitable for approximately 4-5 people sleeping

Architectural Philosophy: designed for the first time as a relief effort following an earth-quake disaster in Kobe, Japan, 1995. The houses have originally intended to replace the ex-isting crowded tents and provide a cheap, study and weatherproof solution to the housing problem.

Half a day construction time; Reclaimed and Recycled materials; Design for disassembly; No large machinery or skilled workers needed; Cost efficient; Prefabricated Elements; Aesthetically pleasing

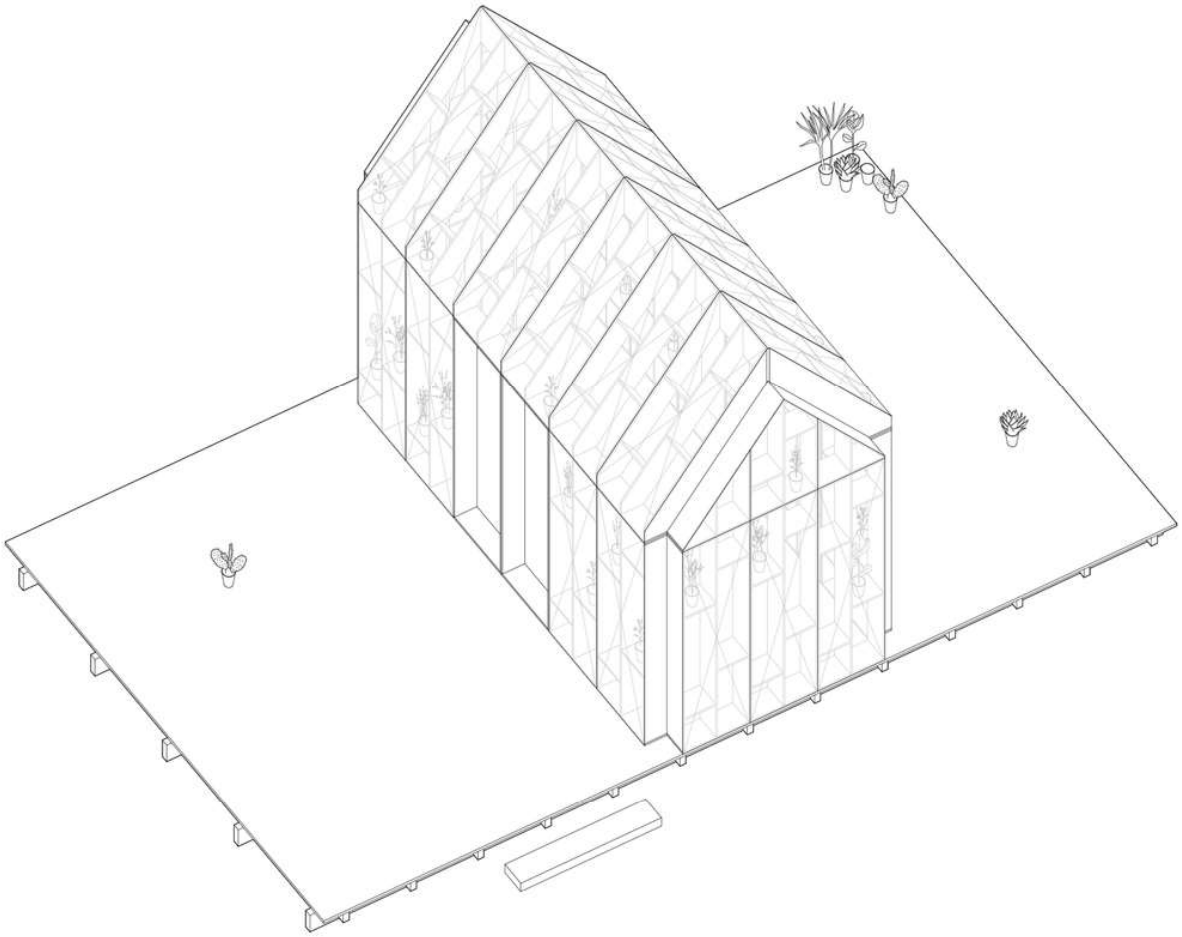
Shigeru Ban's Paper Log Houses represent a groundbreaking architectural approach, spe-cifically designed for disaster relief. The choice of materials was driven by Ban's philosophy of using "weak materials" which others might overlook. These structures utilized affordable, recyclable materials like cardboard tubes and beer crates, which are easy to assemble and effective in providing immediate shelter. The adaptability of the design is evident as it has been implemented in various contexts worldwide such as Japan, India, Turkey and Syria, slightly adapting to the local needs and availability of materials.

Designed to be assembled quickly by non-professionals, the foundation is typically made from beer crates filled with sandbags, providing stability and flood resistance. Walls con-structed from cardboard tubes are easily mounted and secured using a simple system of pegs and adhesive tape and the roof uses a tent-like material, allowing for easy assembly and disassembly. This method not only reduced the need for skilled labour but also mini-mized construction time, making it an ideal solution in crisis situations.

The materials used are not only inexpensive and readily available but also completely recy-clable, aligning with Ban's vision of minimizing environmental impact. The design allows for the houses to be easily dismantled, with materials either reused or recycled, thereby reduc-ing waste.

**Home not Shelter! - PLUG-IN Pavilion**

**Date:** 2018
**Architect:** CODE Department – TU Berlin (architecture students)
**Location:** Berlin, Germany



**Category:** Public Space, Semi-Temporary Structure
**Capacity:** 14 m2, suitable for approximately 8-10 people standing/sitting

Architectural Philosophy: a collaborative process between architecture students and refu-gees. Designed with dismantling and collaboration in mind, the pavilion is now available for the refugees of Berlin-Buch to be used as a community centre and space of social-cultural integration.

Half a day construction time; Collaborative design; Design for disassembly;
No large machinery or skilled workers needed; Cost efficient; Prefabricated Elements;
Aesthetically pleasing; Multifunctional

The design philosophy of the PLUG-IN pavilion is centred on creating a collective space that serves both aesthetic and functional purposes and fosters social and cultural integration among refugees. The architectural strategy reflects an understanding of the community's dynamic needs, promoting inclusivity and interaction through its adaptive layout.

Employing modular construction techniques, the pavilion was designed to be easily disman-tled, relocated, and reassembled. This approach facilitated participatory construction in-volving refugees and emphasized the project's transient nature, aligning with the themes of flexibility and adaptability. The construction process itself became a platform for skill devel-opment and social engagement among the refugees, who were an integral part of the build-ing phase.

## 2. Refugee Community Structures Case Studies

**IBTASEM Playground**

**Date:** 2015
**Architect:** CatalyticAction
**Location:** Lebanon


**Category:** Public Space, Semi-Temporary Structure
**Capacity:** >70 m2 (including upper floor), suitable for 10-20 kids playing simultaneously

Architectural Philosophy: designed as a catalyst for activity and awareness among refugee children. The playground strongly considers the multicultural and interdisciplinary dynam-ics of the settlement and aimed at involving children in the design process to create a sense of attachment and ownership.

CatalyticAction designs playgrounds with a focus on involving children in the design pro-cess, empowering them to contribute to layouts and features. This approach ensures that the playgrounds are tailored to the specific needs and imaginations of the children, making them more engaging and beneficial for their psychological development and well-being.

The playgrounds were constructed using modular, easy-to-assemble designs techniques. Materials such as wooden structures, vegetable crates, tires, and ropes were utilized, re-flecting a resourceful approach to construction that also allows for reuse of materials, easy disassembly and relocation, catering to the transient nature of refugee settings.

The playgrounds provide a safe environment for children in unstable conditions, allowing them to play, learn, and develop in secure settings despite the surrounding challenges.

**The SHED Project**

**Date:** 2017
**Architect:** U-Build & Studio Bark
**Location:** London, UK

**Category:** Residential, Semi-Temporary Structure
**Capacity:** >8 m2, suitable for 1 person or couple

Architectural Philosophy: designed as housing initiative within vacant industrial buildings in London. The U-Build system allows for endless possibilities in function and sizing with a simple demountable and standardized box-structure system.

Studio Bark, the creator of the U-Build system, places a strong emphasis on flexibility, sus-tainability, and user participation in their building process. Their architectural strategy fo-cuses on enabling individuals, regardless of their prior construction experience, to engage in the building of their own spaces. This ap-proach democratizes architecture and aims to empower users by involving them directly in the creation of their environments. The system is designed to be modular and adaptable, making it suitable for various uses from homes to community spaces.

The U-Build system employs a modular, prefabricated design that allows for ease of assem-bly and dis-assembly. Construction involves interlocking plywood or OSB panels that are precision-cut using CNC machinery. This ensures a high level of accuracy and reduces waste during the manufacturing process. The simplicity of the system is such that it can be assembled with minimal tools and does not necessarily re-quire skilled labour, making it ac-cessible to a broader audience.

The structural integrity of the system has been tested under building regulation loads, prov-ing its capabil-ity to withstand substantial stress without failure. This makes it suitable for a wide range of environmental conditions and uses, from temporary installations to more permanent constructions.

## 3. Waste Materials Reuse Case Studies

**Brighton Waste House**

**Date:** 2014
**Architect:** BBM
**Location:** Brighton, UK

**Category:** Semi-Public Space, Permanent Structure
**Capacity:** 85 m2 (including upper floor)

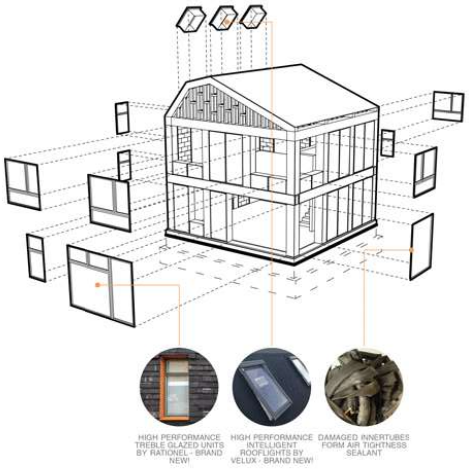
Architectural Philosophy: the first permanent building constructed from waste and de-signed in collaboration with undergraduate students. The Waste House is a research facility and design workshop dedicated to innovation and demonstration of recyclability of uncon-ventional construction materials.

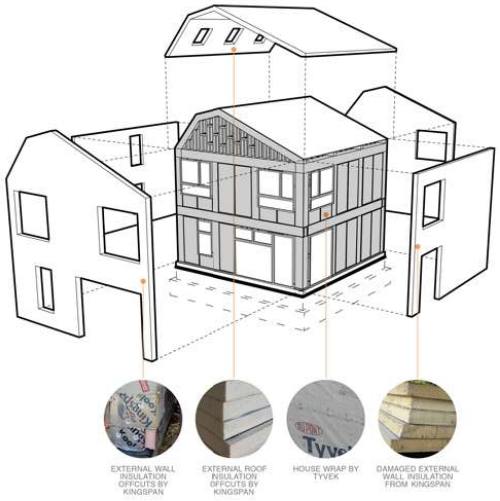
BBM Sustainable Design's Waste House at the University of Brighton embodies an innova-tive architectural strategy focused on demonstrating the possibilities of constructing with waste. The design challenge was to utilize discarded materials in all aspects of the building, making it the UK's first permanent structure made almost entirely from waste. This ap-proach promotes recycling and reuse and aims to educate students and the public about sustainable design practices.

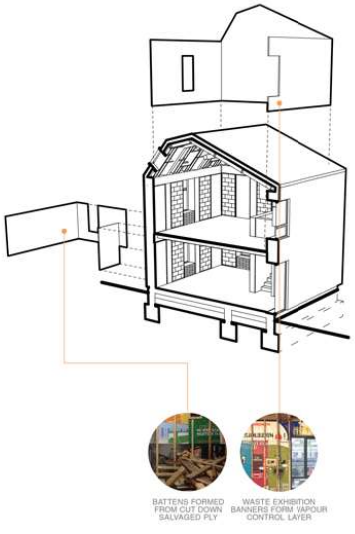
The construction of the Waste House was a collaborative effort involving students and ap-prentices, pro-viding hands-on experience in sustainable building techniques. The house was constructed using 20,000 toothbrushes, two tonnes of denim jeans, 4,000 DVD cases, and 2,000 used carpet tiles for weatherproof cladding. These materials, typically considered waste, were re-purposed to form structural elements and insulation, demonstrating innova-tive uses of non-traditional materials. The project also incorporated rammed chalk and thrown-away wood, showcasing how nearly every part of a building can be made from re-purposed materials.

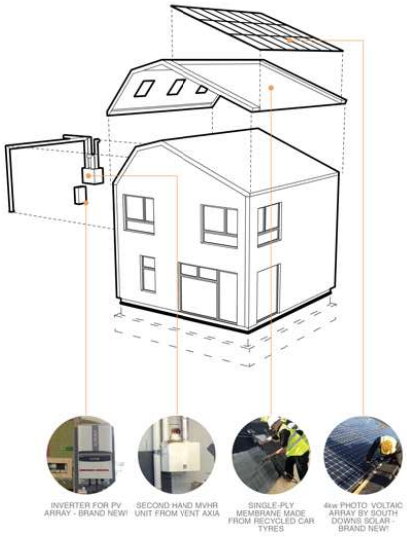
Despite being constructed from waste materials, the Waste House does not compromise on safety and re-silience as the design incorporates a high level of insulation and airtightness, meeting rigorous Passivhaus standards.

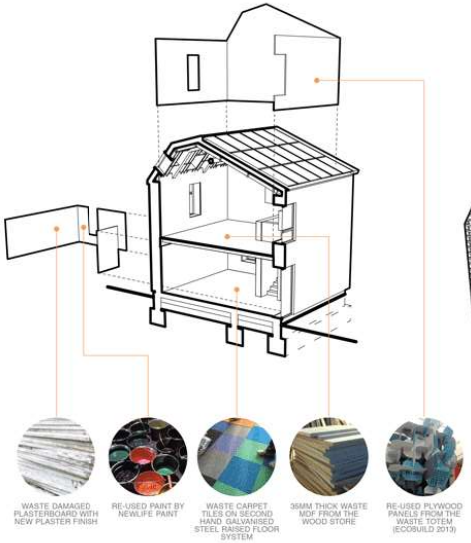
The Waste House stands as a prime example of sustainable building practices. It is designed to be low-ener-gy, making extensive use of discarded items to reduce the environmental im-pact typically associated with building materials. Almost 90% of the building is made from materials that would otherwise have ended up in landfills. The project highlights the poten-tial of circular economy principles in architecture, where waste is seen as a resource rather than rubbish. This approach not only reduces waste but also serves as a model for reducing the carbon footprint associated with construction.

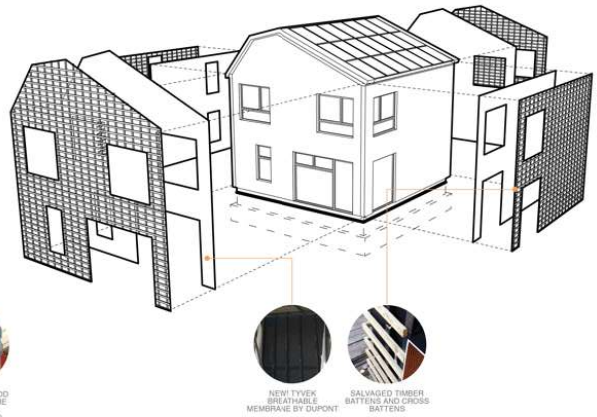

HIGH PERFORMANCE TREBLE GLAZED UNITS BY RATIONEL - BRAND NEW!
HIGH PERFORMANCE INTELLIGENT ROOFLIGHTS BY VELUX - BRAND NEW!
DAMAGED INNERTUBES FORM AIR TIGHTNESS SEALANT

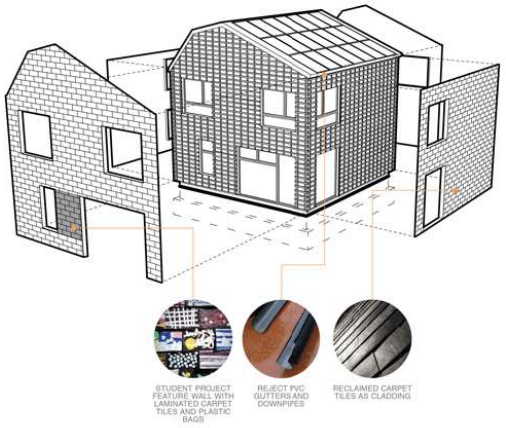

EXTERNAL WALL INSULATION OFFCUTS BY KINGSPAN
EXTERNAL ROOF INSULATION OFFCUTS BY KINGSPAN
HOUSE WRAP BY TYVEK
DAMAGED EXTERNAL WALL INSULATION FROM KINGSPAN

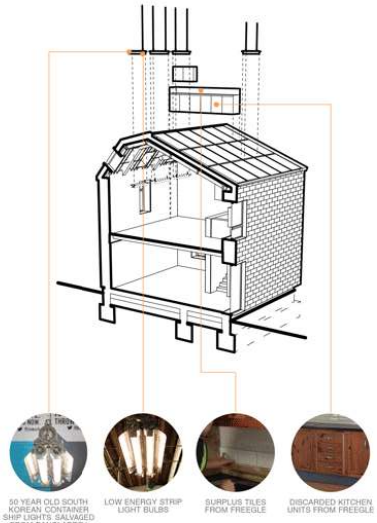

BATTENS FORMED FROM CUT DOWN SALVAGED PLY
WASTE EXHIBITION BANNERS FORM VAPOUR CONTROL LAYER


INVERTER FOR PV ARRAY - BRAND NEW!
SECOND HAND MVHR UNIT FROM VENT AXIA
SINGLE-PLY MEMBRANE MADE FROM RECYCLED CAR TYRES
4kw PHOTO VOLTAIC ARRAY BY SOUTH DOWNS SOLAR - BRAND NEW!


WASTE DAMAGED PLASTERBOARD WITH NEW PLASTER FINISH
RE-USED PAINT BY NEWLIFE PAINT
WASTE CARPET TILES ON SECOND HAND GALVANISED STEEL RAISED FLOOR SYSTEM
35MM THICK WASTE MDF FROM THE WOOD STORE
RE-USED PLYWOOD PANELS FROM THE WASTE TOTEM (ECOBUILD 2013)


NEW! TYVEK BREATHABLE MEMBRANE BY DUPONT
SALVAGED TIMBER BATTENS AND CROSS BATTENS


STUDENT PROJECT FEATURE WALL WITH LAMINATED CARPET TILES AND PLASTIC BAGS
REJECT PVC GUTTERS AND DOWNPIPES
RECLAIMED CARPET TILES AS CLADDING


50 YEAR OLD SOUTH KOREAN CONTAINER SHIP LIGHTS SALVAGED FROM BANGLADESH
LOW ENERGY STRIP LIGHT BULBS
SURPLUS TILES FROM FREEGLE
DISCARDED KITCHEN UNITS FROM FREEGLE

**Kamikatz Public House**

**Date:** 2015
**Architect:** Hiroshi Nakamura & NAP
**Location:** Kamikatsu, Japan

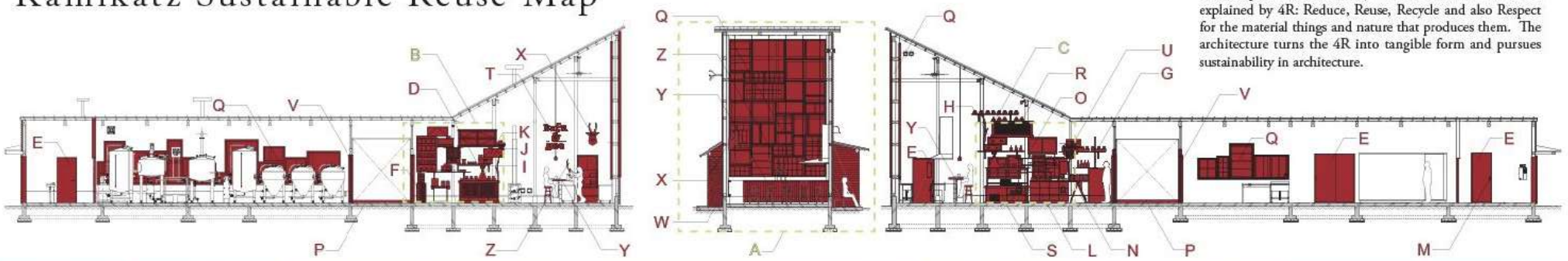
**Category:** Public Space, Permanent Structure
**Capacity:** 115 m2

Architectural Philosophy: designed in Kamikatsu, Tokushima prefecture, the town is strongly dedicated to waste recy-cling and sustainable living, attaining 80% recycling rate. The house is an homage to the com-munity actions and the principles of the town, the architecture speaks of creativity and resourcefulness as converted and reclaimed furniture and fixtures are used as raw materi-als for both the outside and inside of the building.

The Kamikatz Public House embodies a zero-waste ethos, reflecting the community's com-mitment to sustainability. The design integrates local wisdom and recycling practices, trans-forming waste into functional architectural elements, fostering the local community pride in their sustainability efforts in waste reduction and recycling.
Utilizing recycled materials, the project features windows from abandoned houses and fur-niture made from discarded items. The design considers local climatic conditions, using ele-vated ceilings and strategic ventilation to enhance comfort without compromising the build-ing's environmental impact.

# Kamikatz Sustainable Reuse Map

Our, Japanese, sensibility "MOTTAINAI" is often explained by 4R: Reduce, Reuse, Recycle and also Respect for the material things and nature that produces them. The architecture turns the 4R into tangible form and pursues sustainability in architecture.




D-F : Reuse of furniture and fittings received from former Kamikatsu town office


D
Long tables used as shelves by fixing them on the walls


E
Reuse of a wooden door.


F
Reuse of a steel drawer.


B
Layout made by gathering recycled furniture and farm tools.


A
Gathering the fittings that used to be lit in local houses now gather to light.


C
Selling beer and other various products by weight by repeatedly using returnable bottles.

G-I : Reviving number of farm tools as lamp stands, shelves and others


G
Reuse of rice mille machines as lamp stands.


H
Reuse of wooden boxes as shelves.


I
Old rice mill machines used as platforms to support the shelves.

J-O : Reuse of discarded materials collected at the recycle center in the town of Kamikatsu.


J
Reuse of antique-looking boxes as display shelves.


K
Reuse of wooden boxes as display shelves.


Scale used in the sell by weight store.


Platform of the sewing machine as a table.

Q : Though irregularly shaped, their histories and memories make them precious and adorable.


L
Reuse of beer cases as store shelves.


M
Reuse after repair.


N
Reuse of an old farm tool that looks like stepladder as a signboard.


O
Reuse of wooden TV table as store shelf by fixing it on the wall.


Reuse of hinges on the kitchen door, etc.

Reuse of old newspaper as wallpaper in the restroom by printing the logos.


P
Grey brick tiles of industrial waste for the floor material

T
Combined plastic letters used as a sign.


U
The chandelier with lampshades made of waste bottles.


Q
Differently shaped fittings used as the building materials.


V
Old doors from abandoned houses.

R-S : Fixtures, formerly used as marriage gifts, acquired from local people.

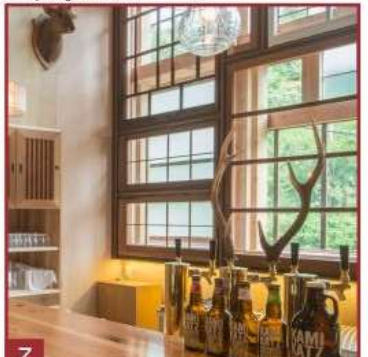

R
Reused as blinds for air-conditioner.


S
Reused as store shelves.

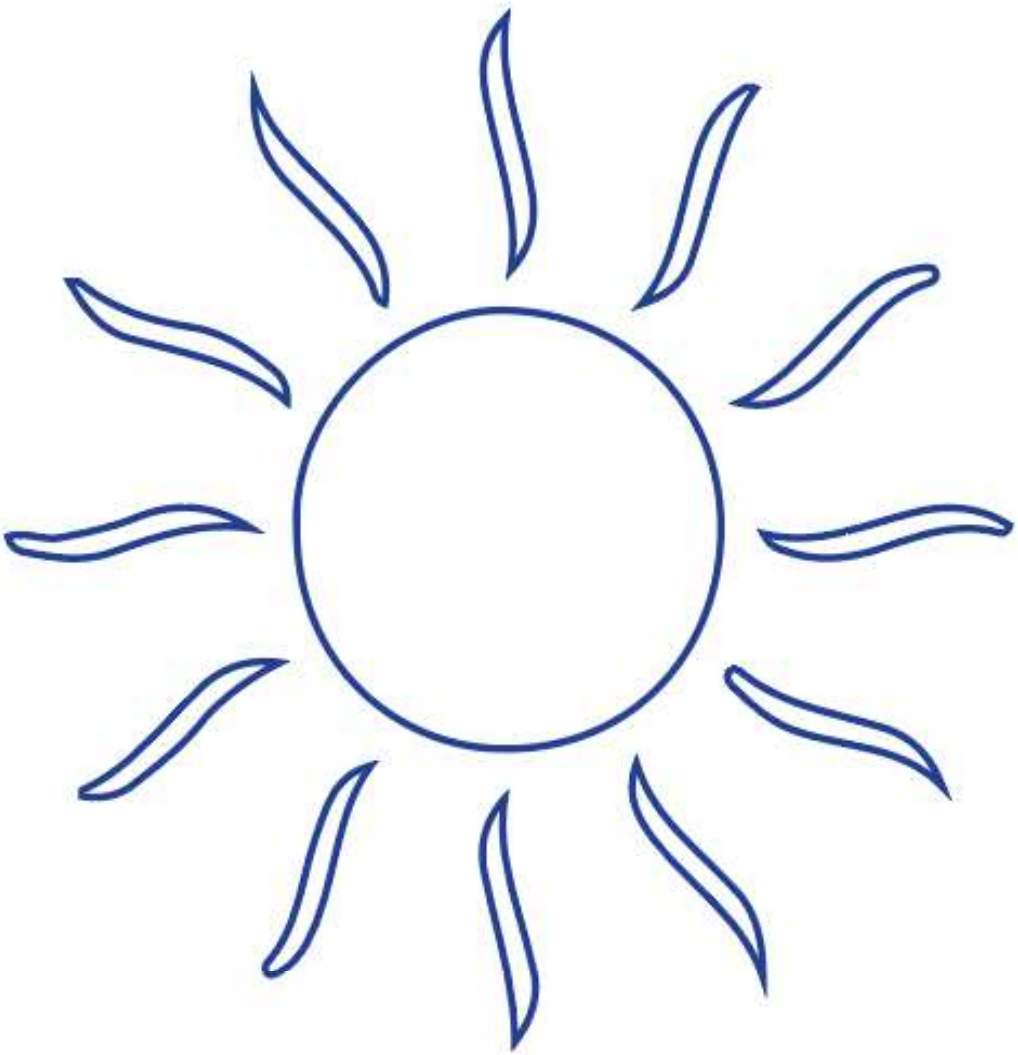

W
Firewood and logs gathered from the nearby forest.


X
Display of a stuffed deer head.


Y
Bar-top made of Japanese cedar from the town of Kamikatsu.



Z
Use of deer horns from the nearby forest as beer dispensers and returnable bottles.



# _Daylight Factor

In this chapter the participation process of IDPs and the involvement of the local community is discussed, along with breaking down the previous chapters. This will serve as the first base for the design proposal.

The results of the study focus on the role of becoming, community resilience and applied response-ability in the context of internally displaced persons (IDPs) within Ukraine. The assessment highlights the importance of community resilience, through which individuals can depend on each other to provide mental and physical support. They can help each other through times of distress and uncertainty via sharing and learning different skills or knowledge. Therefore, in this paper the importance of providing 'third-spaces' for social in-teraction and integration, alongside housing, is a crucial step towards IDPs psychological recovery and long-term well-being.

When analyzing the variables influencing the response of IDPs, the concepts of responsibil-ity, becoming, belongingness, and community resilience are often not isolated but reinforcing one another. For instance, a strong sense of personal and collective responsibility can drive processes of becoming, encouraging individuals to engage in col-lective actions and reassess their own self, while continuously adapting to new challenges. Similarly, a sense of belongingness can enhance one's perception of safety and security in displacement and contribute to the cohesion of communities, benefiting both IDPs and local communities alike. Understanding these interconnected aspects, the development of the project has focused on creating opportunities for meaningful engagement, fostering inclusive and supportive environments where social cohesion and flexibility are key. This approach informs architectural programs that support skill development, dialogue and collaboration, and initiatives promoting social equity and inclusivity.

Empowering individuals and communities to take ownership of their development and resilience is crucial. By fostering a sense of agency and encouraging proactive engagement, both individual and collective capacities to respond to challenges can be enhanced. Architectural programs might include training centers, community meeting spaces, and collaborative workspaces that empower individuals and communities. Additionally, addressing the preparation and construction of such third-spaces requires coordinated efforts and collaboration among various stakeholders, including volunteers from both IDP and local communities, NGOs, local and national authorities and policymakers. Therefore, facilitating such collaboration through platforms for dialogue, fostering partnerships, and promoting a shared vision for community development can be supported by architectural designs that focus on multifunctional public spaces, information hubs, and communal skills and resource centers.

Site selection within proximity of IDPs shelter(s)

Inform local community and gather volunteers

Workshop of collective voices and needs assesment

Design of the modular shelter (architects, NGOs)

Communication of designs with IDPs & local community

Construction breakdown and manual

Empowerment of individuals through community involvement in construction

Coexistence agreement and house rules

Functional program planning with IDPs & local community

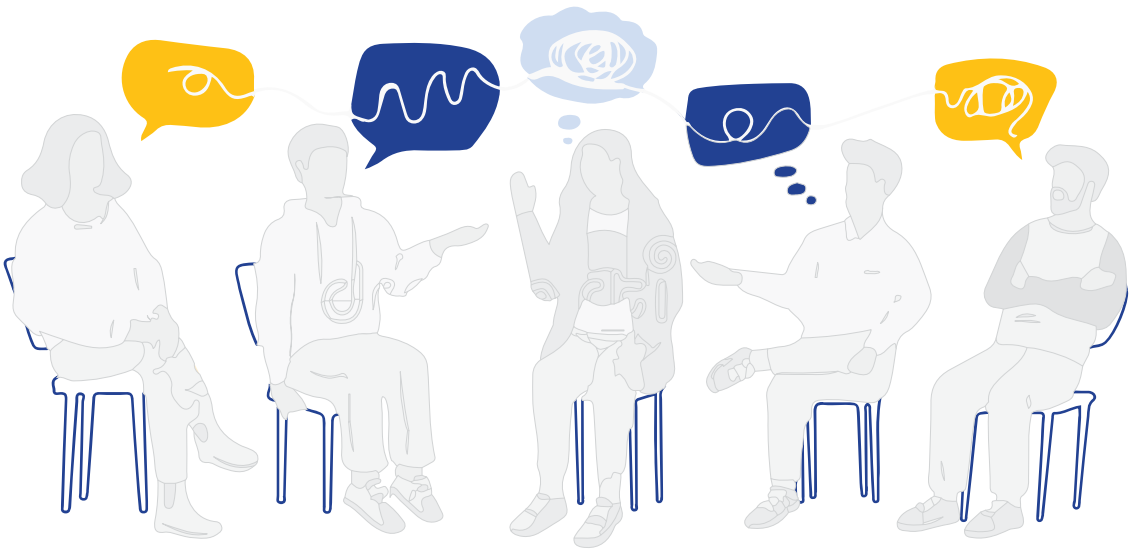
Climatization and energy production

Official handover of shelter to the community

Use, personalization, care and maintenence (IDPs, local community, NGOs)

Public space for social services, support groups, education, trading/sharing, culture, sports and recreation

Social impact evaluation and opportunities of permanence



# _Reflection

The graduation project is reflecting on the themes of the graduation studio, “City of the Future”, em-phasizing the importance of foresight, trend analysis, and the responsibility of designers toward urban users. The studio and the project collectively advocate for a mindful approach to architecture and ur-banization, where the objective is to equip architects with the tools and resources necessary to create resilient, liveable, and sustainable cities. The project highlights the architect’s responsibility and re-sponsiveness in times of emergencies, urging a departure from conventional methods to address users’ needs and foster a commu-nity-led, future-resilient society.

A critical finding was the knowledge gap between designers and the general population, particularly the elderly. This realization necessitated a design approach that considers the perspectives and needs of these individuals, presenting an opportunity to deepen the understanding of vernacular architecture and tradi-tionalism. The design thus incorporates traditional construction techniques, natural and re-used materials, and focuses on providing individuals with skill based activities and opportunities for expanding their knowledge and trade services. Informed by these insights, the project has steered to-ward the concept of ‘becoming’ the builder, bridging generational divides and fostering community par-ticipation. Through empowering individuals to partake in the design process and construction of the proposed architectural intervention, they can form attachment to the spaces and communities. On the long run, individuals are bound to become responsible and care for these spaces, further strengthening the relationship between human and non-human.

A structured timeline of action, integral to both the methodology and the design system, has been crucial in outlining the project’s phases, time inputs, and overall development scheme. This structured ap-proach has ensured a steady progression of the project, facilitating a systematic exploration of the design challenges and psychological needs of the IDP communities.

This project holds significant academic and societal value, particularly in the context of ongoing global conflicts, such as the war in Ukraine. The research addresses the enduring impact of war on communi-ties and underscores the ability of architects in shaping the lives and futures of affected populations. The global refugee crisis and widespread displacement necessitate innovative rehabilitation strategies. Traditional ap-proaches often fall short in addressing the complex issues post-conflict scenarios pre-sent. This project aims to contribute to meaningful insights and practical frameworks that can be uti-lized by local communities, architects, and authorities in the pursuit of sustainable developments and the rehabilitation of displaced populations. Additionally, ethical considerations and response actions have to ensure that the spaces and policies honour the dignity and rights of those affected. The project seeks to offer a novel perspective on rehabilitation strategies, sensitive to the complexities of human experience in post-conflict settings, resource availability, and workforce dynamics, thereby enriching both academic discourse and societal well-being.

By grounding the research in universally applicable concepts such as ‘response-ability’ and the philo-soph-ical underpinnings of ‘becoming,’ the findings and proposed solutions transcend the specific con-text of Ukraine. These principles offer a flexible framework adaptable to the unique challenges and cultural nu-ances of various conflict-affected areas worldwide. The project’s emphasis on innovative architectural and participatory approaches to address the aftermath of conflict, including the dis-placement of communities and the rebuilding of social fabric. Therefore, it provides actionable insights applicable across different geo-graphical, social, and political landscapes. This adaptability enhances the project’s potential contribution to global discussions on post-war recovery, promoting a more in-clusive, thoughtful, and human-centred approach to rebuilding war-torn societies.

Furthermore, contemporary theories of 'becoming' and 'adaptive reuse,' help the project transcend the traditional architectural practices, advocating for spaces that are not only functional but also healing and transformative. This bridging is crucial in post-conflict settings, where the physical reconstruction of spaces must also support the emotional and social rebuilding of communities. The application of these theories in designing real-world architectural interventions demonstrates a responsive approach to rehabilitation—one that acknowledges the multifaceted nature of recovery and seeks to address it through innovative, empathetic, and sustainable design solutions. Thus, it provides a blueprint for phys-ical structures and offers a pathway toward the psychological and social healing of communities dev-astated by conflict.

In conclusion, this paper highlights the interconnectivity of  response actions, adaptability and community-led participation with critical look at the role and use of architectural and urban planning interventions in fostering community resilience in post-war contexts. By addressing the IDPs psychological needs of agency, social participation, and well-being, and translating these into pro-grammatic requirements and design principles, architects can create environments that support the recovery and long-term sustainability of displaced communities.

# _Bibliography


"responsibility, n.". Oxford English Dictionary, Oxford University Press, September 2023, https://doi.org/10.1093/OED/2538100090

Al Jazeera English. (2016, July 23). Zygmunt Bauman: Behind the world's "crisis of humani-ty" l Talk to Al Jazeera [Video]. YouTube. https://www.youtube.com/watch?v=EG63MkQb1r4

Allied Occupation of Germany, 1945-52. (n.d.). https://2001-2009.state.gov/r/pa/ho/time/cwr/107189.htm#:~:-text=Having%20experienced%20great%20losses%20as,European%20peace%20and%20security%20again.

Ann, J., & Bae, S. (2023). Moderating Effect of Personal and Community Resilience on the Relationship Between Disaster Trauma, Disaster Conflict, Economic Loss, and Post-traumatic Stress Disorder. Disaster Medicine and Public Health Preparedness, 17, E212. doi:10.1017/dmp.2022.170

Bastian, B. (2014, July 12). Pain and Cooperation. Retrieved from osf.io/9k3sw
Bastian, B., Jetten, J., & Ferris, L. J. (2014). Pain as Social Glue on JSTOR. Psychological Sci-ence, 2079. https://doi.org/26661352

Cerny, P. G. (1991). The changing architecture of politics: Structure, agency and the future of the state. Futures, 23(9), 1006–1008. https://doi.org/10.1016/0016-3287(91)90048-7

Connecting Through Shared Cognition: Social Consequences and Psychological Underpin-nings of Sharing Experiences with Others - ProQuest. (n.d.). https://www.proquest.com/openview/105c59ed6ed4bf1e098c-4c40594fd9f1/1?cbl=18750&diss=y&pq-origsite=gscholar&parentSessionId=K8k26Sd4Rv68A5g5hDW1ASK-NBFieL1DRZNpAsj501Qs%3D

Davydenko, N., Wasilewska, N., Boiko, S., & Wasilewski, M. (2021). Development of Rural Areas in Ukraine in the Context of Decentralization: An Empirical Study. Sustainability, 14(11), 6730. https://doi.org/10.3390/su14116730

Deleuze, G., & Guattari, F. L. (1987). A Thousand Plateaus: Capitalism and Schizophrenia (B. Massumi, Trans.). Minneapolis, MN: University of Minnesota Press.

Deleuze, Gilles (1997). Essays Critical and Clinical. University of Minnesota Press.

Devine-Wright, P., & Clayton, S. (2010). Introduction to the special issue: Place, identity and environmental behaviour. Journal of Environmental Psychology, 30(3), 267–270. https://doi.org/10.1016/s0272-4944(10)00078-2

Escalera-Reyes, J. (2020). Place attachment, feeling of belonging and Collective identity in Socio-Ecological Systems: Study case of Pegalajar (Andalusia-Spain). Sustainability, 12(8), 3388. https://doi.org/10.3390/su12083388

Gleeson B. & Sipe N. G. (2006). Creating child friendly cities : reinstating kids in the city. Routledge. Retrieved October 13 2023 from http://public.eblib.com/choice/publicfullrecord.aspx?p=274474.

Golazad, S., Heravi, G., & AminShokravi, A. (2022). People's post-disaster decisions and their relations with personality traits and decision-making styles: The choice of travel mode and healthcare destination. International Journal of Disaster Risk Reduction, 83, 103395. https://doi.org/10.1016/j.ijdrr.2022.103395

Graham S. & Graham P. S. (2008). Cities war and terrorism : towards an urban geopolitics (1st ed.). Wiley. Retrieved October 13 2023 from http://public.eblib.com/choice/publicfullrecord.aspx?p=351008

Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privi-lege of Partial Perspective. Feminist Studies, 14(3), 575–599. https://doi.org/10.2307/3178066

Haraway, D. J. (2008). When species meet. University of Minnesota Press.

Iftode, C. (2017, May 9). The Concept of 'World Society' in International Relations. E-International Relations. https://www.e-ir.info/2017/05/09/the-concept-of-world-society-in-international-relations/

International Organization for Migration (IOM), Nov 10 2023. DTM Ukraine — Returns Re-port — General Population Survey Round 14 (September – October 2023). IOM, Ukraine.
IOM Reports | Displacement Tracking Matrix. (2022-2023). https://dtm.iom.int/reports?f%5B0%5D=report_country%3A1088&f%5B1%5D=report_theme%3A989

Israel, A. L., & Sachs, C. (2012). A Climate for Feminist Intervention: Feminist science studies and Climate change. In Springer eBooks (pp. 33–51). https://doi.org/10.1007/978-94-007-5518-5_3

Kennedy, D. (2018). Becoming child, becoming other: childhood as signifier. ResearchGate. https://www.researchgate.net/publication/327869319_Becoming_Child_Becoming_Other_Childhood_as_Signifier

Krishnan, S. (2021). On human relationships forged by the sharing of trauma. www.linkedin.com. https://www.linkedin.com/pulse/human-relationships-forged-sharing-trauma-sanchana-krishnan/

Kulu, H., Christison, S., Liu, C., & Mikolai, J. (2023). The war, refugees, and the future of Ukraine's population. Population, Space and Place, 29(4), e2656. https://doi.org/10.1002/psp.2656

Learning from the experiences of older Ukrainian refugees in Poland. (2023, September 21). HelpAge International. https://www.helpage.org/resource/learning-from-the-experiences-of-older-ukrainian-refugees-in-poland/

Ly, V., Wang, K. S., Bhanji, J. P., & Delgado, M. R. (2019). A Reward-Based framework of per-ceived control. Frontiers in Neuroscience, 13. https://doi.org/10.3389/fnins.2019.00065

Lydia Baan Hofman (2023): Immanent obligations of response: articulating everyday re-sponse-abilities through care, Distinktion: Journal of Social Theory, DOI: 10.1080/1600910X.2023.2222339

Maslow, A. H. (1943). A theory of human motivation.. Psychological Review, 50(4), 370-396. https://doi.org/10.1037/h0054346

Merriam-Webster. (n.d.). Responsibility. In Merriam-Webster.com dictionary. Retrieved April 15, 2024, from https://www.merriam-webster.com/dictionary/responsibility

Milevska S. (2016). On productive shame reconciliation and agency. Sternberg Press. Re-trieved October 13 2023 from https://library.oapen.org/handle/20.500.12657/46507

Mymarsmantra. (2023, October 6). E 1. 50 years of disasters as agents of change: Ian Davis with Rumana Kabir_. https://audio.com/mymarsmantra/audio/ian-davis-rumana-kabir-revised2

Newman O. (1972). Defensible space : crime prevention through urban design. Macmillan
Odarchenko, K. (2020, November 5). Ukraine's Presidents, Power Elites, and the Country's Evolution. Focus Ukraine. Retrieved October 13, 2023, from https://www.wilsoncenter.org/blog-post/ukraines-presidents-power-elites-and-countrys-evolution

Peng, W., Lou, W., Huang, X., Ye, Q., Tong, K., & Cui, F. (2021). Suffer together, bond together: Brain-to-brain synchronization and mutual affective empathy when sharing painful experi-ences. NeuroImage, 238, 118249. https://doi.org/10.1016/j.neuroimage.2021.118249

Powell, J. H., Hammond, M., Chen, A., & Mustafee, N. (2018). Human Agency in Disaster Planning: A Systems Approach. Risk Analysis, 38(7), 1422-1443. https://doi.org/10.1111/risa.12958

Reich, J.W. (2006), "Three psychological principles of resilience in natural disasters", Disas-ter Prevention and Management, Vol. 15 No. 5, pp. 793-798. https://doi.org/10.1108/09653560610712739

Rogoża, J. (2023). Ukraine in the face of a demographic catastrophe. OSW Commentary, 524. https://www.osw.waw.pl/en/publikacje/osw-commentary/2023-07-11/ukraine-face-a-demographic-catastrophe

Shared Life Experiences Can Bring People Closer but Might also Blind Us to Others' Feelings | SPSP. (2023, September 18). https://spsp.org/news-center/character-context-blog/shared-life-experiences-can-bring-people-closer-might-also-blind

Shelter after disaster - PrepareCenter. (2020, May 5). PrepareCenter. https://preparecenter.org/resource/shelter-after-disaster/

Ukraine war: "I've lost the life I knew." (2023, June 8). HelpAge International. https://www.helpage.org/resource/i-ve-lost-the-life-i-knewolder-people-s-experiences-of-the-ukraine-warreport/

UN Annual Results Report 2022: Early recovery efforts in Ukraine. (2023, March). Ukraine. https://ukraine.un.org/en/227142-un-annual-results-report-2022-early-recovery-efforts-ukraine

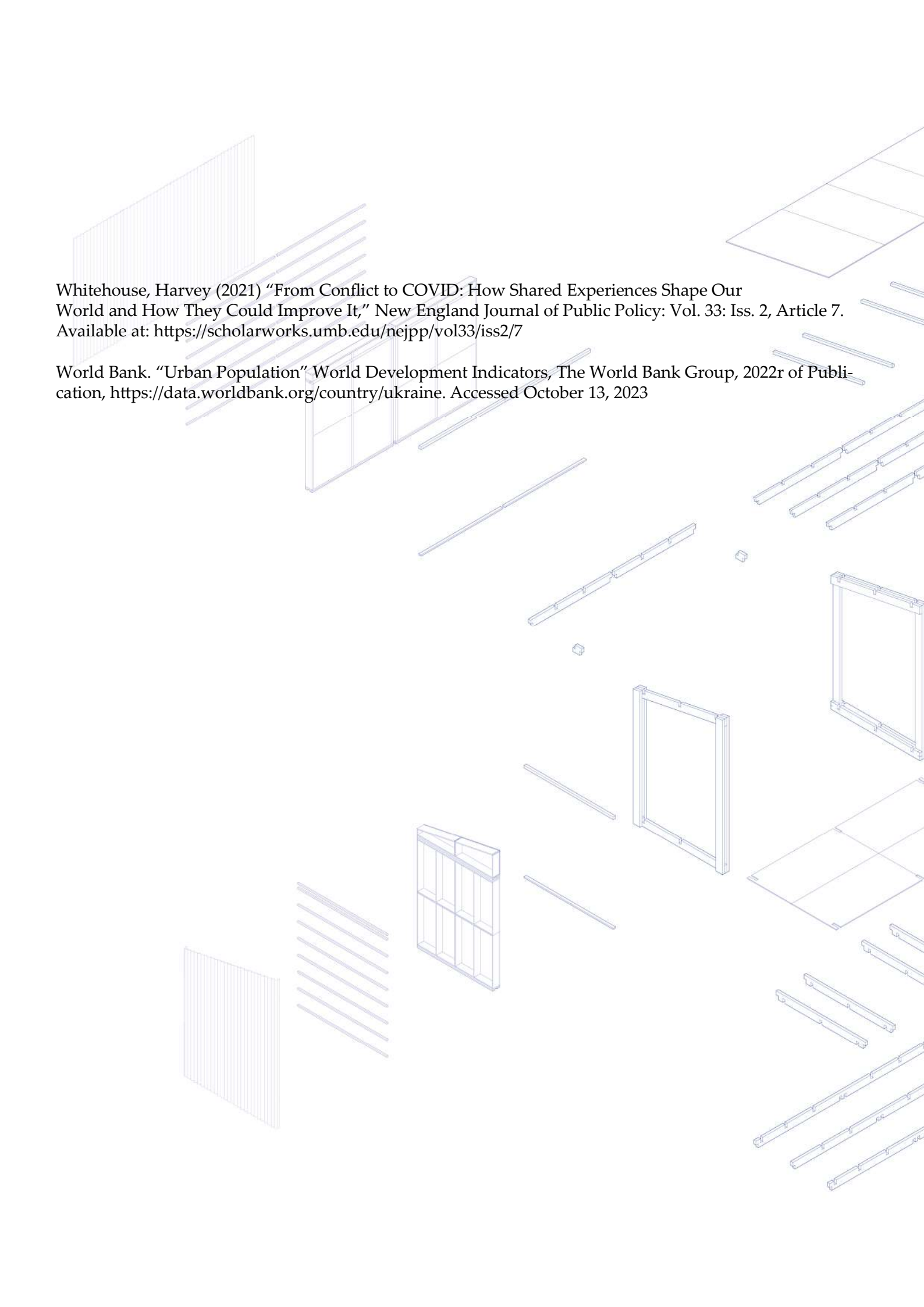
Unwin, S. (2019). Children as Place-Makers: the innate architect in all of us (1st ed.). Routledge. https://doi.org/10.4324/9781315171623

Vonyó, T. (2019, November 21). Recovery and reconstruction: Europe after WWII. CEPR. https://cepr.org/voxeu/columns/recovery-and-reconstruction-europe-after-wwii

Walloth, C. (2012, September). Integrated bottom up and top down governance of cities – A systems approach. ISOCARP. https://www.isocarp.net/Data/case_studies/2232.pd

Whitehouse, Harvey (2021) “From Conflict to COVID: How Shared Experiences Shape Our World and How They Could Improve It,” New England Journal of Public Policy: Vol. 33: Iss. 2, Article 7. Available at: https://scholarworks.umb.edu/nejpp/vol33/iss2/7

World Bank. “Urban Population” World Development Indicators, The World Bank Group, 2022r of Publication, https://data.worldbank.org/country/ukraine. Accessed October 13, 2023




INFORME!
MISSING