

Participatory Design in Refugee Camps: Ethnographic Case Studies from Greece

Abstract

Purpose

Architectural management and construction practices have not been widely explored in refugee camps which have been growing exponentially around the world. Previous research largely focused on the negativity surrounding living in refugee camps and mostly ignored the input of refugees. This study explores the possibilities of involving refugees in architectural design and construction decisions in the camps.

Methodology

This research adopts a qualitative interpretive research approach and employs exploratory ethnographic methods. Participatory Design (PD) principles are applied to design and construct community place projects in two refugee camps in Greece.

Findings

The findings demonstrate that despite the technical and institutional challenges of employing PD approaches in refugee camps, there are observed positive impacts on the wellbeing of refugees as well as impacts on the hosting communities.

Originality

This paper addresses a critical issue concerning how to include refugees in the design, implementation and maintenance of refugee camps to improve their wellbeing and fight the feeling of ‘otherness’ for both refugees and host communities. This study extends research on refugee camps by collaborating with refugees to improve their lives within the camps. This research contributes to architectural management and construction studies by providing practical recommendations related to PD methods in new contexts.

Research implications

This paper contests the negativity surrounding refugee camps and has implications on research, practice and society as well as a positive impact on NGO organisations, policy-makers and other stakeholders involved in the governance of refugee camps.

Keywords: architectural management, refugee camps, participatory design, ethnography, positive experience, construction.

1. Introduction

This research investigates the significance of applying Participatory Design (PD) principles to involve refugees in design and construction decisions in the camps. Refugees in this paper refers to people who have been forced to leave their country to escape war or persecution and are therefore unable or unwilling to return to their home countries. Camps play a crucial role in providing temporary safe places for refugees who are supposed to be moved to long-term settlements. However millions of refugees have been forced to live in camps which became permanent settlements; examples include Shahrawi refugee camps in Tindouf in Algeria, established in 1975, and Palestinian refugee camps in the Levant, established in 1948 and 1967 (Albadra, Coley et al. 2018). Architectural management and construction practices have not been widely explored in refugee camps, which have been growing exponentially around the world. Refugees do not only have basic needs (i.e. food, water and shelter) but also psychological and self-fulfilment needs. Relationships and esteem needs developed through social interactions are essential aspects of building a life with human dignity, yet they remain largely neglected in most refugee camps. In this paper, we seek to address an important challenge in relation to the involvement of people in PD exercises that give refugees agency over their built environment. Actual participation in design is not only associated with simple involvement but with direct participation of stakeholders in design decisions (Luck 2003).

This study aims to explore the possibilities of involving refugees in architectural design and construction decisions in the camps; and the real-life impact of applying PD approaches on the wellbeing of refugees as well as the impacts on the hosting communities. The objectives associated with this aim are:

- a. to apply PD principles from conception to completion of two community place projects in Greek refugee camps to engage the refugees and develop their skills
- b. to investigate the significance and challenges of involving refugees in design and construction decisions and practices
- c. to evaluate the impacts of using PD approaches on refugees and hosting communities and propose practical recommendations for applying PD approaches in refugee camps

The paper starts with reviewing previous work around two main areas: (1) *camp challenges and refugee involvement*; and (2) *Participatory design*. This research adopts a qualitative interpretive approach (Creswell and Creswell 2018) and employs PD principles and ethnographic methods to collect and analyse data from two refugee camps in Greece: Lesbos and Kavala. We will present our findings in relation to four key headings: 1) *Using PD in refugee camps*; 2) *Technical and institutional challenges of the PD approach*; 3) *Impacts of PD on refugees*; and 4) *Impacts of PD on hosting communities*. The four key themes were used as an analytical framework to systematically investigate the potential and impact of collaborating with refugees to design and build communities and places. The findings demonstrate that despite the technical and institutional challenges of employing PD approaches in refugee camps, there are observed positive impacts on the wellbeing of the refugees as well as impacts on the hosting communities. PD created opportunities to facilitate and embrace human flourishing and positive experience, a state in which people experience positive feelings and live with the best possible way of human functioning (Cooper 2005). Positive human experiences have long been discussed in the literature and involve intense

joy, peak performance, and rewarding experience (Privette 1983). Positive experience is used to refer to the ability to focus on the joys, pleasures, and other positive feelings in the here and now of our lives (Bryant and Veroff 2017). A science of positive subjective experience is associated with improving quality of life (Seligman and Csikszentmihalyi 2014). Positive experience in this paper is associated with creating opportunities, learning new skills, team work, achievement, and pleasant memories. Positivity encompasses optimistic psychological and social functioning as well as upbeat mental health and wellbeing. Positive experience can be achieved by recognising strengths, stimulating talent and nurturing personal development and resilience. This paper contributes to architectural management and construction studies by providing practical recommendations and new perspectives related to involving refugees in the design, implementation and maintenance of community places in their camps.

2. Previous Work

Camp challenges and refugee involvement

Refugee studies have stressed that regardless of the host country, refugees face hard circumstances and severe climates. Harsh climates such as that in Azraq camp in Jordan for example, reveal a high rate of heat-stress in the shelters (Fosas, Albadra et al. 2018). Thermal surveys of two refugee camps in Jordan reported 46° C in the internal surface of shelters (Albadra, Coley et al. 2018). Social surveys and field trials with refugees in Afghanistan reveal that shelters are seen and used differently by occupants who have various ethnic and cultural backgrounds and needs (Manfield, Ashmore et al. 2004). International research showed that ‘refugeeness’ is associated with a universal experience of exclusion, marginalisation and uncertainties (Lacroix and Al-Qdah 2012). Lacroix and Al-Qdah (2012: P. 225) describe ‘refugeeness’ as ‘uprootedness and crossing borders; it is about fear and anxiety, about starting over. To forcibly leave one’s country, to uproot and begin anew elsewhere, not necessarily in a country of one’s choosing, to redefine ‘home’ and ‘identity’,

is a process that cuts across borders and national, ethnic, and cultural origins'. Refugees can be perceived as 'others' and face difficulties related to barriers outside their control including risky legal status, no recognition of foreign IDs, as well as inadequate housing, language and education courses, employment, and health and social services (Lacroix and Al-Qdah 2012). These challenges have a negative impact on the refugees' mental health and wellbeing. Psychological traumas from events of war are also common in refugee camps however physical treatment is often given priority and mental health is generally neglected (Chambers, Jacobs et al. 2018). Posttraumatic Stress Disorder (PTSD) and its symptoms of anxiety and depression can also be triggered by the built space of refugee camps including the structure of paths (Chambers, Jacobs et al. 2018). A geospatial analysis of intersections and viewsheds within the Zaatari camp in Jordan and Calais camp in France show that the maze-like planned structure of Zaatari, with multiple routes and obstruction to visibility, increase the symptoms of PTSD (Chambers, Jacobs et al. 2018). This is due to the fact that the maze-like planned structure have more stressors and anxiety triggers than that of Calais, which has a single path and less sharp turns (Chambers, Jacobs et al. 2018). Chambers, Jacobs et al. (2018) argue that refugees in Calais created a less stressing labyrinth structure as a coping strategy in order to reduce PTSD. To treat PTSD in geographical space, Chambers et al. (2018) suggest a need for consideration of this in the design of refugee camps and settlements.

Temporary housing in refugee camps provide private and secure places yet they have long been criticised for being unsustainable in terms of cost, since most of the housing units are normally imported, and environmentally inappropriate, as they are produced in different climates (Félix, Branco et al. 2013). Additionally, temporary housing are considered culturally inadequate because they are designed by professionals who may not be aware of the local conditions and user needs (Félix, Branco et al. 2013). Construction activities should take into consideration the three pillars of sustainability including economic, environmental,

as well as the social to achieve sustainable development (Bahriye and Yobas 2019, Bahriye; and Yobas 2019). Considering sustainability in the complex context of sheltering presents serious challenges but is crucial for the wellbeing of the refugees (Alshawawreh, Pomponi et al. 2020). Previous research highlight the significance of involving refugees in meeting their shelter needs rather than developing universal or standard technological solutions (e.g. Manfield, Ashmore et al. 2004, Félix, Branco et al. 2013). Misunderstandings of users' needs, cultural values, family size, and climate variations create unsuccessful solutions (Félix, Branco et al. 2013). Misconceptions of users' expectations force refugees, who may not always have the right knowledge and experience, to make inappropriate changes to the shelters (Félix, Branco et al. 2013). Therefore working with the refugees eliminates making such changes, and develops their skills to operate and maintain the facilities. To date, the refugees remain widely uninvolved in making decisions regarding the design and construction of the camps.

Camp impacts on host communities are very complex and can involve both positive, such as socio-economic impacts including new livelihood opportunities in the camp as well as improved health and education services, and negative experiences related to insecurity and conflicts in the hosting community (Grindheim 2013). Unfortunately, a common stereo type of refugees is that of a dependant population who cause added pressure on host countries that might be unable to afford providing aid and relief; particularly as over 85% of the world's refugees are hosted in developing countries (Kachkar 2019). For example food access, availability and prices can be seriously affected in the host countries (Alix-Garcia and Saah 2010). Refugees are usually associated with vulnerability (Schilderman 2004) as well as negative social, economic and environmental impact to the hosting country (Kachkar 2019). Resource use competition can lead to environmental conflict and violence between refugee and host communities; participatory methods were proposed for environmental management

activities (Martin 2005). Similarly, Schilderman (2004) proposes working with local communities for disaster mitigation. In fact, refugees have a lot of potential and are usually willing to engage in entrepreneurship activities. Findings from a study in Syrian refugee camps in Turkey show that more than half the participants had entrepreneurship experience as well as funding from savings or sponsorship of relatives (Kachkar 2019). Yet, refugees face traditional challenges related to access to finance, access to market, lack of professional and administrative skills, in addition to untraditional challenges such as uncertainty, constraints on movements, language barrier and legal challenges (Kachkar 2019). Refugee studies largely focus on investigating the challenges, violence, crisis, child abuse and neglect in refugee camps (e.g. Daoud 2020, Kohli and Fineran 2020). A considerable amount of research draw attention to issues related to loneliness, isolation and lack of interaction with locals (e.g. Kristjánsdóttir and Skaptadóttir 2019). A few studies attempt to engage young refugees in educational research projects to create temporary positive personal experiences (Cooper 2005, Dahya and Dryden-Peterson 2017). Lack of research on integrating refugees and host communities from a development perspective has in fact been identified (Baú 2018) but research in this area remains limited. In spite of previous attempts to involve refugees in rebuilding their lives, their aptitude, knowledge, and skills are yet to be explored. Even with a growing interest in the applications of positive psychology across diverse fields including psychologists, educators, clinicians, therapists and many others (Proctor 2017), it remains neglected in the refugee camp context. This research aims to explore the possibilities of involving refugees in architectural design and construction decisions in the camps and the real-life impact of PD approaches on the wellbeing of refugees as well as the impacts on the hosting communities.

Participatory design

PD can be defined in various ways since it involves practitioners from diverse backgrounds and spans across different fields (Sanoff 2007). PD aims to involve stakeholders in the design process to improve client and user satisfaction in Architecture, Engineering and Construction (AEC) projects (Kpamma, Adjei-Kumi et al. 2017). PD developed since the 1970s (Ehn 2008) and since then participatory approaches have been widely used in the literature in contexts such as architectural design (Luck 2003) and the architect's pedagogic development (Luck 2007); shared urban open space (Mees 2018); working with young refugees in camps (Cooper 2005); urban upgrading of refugee camp-cities (Al-Nammari 2013) and much more. In general, PD practitioners agree that participants are experts in what they offer and their expertise should be utilised to create design solutions in collaboration with professional designers (Sanoff 2007). Sanoff (2007) argues that one of the strengths of the PD approach is its capability to cross conventional professional boundaries and practices. However, the participation process of stakeholders should be managed carefully to ensure effective stakeholder contribution and understanding of their needs (Kpamma, Adjei-Kumi et al. 2017).

Previous research discuss the tension between the understanding of design as a profession and the role of the designer versus the user in participatory design (Carroll and Rosson 2007). Jaradat et al. (2013) highlight that conflicts may arise, where the interpretations of project deliverables and how they are competently achieved vary across different stakeholders, within new contexts and with the emergence of new roles in the design process. To date, many studies have focused on the challenges of using PD initiatives (e.g. Al-Nammari 2013, Iversen and Dindler 2014, Andersen, Danholt et al. 2015) and how engagement with communities can be improved through using intermediaries; considering community values and ethics of reciprocity (Ssozi-Mugarura, Blake et al. 2017). On the other hand, some studies have shed light on positive outcomes related to developing youth-focused proposals

(Cooper 2005). Collective intelligence has also been highlighted as positive PD outcome (Sanoff 2007). Although PD has been applied in a wide range of contexts involving computer science, anthropology, architecture and pedagogy (Iversen and Dindler 2014), less research has investigated the impacts of using PD approaches to design and build within the context of refugee camps.

An emerging body of research focuses on promoting resilience among refugees and proposes a move from treating traumatic experiences to nurturing flourishing (Simich and Andermann 2014). Simich and Andermann (2014) argue that new strengths can emerge when people are given new opportunities and emphasize the importance of integrating with the larger community. A number of studies have focused on strengthening relationships with the host communities (Erden 2017). Erden (2017) challenges the prominent narratives which consider refugees as victims and helpers as liberators, and shows that both refugees and local organisations benefit from informed social interactions. Despite previous efforts to involve refugees, who often have intrinsic capabilities but need to be given the opportunity, PD has not been widely applied in the context of refugee camps, which has been a motivation for this research. We argue that PD can not only mitigate the negative impact of camps on refugees but also help fight the feeling of ‘otherness’ for both the refugees and the hosting communities.

3. Research methodology

This study adopts a qualitative interpretive approach that fits the exploratory and emergent nature of this research, in which aspects including research questions and data collection process may be refined during the course of the research (Creswell and Creswell 2018). Interpretivism is one of the long established major approaches to qualitative data analysis (Miles, Huberman et al. 2014) which was taken in this research to allow the authors to

explore and develop new understandings of the context. This research draws on ethnographic approaches (Sanday 1979, Hammersley and Atkinson 2010, Morales and Lambert 2013) and in particular ethnographic methodologies for construction research (e.g. Pink, Tutt et al. 2010, Löwstedt 2015, Grosse 2019). Ethnography involves a range of observational methods that emerged originally from writing about people and developed to include audio, visual and a dynamic field of research practice (Tutt and Pink 2019). The principal researcher, who is a practicing architect and university lecturer, conducted the fieldwork as part of the PD project team. The co-author is a chartered AEC professional and academic who guided the development of the theory. The authors drew on their own experiences in the design and construction industry and reflected critically on being engaged with the everyday lives of refugees to draw out new knowledge (Tutt and Pink 2019).

The fieldwork was conducted in two refugee camps in Greece: Lesbos and Kavala. The principal researcher participated in the design and construction of two communal places, one in each camp and observed naturally while working with the PD team. The PD team includes the principal researcher, the design and construction teams, volunteers, refugees and some local people and companies. Crowd funding helped finance the materials, design and construction of the two communal places. The design stage of the projects started with simple sketches, basic tools, a plot of land in each camp and refugees who were willing to participate. The following subsections will describe the research context, participatory design team, data collection and analysis methods used in both camps.

Research Context

Both projects started with an initial visit to the sites in Lesbos (June 2015) and Kavala (May 2016) to assess the needs of the refugees. Following that, preparation for the community place projects started in the Netherland with a few conceptual design ideas. The design

schemes were not fully developed to enable the refugees to participate in the design. The concept design and basic sketches were used to get permission from the UNHCR to start the project, and to explore possible options, which evolved on the construction site in collaboration with representatives from the refugee community.

The principal researcher, designers and volunteers were based in an accommodation close to the camps for the duration of the two projects. This research employs PD techniques to work with refugees primarily from Syria, Iraq, Iran and Afghanistan who left their countries because of political conflicts and wars. The following subsections provide a description of the research context of each project in the two camps: Lesbos and Kavala.

- Lesbos

This project started in September 2015 and concluded in December 2015. The PD team worked with refugees as well as local Greek people from Lesbos and volunteers from the Netherlands. Initially the plan was to apply the PD approach and build community projects in Moria and Kara Tepe camps, however this was not possible in Moria as the structure changed to a closed camp in which international NGOs were only permitted to work in the camp.

Kara Tepe is about 2.5 km to the north of Mytilene, the capital city of Lesbos. Kara Tepe refugee camp had a capacity of 1500 people at the time of the project. The refugees' shelters were on the right side of the camp while the communal spaces were located on the left. The total area of the camp is about 50 km² and is approximately divided as 12.5 km² for communal use and 37.5 km² for the shelters which makes it about 25 m² per person (these numbers are estimations based on online research as of 2015 and personal experience of the principal researcher).

Kara Tepe was used as a transition point to register refugees who arrived in the island on their way to other countries in Europe to claim asylum. During the design and building

process of the community place, rules and regulations were constantly changing in response to the dynamic political situation and on-going discussions to manage the increased flow of refugees to Europe.

The refugees stayed in this camp for a period that ranged from a couple of days to a maximum of 3 weeks. The camp was managed by a camp Manager and international NGOs, who provided basic shelter to refugees. The site was enclosed with metal fencing and had a security guard at the entrance to control access. Due to the fact that this camp served as a registration location, where refugees who arrived in Greece were registered to get travel documents that would allow them to continue their journey into Europe, a wide range of people were involved in the construction team. A diverse construction team created a dynamic process in which design decisions were changing all the time to match the current needs of the people.

In Kara Tepe the project consists of eight spaces that can be divided or used as a large open hall. The people used it mostly in smaller scale groups as eight separated classrooms for example. The structure is built on concrete foundation platforms, with timber, steel, polycarbonate sheets and recycled rubber from the boats the refugees used. The team collected the boats from the beaches on the other end of Lesbos. The interior side was covered by a white fabric to give it a softer atmosphere and the rubber was used in the exterior (See table 2 in the appendix).

The campsite was enclosed with metal fencing and had a security guard at the entrance to control access. The camp was managed by a camp Manager and international NGOs who provided human assistance to refugees. Since this camp served as a temporary registration point, a wide range of people were involved in the construction team. The Mayor and Camp

Manager opened the community centre after the completion of the project and agreed to collaborate with the refugees to manage the building and develop the spaces.

- Kavala

This project started in July 2016 and was completed in November 2016. The PD team worked with the refugees as well as local Greek people from Kavala and volunteers from Sweden, Germany, Italy, USA, England, Denmark, Switzerland, the Netherlands and Spain. The camp was situated outside the city of Kavala on an abandoned military terrain. The location was surrounded by bushes, trees and a stonewall to border the refugees from the adjacent neighbourhood and protect them from any possible threats. Around 1600 people were living in tents placed inside an old factory building that has an estimated area of 3500 m². Each person had about 2.2 m² including circulation and study rooms. At the front of the factory building, there was an open space (50 m² approximately) which was used as a football field and to build the communal place.

This site was managed by the army and organised as a closed camp, in which people had to show an ID to gain access. An application was submitted to the Government of Greece and Interior Affairs to get permission to build the community place. This process was more official and bureaucratic than the one in Lesbos. The refugees stayed in this camp for a period that ranged from six months to a few years before they were allowed to relocate to another country in Europe. Therefore, the construction team did not change from the beginning to the end of the project. Only the volunteers rotated every two/three weeks.

The project in Kavala consists of six rooms around a central communal space, shaped as a hexagon. These rooms were shaped as a house with a gabled roof and the larger space in the middle was higher and had a domed roof. Some timber was donated and re-used. The tiles used on the mosaic floor were also donated, the rubber used in the roofing of the small house

shaped spaces was collected from beaches at the shores of Greece. Also this structure was made of concrete foundation, timber, steel, polycarbonate and recycled rubber from the boats. Fabric was used in the interior and recycled rubber was used in the external façade and roofing (See table 2 in the appendix). The composition of the participatory design team in both camps is described in the following subsection.

Participatory Design Team

There was no predefined essential set of skills required for the involvement in the PD projects but some knowledge and experience in construction-related tasks, such as pouring concrete, welding, timberwork or painting, was preferable. Refugees and volunteers who offered to help were asked to elaborate on their background and experience. The refugees were involved in tasks that matched their experience and were supervised by architects and engineers who also provided training when needed. Refugees who did not have the relevant skills or experience were given less responsibilities and straightforward tasks. The amount of people in the construction team ranged from five to 15 builders on the site, depending on the type of work, available volunteers and people who had the relevant skills. At Lesbos, the PD team was constantly changing, as it was a temporary registration camp. The volunteers were available for at least 3 weeks, which provided more stability and consistency within the construction team. In Kavala, the PD team was more stable in terms of the refugees, volunteers and local people's involvement. The projects considered the needs and well-being of children, who were also involved as some spaces were designed to for kids' activities.

Despite the different contexts of the two camps in Lesbos and Kavala, the refugees were involved in the design and construction process and given the opportunity to discuss how they want the space to be used. However, because of the more stable nature of the camp in Kavala, the PD team organised a few workshops with the refugee community to find out what

they wanted to do in the community centre in order to create spaces that would fit their needs. The subsequent parts describe data collection and analysis methods used in both camps.

Data collection

The authors chose to collect data by spending as much time as possible in the field, and observing the context while taking part in the design and construction of the community places. The dataset also include informal conversations with participants from the refugee community, medical staff of a Greek NGO working in the camp, and the volunteers. The refugees were specifically asked about the impact of working as part of a team and being involved in the projects. Often, refugee camps are multicultural with refugees from varied countries and conflicts (Bailkin 2018) who do not necessarily get on within encampments, where their basic needs may not be met. However, the project team worked with interpreters who helped address language barriers and facilitate the communication with the refugees when needed.

The PD team was immersed in the life of the camps from 7:30 am to 7:00 pm daily throughout the duration of the projects. An extensive amount of data were collected including direct observations of the refugee camps, pictures, videos, sketches and written notes. The principal researcher logged some informal conversations during the construction period of both projects with the refugee community, other organisations and the volunteers. The data collection spanned the total time of the projects; see Table 1 for a summary of the dataset. Previous research has adopted the same approach in order to get an accurate picture of the place (Morales & Lambert, 2013). This well-established ethnographic approach is built on the enquirer being based in the place for a lengthy period of time to directly observe the various activities (Sanday, 1979).

Table 1 Summary of the dataset

Camp	Duration	Pictures	Videos	Sketchbooks	Notebooks
Lesbos	Sept-Dec 2015	1530	500	1xA6	1xA4 & 1xA6
Kavala	July-Nov 2016	2110	245	2xA6	1xA4

Data Analysis

After the projects were completed, the authors worked together to make sense of the data and synthesise the ethnographic material (O'Mahoney 2017) using an interpretive approach to develop clear understandings of meanings (Silverman 2014). An interpretive position fits the aim and objectives of this study and helps form rich descriptions regarding the impact of collaborating with refugees to design and build community places. Data analysis involved a few iterations, switching across pictures, videos, sketches and notes. Firstly, the dataset was interrogated focusing on the real-life impact of PD approaches on the wellbeing of refugees and the impact on the hosting communities. Secondly, tables were used to explore emerging themes and to compare the data across the two camps to articulate concepts that can be applicable to a wide range of contexts beyond the refugee camps we investigated. Thirdly, the findings were structured under the following headings which are in line with the aim and objectives of this study: *1) Using PD in the refugee camps; 2) Challenges of the PD approach; 3) Impacts of PD on refugees; and 4) Impacts of PD on hosting communities.* These key theses were used as an analytical framework to systematically investigate the potentials of involving refugees in architectural design and construction decisions in the camps. Finally, the dataset was revisited to create written accounts of designing and building

with refugees, propose practical recommendations and achieve the aim of this research. The results are described in the following section.

4. Findings

The findings in both camps demonstrate that despite the technical and institutional challenges of employing PD approaches in refugee camps, there are observed positive impacts on the wellbeing of the refugees as well as impacts on the hosting communities. Considering the background, needs, skills, knowledge and culture of the refugees is crucial for successful PD, and to overcome possible barriers. The design and construction process was always in development, and changes were made on site with input from the design team, different stakeholders and authorities as well as the refugee community. The findings will be presented below in relation to the four key headings 1) Using PD in refugee camps; 2) Technical and institutional challenges of the PD approach; 3) Impacts of PD on refugees; and 4) Impacts of PD on the hosting communities.

Using PD in refugee camps

The PD projects started with an overall design and construction sketches to communicate the ideas but the plan was to finalise the design in collaboration with the refugees and other stakeholders. For example, in both projects, the measurements of the spaces changed in the first week following input from the refugee community in Kavala, and the UNHCR in Lesbos.

The structure of the space was based on a flexible construction grid which can incorporate changes not only during construction but also over time. For example, in Lesbos the PD team discussed the sketch of the roof design, which appeared to be heavy in relation to the local materials that were used. Two refugees suggested improving the strength of the walls; dividing the roof to make the elements lighter; and adding a tension wire to improve the

performance of the structure. In Kavala, details of the walls, roof, floor design, and furniture were finalised with the refugees.

Inexperienced refugees were involved in simple tasks such as digging the ground while some experienced refugees were leading tasks including carpentry, mosaic and roofing. The PD team collaborated with local companies in Lesbos to complete jobs such as pouring concrete, excavation and welding, which created some connections between the refugees and the host community. In Kavala, there was more time and people to mix and pour concrete without using special equipment. The steel connection parts for the roof were produced at a local steel factory and in some cases, the PD team traded work with using/borrowing the machines needed for the construction.

During the construction stage, the refugees made decisions about how the space would be used for different activities in their community. For example, one of the refugees thought that the concrete slab was perfect for performing his prayers. He prayed daily on the concrete floor while the building was still in progress. The community space(s) in Lesbos were designed and used to accommodate various activities including religious, recreational, social and entrepreneurial. The refugees created a barbershop, a café, and different NGO's used the community centre to run educational classes for both children and adults, trauma therapy and social activities. Other examples include using the community centres to facilitate beauty and hairdressing workshops for women, set up a library and mini cinema, organise meetings, celebrations, traditional dancing and other social activities (see Table 2 in the appendix).

Technical and institutional challenges of the PD approach

At the time of the study, the situation in Kara Tepe was focused on creating a human reception place. The Camp Manager, a citizen from Mitilini, used to walk twice a day around the camp to talk to the refugees and find out their needs. This approach created a sense of

ownership and less tension among the refugees living in Kara Tepe. Unfortunately, the approach was different outside the camp in other areas of Lesbos, such as Moria where basic needs including shelters and facilities were not fully met. This caused a lot of tension and conflict among the refugees and host communities.

The situation in Kavala was different due to the involvement of the army who were in charge of the camp, as they were managed by the Government and not locally by the Mayor of Kavala, as was the case in Lesbos. The army were mainly interested in maintaining safety within and around the camp rather than in developments of the camp so decision-making was taking longer. The PD team had to present all proposals concerning the community centre to the Army Officer, who ran the camp, to convince him to build the community centre and get approval from the Interior Minister. These barriers created uncertainties at the start of the project among the design and construction team, volunteers and refugees. In both camps, the situation was constantly changing because of new requirements and restrictions posed by the Government which made it challenging sometimes to work closely with the refugees.

Impacts of PD on refugees

The refugees had the opportunity to join the construction team every day, if they adhere to the rules and values identified by the design team. They worked on a voluntary basis because of the governmental restrictions however; they were offered food and drinks during working hours. The whole construction team used to sit together for lunch to share stories, experiences and food. Involving the refugees in the PD projects broke down various barriers, developed trust among themselves as well as the State, and connected them with local companies.

During the construction process, people discovered talents they never knew they had and an improvement in their skills was noticeable. Experienced workers were motivated to teach their skills to others, which made the PD team more confident and efficient. Certain host

communities previously rejected some refugees. The PD approach created a positive promising atmosphere on the camps where the refugees felt valued and respected. One of the refugees described how he lacked motivation and used to feel depressed however, the involvement in the project made him feel energetic and hopeful. He mentioned how the nights became less dark and how he saw some light in his life again. Another refugee who joined the construction team was so thrilled to hold a hammer and work again; he ran to his wife at the end of the first day to tell her about that positive experience. Another refugee had a lot of experience as a builder in his home country and kept his own builder's gloves. He was delighted to use them again and worked for the entire duration of his stay on the island. Despite the harsh living circumstances and limited resources, the refugees had many positive experiences and were very proud of their achievements. The refugees enjoyed sharing food in the community places, socialising and having fun together. The PD approach not only facilitated human flourishing and positive experience, but also created a network of contacts who remained connected with the refugees after the completion of the projects and created a sense of belonging to a larger community.

During the informal interactions with the participants involved in PD projects, the refugees were asked about their experience and the feedback was mostly positive. The refugees mentioned that the quality of their life in the camp significantly improved because they had something meaningful to do and were proud to be part of a team. The refugees felt valued which motivated them to wake up early in the morning. Some refugees expressed that this experience was very rewarding; it created targets; built relationships with local communities and inspired them to plan. On the other hand, a few refugees highlighted concerns after the completion of the construction projects when they would have nothing to do, which might

cause boredom and trigger depression in the future. This was one of the lessons learned which alerted us to the significance of sustaining initiatives in refugee camps.

Impacts of PD on hosting communities

In Lesbos, the locals were paid salaries to support the local economy and all materials were bought from the island. Working with local authorities to facilitate the construction process was in agreement with the management team of the camp who supported developing this relationship with the host community. However, in Kavala, it was more challenging to convince the Army Officers, who ran the camp, about the urgent need of communal places and the significance of involving refugees with PD projects and local communities. This attitude changed during the construction process, the army got involved and became more connected with not only the refugees but also local people.

Using PD methods was not easy because there was a general negative attitude towards the refugees from the host community but they became gradually interested in working with each other. For example, the refugees invited local people to be involved in community events in the camps. Connecting local people and companies with the refugees encouraged local people to donate unused materials and tools, which were re-used in the camps.

The PD team worked with local companies to explore possible re-use of 'waste' materials. In Lesbos, rubber boats and life vests were collected from the beaches (see Table 2 in the appendix). A local man, who had a truck, was keen to help but did not know what to do. He was very excited when he was asked to transport the collected materials from the beach to the construction site in Lesbos, and got emotional after completing the task. The rubber was used in the roofing and facades.

In Kavala, leftover rubber pieces from bag production were used for the roofing and got transported by an entrepreneur from Thessaloniki, who works with an NGO that supports

refugees in Athens. Other construction materials were bought or collected locally. Hardware stores around the camps were also willing to assist. For example, left over coloured tiles were donated from other construction projects and recycled with the help of a refugee, who was a bathroom tiler. This tiler never made a mosaic before and was reluctant to break the tiles but after seeing some examples from Gaudi in Barcelona, he got inspired and was keen to try. He then began to teach other team members how to do it and they worked together on the mosaic floor (see Table 2 in the appendix). Sharing knowledge was an on-going process during these projects and was achieved at all levels.

5. Discussion

This paper offers a significant scholarly contribution to the studies of architectural management and construction practices in refugee camps by exploring the possibilities of involving refugees in PD projects, and the impact on their wellbeing and host communities. The research employs an under-explored analytical angle using PD theories in an attempt to address the shortcomings of camps over the long term and fight the feeling of ‘otherness’ for both refugees and host communities. Camps, while meant to be temporary, can exist for years. PD approaches do not normalise encampment, instead we acknowledge the problematic aspect of refugees spending years in camps and argue that PD can be a way of mitigating the negative impact of camps on refugees’ long-term wellbeing and host communities. The findings inform practitioners, policy-makers and other stakeholders involved in the operation of refugee camps. The results of this research are in agreement with previous studies which underline the adverse consequences of using prefabrication, mass production and standardisation; and instead demonstrate an opportunity for innovation by using alternative approaches for reconstruction (e.g. Schilderman 2004, Félix, Branco et al. 2013). Félix et al. (2013) focus on the design phase whereas our approach is broader and expands beyond design, to construction, and operation in refugee camps. Our results show

continuity with Schilderman (2004) in terms of working with local communities for disaster mitigation as this approach exploits resources that people already have and are willing to share. However, we differ by working with people who were forced to leave their home countries, rather than people who became homeless in their home countries because of natural disasters.

A significant amount of refugee and PD studies focused on the challenges (e.g. Al-Nammari 2013) and tension between designers and users in PD initiatives (Carroll and Rosson 2007). On the contrary, we demonstrated successful PD approaches and supportive relationships between the professional designers and users. Our research sheds light on ability and positivity rather than poverty and vulnerability of refugees. Our findings are relevant with research that calls for creating opportunities for refugees (e.g. Simich and Andermann 2014) and extend the application of positive psychology (Proctor 2017) into the built environment and refugee camp context, which will be of particular benefit to behavioural, architecture, engineering and construction professionals. Additionally, we build on recent studies (e.g. Erden 2017, Baú 2018) that argue for stronger social bonds between refugees and host communities as well as bringing motivations together, yet the focal point in this study is on positive living and involvement in refugee camps. We contribute to the architectural management and construction literature by combining PD theories against the practical reality on the field.

Earlier research used Participatory Action Research (PAR) while working with young refugees in camps (Cooper 2005) to create positive experiences for young people. However Cooper (2005) only focused on education and youths while our research includes the wider refugee community and aims to be long term. We build on research that highlights the huge potential of refugees and their willingness to take part in development activities (Kachkar 2019). We propose a broader approach that can be achieved if refugees are not only involved

in the design and building but also in maintaining and adapting spaces to improve the quality of their time in camps. We attempted to help refugees in their post-encampment life and improve the relationship with the host community. In this paper, we have addressed a key problem and a very important challenge related to recent debates on participation and improving the wellbeing of refugees (Kachkar 2019, Kristjánsdóttir and Skaptadóttir 2019). The implications of these efforts could have a major impact on guiding normative programme development in the design and management of camps, and even location of these camps in the first place.

6. Conclusions

The paper presents an account of participation with refugees living in camps on two sites, to co-design with them aspects of their accommodation, particularly communal places. It also presents an account of the construction of some of the designs. This research aims to explore the possibilities of involving refugees in architectural and construction decisions in the camps and the impact on their wellbeing and on hosting communities. To achieve this aim, we applied PD principles from conception to completion of two community place projects to engage the refugees and develop their skills. Additionally, we investigated the significance and challenges of involving refugees; and the impact on their wellbeing and host communities. We adopted a qualitative interpretive research approach and applied exploratory ethnographic methods. We showed ways in which PD can mitigate some of the negative effects of camps and create positive experiences. In this context, we had the opportunity to connect the material design as a language with the social outcomes, which we attempted to demonstrate in this paper. We argue that despite the urgency of the situation and harsh circumstances in camps, refugees and host communities should collaborate in design and construction practices in the camps. We emphasize the precariousness of the situation in some refugee camps, and the importance of restoring stability and ensuring the physical and

mental health of everyone involved in design and construction projects. Refugees have a wide range of skills and abilities that are largely underestimated and neglected. By collaborating with refugees, these talents become valued and employed to improve well-being and personal growth of refugees, as well as life quality not just within the camps but also beyond encampment. The research findings demonstrate that refugees can have positive experiences through PD and construction in refugee camps. It is crucial to ensure that shelters and community places are built using resistant construction materials and able to withstand damaging effect. It is equally critical to consider the symbolic effects on the refugees and host communities, and their own ability to not succumb to the damaging effect of wars or sufferings.

Contribution to knowledge and implications of research

This research contributes to architectural management and construction studies by involving refugees in the design and implementation process of communal places in an attempt to mitigate some of the negative effects of camps. The study builds on PD literature by employing this approach in urgent and harsh circumstances. This paper extends design for adaptability methods which have not been widely employed in the built environment literature. It also extends refugee studies, which have not widely explored positive experiences related to living in refugee camps. This research has implications to theory, practice and policymaking as it contests the negativity surrounding refugees and living in refugee camps, and attempts to change the mind-set of practitioners, host communities, policymakers and development agencies. This research adds to the body of knowledge on refugee camps and builds on community-based approaches (Schilderman 2004) to suggest the following practical recommendations, which will be useful to those who decide to employ PD approaches in refugee camps:

1. learn from past PD projects;

2. build relationships with the refugees and host communities;
3. create opportunities to engage the refugees and develop their skills;
4. encourage local people and businesses to participate;
5. share best practices;
6. collaborate with organisations which will be committed for the duration of the project;
7. celebrate achievements (this can also be during the construction, e.g. completing key stages such as the foundation etc.); and
8. sustain initiatives in refugee camps and create a team of refugees and other stakeholders who will manage the facilities after completing the project.

Limitations and further research

Refugee camps are very complex and the general context that frames them should be taken into consideration in future research. The political circumstances that create and influence the emergence of the camp, the evolution of border policies and practices that frame the existence of the camp, and the imposed restrictions to the mobility of the refugees that leads them in protracted staying in the camp should be considered. The research shows how our PD projects can help mitigate specific critiques of how camps rob refugees of dignity and empowerment. The PD project increased the prospect of refugee integration into Greek society however, the camp itself could be a barrier to such integration. We acknowledge that PD with refugees is not at all straightforward and by adopting an ethnographic study, we attempted to touch on some of the difficult practical issues. Limitations include issues related to the nature of the camps being investigated as well as the political and cultural aspects of the setting, which might hinder the use of PD methods to a certain extent as we discussed in relation to Moria camp. However, negotiating and trying to make the most out of the available resources and opportunities addressed this. The dynamic political atmosphere as well as the ongoing changes in rules and regulations are beyond our control. For example, if

we look at the situation now in Lesbos, the Kara Tepe area has been transformed with hardly any refugee involvement. Future studies can focus on sustaining PD initiatives in refugee camps and involve additional stakeholders in the design process including the politicians, police and other authorities. Further research can investigate the various typologies of camps and use of design for adaptability and design for disassembly in refugee camps to further enhance sustainable development in these settings. More research is needed to investigate how the skills and knowledge of refugees can be utilised and further developed on longer terms (after the completion of the projects). Future research can also examine building resilience, empowerment, sharing communal spaces, resources and knowledge in refugee camps and further integration in relation to host communities.

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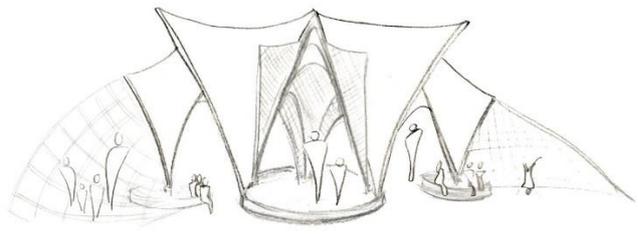
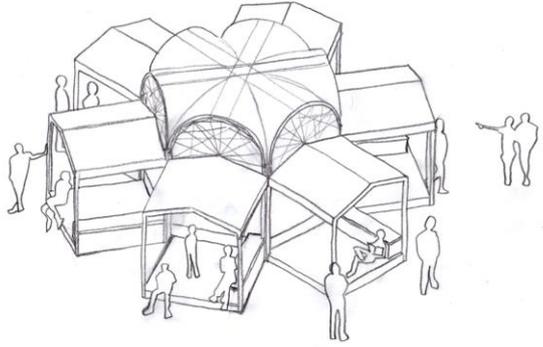
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Appendix:

Description	Lesbos	Kavala
<p>Early design sketches of the community places</p>		
<p>Recycling waste material</p>		

Building
the projects



Local
companies
involved



Completed
projects



Use of the projects

