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Minimal Spatial Standard for Afghanistan: An Analytical Desk Research on Emergency Shelters Among International Guidelines

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Abstract

Afghanistan has particular geographical characteristics which cause different types of natural and manmade disasters. In some cases, it leads the country to some irreparable tragedies. Therefore, one of their deep effects is the homelessness of its residents in post-disaster conditions that require short-term and long-term measures to prevent a a humanitarian catastrophe. Hence, short-term action includes emergency shelters provided by the ruling government of the time and non-governmental organizations with various spatial classifications, who provide an immediate response to the disaster. In this case, the absence of a suitable spatial standard encourages researchers to investigate emergency shelters in general and especially their internal dimensions for preparing a convenient environment in terms of climate, culture, and economic considerations. Consequently, this paper aims to investigate standard spatial dimensions of emergency shelters that humanitarian organizations provide for affected people all over the world. Thus, researchers conducted analytical desk research among existing books, guidelines, and available written research papers in a period from 2010-2024 to find an appropriate spatial dimension for emergency shelters in the Afghanistan context. Furthermore, it displays the impact of climatic, cultural, and economic situations on the internal dimensions of emergency shelters that specifically belong to Afghanistan. By application of the current study, researchers discovered the minimal spatial standards of emergency shelters for this region. The result obtained from the research is widely usable by government and humanitarian organizations which are aiding in post-catastrophe.

Keywords: Emergency shelters, Spatial standards, Sheltering in Afghanistan

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1. Introduction

Afghanistan is a hazardous country due to natural and manmade disasters for its residents. Therefore, government and aid agencies are obliged to prepare necessities for affected people after a disaster. For an effective post-disaster response, government and relief organizations are responsible for supplying food, medicine, and non-food items like shelters immediately to prevent human catastrophe. Afghanistan continuously faces different categories of homelessness among its residents that affected by various types of hazards like natural, internal displacement, and mandatory deportation, which need humanitarian assistance.

Disaster nearly invariably has detrimental effects on the environment, from the destruction of ecosystems to the generation of enormous amounts of trash. Reconstruction following a disaster may either present a chance to address these effects and persistent environmental issues in the affected area or it may unleash further harm [1]. Emergency shelters are one of the most important parts of humanitarian assistance in post-disaster measures. 'A shelter is defined as a habitable covered living space providing a secure and healthy living environment with privacy and dignity' [2].

For detailed information about emergency shelters, a description of historical background information about shelter origin is necessary for readers to understand where and how the first shelter was made by humankind in the world.

The emergence of emergency-focused dwellings may be traced back to the need for nomads, who had to relocate frequently and needed a suitable location to stay while traveling. First symbolized by improvised locations, such as caverns, and afterward by mobile dwellings [3]. Nomadic people developed various shelter options based on temperature and geographic location. They did this by using the materials at their disposal to create temporary shelters that had characteristics with permanent ones, such as stability and resilience to weather. These shelters also must be lightweight and have simple component connections to make them easier to carry and assemble [3]. The Aurignacian huts, named for the Aurignac cave in France, are the earliest example of shelter dating back to the Paleolithic era. The framework of this hut was self-supporting. The branches which were anchored in the ground in a circular pattern with their upper ends bent inward and connected, served as a fundamental component of the dome shape. The covering, which was frequently made of leather, covered the frame [3]. The Maddalenian hut, which gets its name from the La Madeline cave in Tursac Dorgana (France), came after the Aurignacian hut which dates to between 39000 and 21000 years ago. In this instance, the construction was likewise composed of wood, had a double-pitched roof, and was stiffened in the center by the sewn leather covering and poles [3]. Tents, which are the most prevalent type of nomadic housing, are derived from Paleolithic habitation. Despite having structural differences that were characteristic of many cultures, the tent was made with a framework supporting structure covered with textile or leather held in place by a tie-rod. This allowed the tent to adapt to a variety of conditions [3].

The Yurt, which is still in use today, is one of the most popular styles of tents. From and prefabrication standpoint, it was technically more sophisticated. This shelter was initially utilized by Turkish and Mongolian tribes on their travels [3].

A process that may be called industrialization of society resulted from the economic evolution that followed the first industrial revolution, which caused society to abandon the agricultural-artisanal system. This led to significant urbanization and the transition to a modern industrial system. During this time, there was a rise in well-being and a proliferation of technical innovation, which had an impact on the construction industry as well [3]. The prefabrication industry caused rapid assembly of structures that can be used in emergency sheltering and temporary housing. It means by modularization of architectural plans and consumption of modern construction materials and methods, we will be able to produce any kind of sheltering in post-disaster response and provide auxiliary packages for natural and manmade hazards-affected people in our country. The mentioned packages for the affected contain one of the most important components which is called emergency shelter.

Shelter and settlement are interrelated and need to be considered. 'shelter' is the household living space including the items necessary to support daily activities. 'settlement' is the wider location where people and the community live [4]. In post-disaster actions, the words sheltering and housing are more usable, and the difference between them is, that ''sheltering is a temporary band-aid and housing is a permanent cure for homelessness'' [5]. Any facility that offers overnight lodging with the primary objective of serving as a temporary shelter for the homeless, either as a whole or for populations of the homeless is called shelter and Community based residing with a revolving regular (usually annual) lease and no set period of dwelling for renters is housing [5]. Due to the lack of a specific spatial standard for emergency shelters in Afghanistan, research and study in this area are extremely significant. The need to establish clear guidelines for the organization of emergency shelters in this region is necessary because of the risks of natural disasters and conflict situations.

2. Objectives

To overcome the challenges of homelessness in a post-disaster situation in Afghanistan, it is vital to think about the special climate conditions, cultural practices, and economic constraints of the region. Most of Afghanistan's population is vulnerable in terms of natural or human-induced disasters and is in urgent need of altruistic assistance to survive in acute conditions. Many organizations provide humanitarian aid including emergency sheltering for disaster-affected people all over the world, like the United Nations Refugee Agency (UNHCR), International Federation of Red Cross, and Red Crescent Societies (IFRC) with diverse spatial standards. However, there is no specific spatial standard for emergency shelters in Afghanistan. Therefore, this paper aims
to find an appropriate spatial standard for emergency shelters considering climate, culture, and economic aspects in Afghanistan's context. To ease the sheltering process in any post-disaster condition in Afghanistan, having a minimal spatial standard guideline

is a crucial endowment. Therefore, this research has a significant part in the procedure of sheltering.

3. Literature Review

One of the reliable sources in the design of emergency shelters, [4] in general it guides that in camp-style communities, 45 square meters are allotted to each person including, household points; in areas outside of the designated settlement area, 30 square meters allotted to each person, including family plots. The minimal occupancy area per person in emergency shelters studied in many cases which were implemented by different organizations like the Australian Red Cross, IOM International Organization for Migration, (UN Migration), UN-Habitat, Care, InterAction, Norwegian Refugee Council (NRC), the UN Refugee Agency (UNHCR), Danish Refugee Council (DRC), Habitat for Humanity, International Federation of Red Cross and Red Crescent(IFRC), Oxford Brookes University, and USAID in Africa, Asia-Pacific, and Middle. The case studies are explained country-wise.

In Chad 2018-2020 post-conflict sheltering, the shelters had a 2.8 m^2 area per person in addition to providing critical and urgent needs for refugees from the Central African Republic (CAR), this project gave them the space and time they needed to begin attending to other need like finding jobs, concentrating on education, and training, and meeting their basic needs for food. In another case for the Republic of Congo's 2019-2020 conflict, the provided shelter area per person was 2.1 m^2-3.5 m^2. The project was created in response to the problem of internal displacement brought on by the spike in violence in the province of Ituri. The group increased the scope of its response, building emergency shelters for families and groups of people in need at 20 different internal displacement places spread among 12 cities and villages [6]. To observe the Ethiopian 2019-2020 conflict, the Emergency shelter had 3.6 m^2 per person. A total of 1250 internally displaced households impacted by the 2017 violence were assisted by the initiative to rebuild or repair their dwellings that had been damaged or destroyed during their displacement [6]. For Nigeria,'s 2017-2020 conflict evacuees', the area per person of shelter was 3.8 m^2 -4.7 m^2. Following a significant surge of internally displaced people into Bama town, the government and humanitarian partners established The Government Senior Science Secondary School (GSSSS) camp in Bama, with two shelter groups leading the charge in providing shelter support for approximately 5,000 households [6].

Likewise In Indonesia 2018-2020, post-earthquake emergency sheltering the area per person in shelters was 4.5 m^2. This project helped the people of Lomboga village, Central Sulawesi, recover by erecting communal structures, restrooms, and interim shelters in collaboration with a local community group. [6]. In the Philippines, 2016-2020 post-disaster sheltering caused by Typhoon Haiyan, the shelter area per person was 5.5 m^2. Based in Tacloban, Philippines, the Anibong Resettlement Project (ARP) assisted 883 of the Anibong community's most vulnerable families in moving from a '' no build zone''

and reestablishing their lives and means of subsistence in a community that was secure, long-lasting, and respectable [6].

For Iraq, 2018-2021 humanitarian aid for affected people caused by conflict, the covered space per person in an emergency shelter was 5.5 m ². The Durable Return Program sought to secure reintegration chances for displaced families into the community, access to the basic services, and means of subsistence in a thriving, locally owned market, to do this, the initiative fixed important public infrastructure, addressed underlying protection issues, and distributed financial assistance for the renovation and rebuilding of shelters [6]. Thus, In Jordan 2018-2020 for Syrian crisis refugees, the covered area per person was considered 18 m ². Beginning in 2013, the Jordanian Urban Shelter program changed as the host towns' circumstances changed. This case study focuses on the programs of execution from January 2018 to December 2020. The program put in place a variety of shelter support services to fully meet shelter needs by the various demands of households. Included in this were water connections, inclusion kits, WASH rehabilitation, cash-for-rent packages, flexible shelter rehabilitation (FLEX), and renewable energy packages [6]. In the same case for Syrian 2018-2021 crisis refugees in Lebanon, the occupancy area per person was 3.5 m ². The ''shelter and WASH protection' initiative was developed with protection actors in mind, considering hazards associated with the protection that were discovered and examined. The initiative addressed requirements that found extremely vulnerable refugees in North Lebanon who were staying in subpar accommodation [6]. In the same way Syrian 2019-2020 Syrian crises affected people, a 4-5 m ² area was considered per refugee in emergency shelters. Through aid with housing repair, and restoration, the initiative helped returnee households, internal displacement population living in damaged dwellings, and vulnerable local communities become more resilient [6]. Also, In Turkey for the Syrian 2017-2020 crises refugees, a 3.5 m ² area per person was considered in shelters. Through interventions at three different dimensions. The project provided help to internally displaced persons (IDPs), returnees, host communities, and refugees impacted by the war within Turkey (Syrian and others). This includes improvements made at the home level, building-level actions to enhance common areas, and community-level actions carried out in collaboration with local groups and the government to enhance shared areas and neighborhood services [6].

In Burkina Faso's 2020-2023 conflict, the shelter density was 3.5 m ² per person. Due to a security situation, many people in Burkina Faso are being forced to migrate into cities. Through an integrated approach that included improving socio-economic inclusion and social cohesion, enabling the most vulnerable internally displaced people and host communities to have access to adequate housing, basic urban services, and public spaces, and lessening the environmental effects of rapid urban population growth, the project aimed to increase the overall resilience of local authorities and the most vulnerable affected communities [7]. Thus, For Ethiopia 2022 conflict's affected people, the shelter density per person was 4.25 m ². The project focused on the displaced people who came to Mekelly City as a result of the unrest in the Tigray region, especially those who were staying with host families [7]. In the same way for South Sudan 2021-2022 crisis refugees

in Kenya, the occupancy area per person in the shelter was 5 m ². The project focused on providing inclusive shelters that were tailored to the needs of vulnerable individuals, including people with disabilities, the elderly, and children in the recently established Kalobeye settlement near Kakuma camp [7]. Simultaneously In Malawi's 2022 tropical storm Ana, the area per person inside the shelter was 4 m ². This humanitarian project was implemented in response to Tropical Storm Ana, to provide emergency shelter to the impacted community in the Chikwawa district and foster a self-recovery path [7]. Thus, For the case of Mozambique 2021-2022 complex crisis, the emergency shelter area per person is 4.25 m ². This project is a pilot program that aims to enhance the living conditions of the 4500 residents of Mrocani sustainable village, one of the 26 sustainable villages in the region where the displaced population is resettling [7]. Also In the Nigerian 2021-2022 conflict, the shelter area was 3.6 m ². Mud shelters are trial programs in Northeastern Nigeria that have offered lasting answers. The government, hosting towns, and displaced people have all embraced this idea, particularly because it fits with the government's long-term policy toward displaced people [7].

In Bangladesh 2021-2022 fire response actions, the shelter area per person is considered 3 m ². Kutupalang-Balukhali is a densely populated settlement that was built in hilly terrain that is prone to frequent landslides and floods, especially during the monsoon season. The settlement is also temporary, according to the authorities, so flammable materials like bamboo and tarpaulin were used for both site development and shelter construction [7]. Subsequently, for Indonesia's 2021 earthquake, the area per person in emergency shelters was 5-9 m ². After the earthquake in 2021, the West Sulawesi Disaster Response (WCDR) initiative focused on repairing and renovating medium- and light-damaged homes. The project created tools for participatory assessment to collect relevant data and building typology, damage spots, site safety, and the kind of technician required [7]. In the same way for Myanmar 2021-2022 post-disaster action, the emergency shelter occupancy was 3.11 m ² per person in 8-unit families and 2.49 m ² in 10-unit families. Over 130,000 people, including Rohingya, Kaman, Rakhin, and other ethnicities, were displaced in the wake of the inter-communal violence in Rakhin state in 2021. Since then, some groups have been relocated or permitted to return, while the Kaman and Rohingya continue to live in the camps [7]. In the recent Asia-Pacific, In the Philippines 2021-2023 Typhon Goni and Rai's post-disaster measures, the average area per person is 4 m ². In the Philippines, the initiative carried out a successful pilot program, offering retrofitting and loans for the rebuilding and repairs of homes damaged by Typhoons Goni/Rolly (2020) and Rai/Odette (2021) [7].

In the Middle East for Syrian 2021-2022 crisis refugees, the shelter area per person is 3.3 m ². As a component of the wider winterization project, the goal of the tent leveling operation was to construct concrete tent bases so that families could secure their tents and positions in time for the sessional rainy weather [7]. In the same way for Yemen 2020-2022 conflict the emergency shelter density was 3.5 m ². The objective of this project was to construct transitional shelters in the governorates of Taiz, West Coast, and Marib to enhance the living conditions of households residing in internally displaced people sites

[7]. The shelter density and its spatial characteristics are various considering each region's specifications. In [8] is mentioned that a minimum of 3.5 m^2 covered space per person in tropical and warm climates excluding cooking facilities and a minimum height of 2 m at the lowest point. In warm climates, it is believed that certain activities, including cooking, will take place outside in warm regions and according to cultural outcomes [8]. When long periods of wind, rain, and snow are combined in frigid temperatures (3-5 months) minimum of 4.5 m^2 to 5.5 m^2 indoor living space per person and a maximum of 2 m ceiling height to keep inside heat is considerable [8]. Also in cold months, more time will be spent inside the shelter preparing meals, studying, and cooking, necessitating the need for greater room to keep personal items like blankets [4]and warm clothing. People with special needs will need sheltered, heated areas [8]. According to a literature review of existing guidelines and papers regarding emergency shelters' spatial planning, there is not any standard for our country's context, hence this research is an important step to develop effective emergency response strategies to natural and manmade disasters all over the country. Relying on the existing literature review and with new initiatives considering the current conditions of Afghanistan, the researchers present the minimal required area for emergency shelters.

4. Research Methods and Materials

This research intends to get a quantitative insight into the spatial standards of emergency shelters via the analytical desk research method. The data collection source for this study is those case studies that were applied by various humanitarian organizations in different locations. Desk research is a kind of research that keeps gathering existing data from different sources. This can come from external sources like government data, organizations, libraries, and the Internet.

In analytical research, researchers try to use facts or information that are already available and examine them to critically assess the collected data. Analytical research is an organized and methodical study that focuses on the parts of the complicated data to break down into their simple parts and make sense of them. It keeps applying critical analysis to information, data, or facts to obtain new perspectives. This method uses a variety of techniques including data modeling and statistical analysis to make clear the hidden concepts and draw well-informed findings. Desk research is a kind of research that keeps gathering existing data from different sources. This can come from external references like governmental data, organizations' reports, libraries, and the Internet.

In this article, the research design procedure starts with the statement of the problem which is the lack of proper spatial standards for emergency shelters in Afghanistan. The main variables that directly influence the spatial characteristics of emergency shelters are climate, culture, and economy. To achieve this article's objectives, collection and analysis of related data is a necessary activity. The below flowchart shows this article's research procedure.

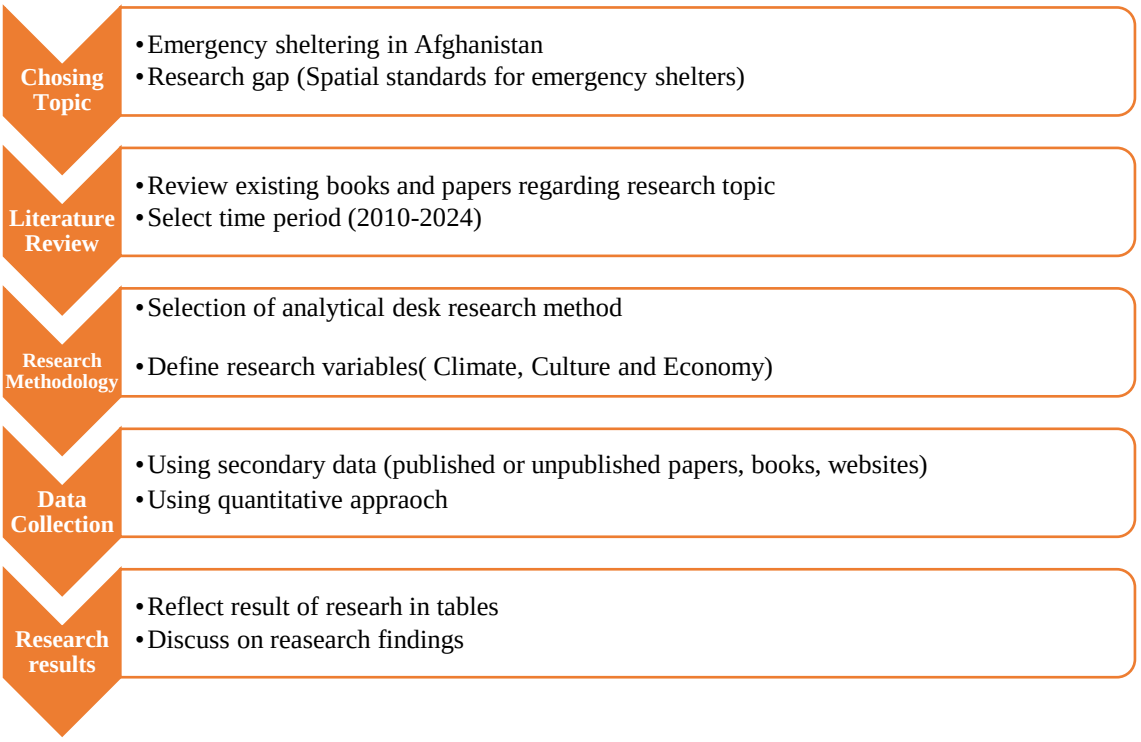


Fig 1. Research design flowchart.

For this research, researchers collected secondary data from various sources in the period from 2010-2024. At the first stage of data collection, researchers reviewed the cases of implemented emergency shelters in Africa, Asia Pacific, and the Middle East for occupancy assessment which is reflected in the below tables.

Table 1. Emergency shelter density (area per person) 2016-2021 [6]

Continent	Country	Year	Area per person (M ^{2})	Total Shelter area (M ^{2})
Africa	Chad	2018-2020	3.5	17.5
	Chad	2019-2020	2.8	14
	REP of the Congo	2019-2020	2.1-3.5	10.5
	Ethiopia	2019-2020	3.6	21-25
	Nigeria	2017-2020	3.8-4.7	16.2-19.8
Asia-Pacific	Bangladesh	2019-2020	3.5	21
	Indonesia	2018-2020	4.5	18
	Philippines	2016-2020	5.5	
	Vanuatu	2018-2019	7-8	25-30
Middle East	Iraq	2018-2021	5.5	
	Iraq	2019-2021	15	
	Jordan	2018-2020	18	100
	Lebanon	2018-2020	3.5	
	Syria	2019-2020	4-5	40
	Syria	2018-2020	7.6	50.7
	Syria	2019-2020	7.75	46.5
	Turkey	2017-2020	3.5	40

Table 2. Emergency shelter density (area per person) 2018-2023 [7]

Continent	Country	Year	Area per person (M ^{2})	Total Shelter area (M ^{2})
Africa	Burkina Faso	2020-2023	3.5	
	Ethiopia	2022	4.25	21.29
	Kenya	2021-2022	5	25.6
	Malawi	2022	4	20
	Mozambique	2021-2022	4.25	36-42
	Nigeria	2018-2021	4.32	25.92
	Nigeria	2021-2022	3.6	18-21
Asia-Pacific	Bangladesh	2021-2022	3	13.9-18
	Indonesia	2021	5.9	25-45
	Myanmar	2021-2022	3.11-2.49	15.5
	Philippines	2021-2023	4	20
Middle East	Iraq	2019	4.8	24
	Syria	2021-2022	3.3	
	Yemen	2020-2022	3.5	18

Afghanistan has an arid climate. The nights are clearer than the days, and the sun shines for three-fourths of the year [9]. When considering the country's highlands as a whole, the mean temperatures of Afghanistan and the lower Himalayan regions are nearly identical [9]. However, the climate of Afghanistan is notable for having such a wide variation of temperatures within a short period [9]. In the second stage of data collection researcher studied all related aspects (weather, humidity, precipitation) of Afghanistan's climate province vise for 34 provinces, to ensure the level of climate effects on emergency shelters.

Table 3. Climatic information on 34 provinces of Afghanistan [10]

Code	Description	Group	Number of states/regions	States / Regions
Bsk	Mid-latitude steppe	Arid	11	Balkh, Faryab, Herat, Jozjan, Kandahar, Kunduz, Laghman, Paktika, Sar-e-Pul, Uruzgan, Zabul
Dsb	Humid continental, dry warm summer	Cold (continental)	8	Badakhshan, Daykundi, Ghazni, Ghor, Kabul, Nuristan, Parwan, Wardak
Csa	Mediterranean, hot summer	Temperate	5	Badghis, Baghlan, Kunar, Samangan, Takhar
Bwh	Subtropical desert	Arid	3	Farah, Helmand, Nimroz
Dsc	Subartic, subalpine	Cold (continental)	2	Bmyan, Panjshir
Bsh	Subtropical steppe	Arid	1	Nangarhar
Cfa	Humid subtropical, no dry season	Temperate	1	Khost
Cfb	Marine West Coast, warm summer	Temperate	1	Paktiya
Csb	Mediterranean, warm summer	Temperate	1	Kapisa
Dfb	Humid continental, no dry season, warm summer	Cold (continental)	1	Logar

In the third stage of data collection, researchers tried to explain Afghanistan's culture and assess its effect on sheltering and area per person factor in emergency shelters. Afghanistan is an Islamic country with accepted traditions that impresses all buildings typology even emergency shelters. As per the definition of emergency shelter, ''A shelter is not just bricks and mortar, or a tent, but a means to protect those uprooted. In emergencies, it is fundamental to provide shelter as part of the life-saving responsibilities and mandate of humanitarian actors, so that forcibly displaced people can enjoy a secure and healthy living environment that protects them from weather conditions, and offers them privacy, dignity, comfort, and emotional security'' [8], which shows full respect to humanity and their customs and cultures. One of the most common customs in Afghanistan is living in extended families. "An extended family is a family that extends beyond the nuclear family of parents and their children to include aunts, uncles, grandparents, cousins or other relatives all living nearby or in the same household'' [9] mentioned cultural aspect has a direct influence on emergency shelter typology and density.

In the last stage of data collection, this paper shows the effect of Afghanistan's economic situation on emergency shelter spatial standards. The events of August 15, 2021, caused the Afghan economy to drastically collapse and restructure, as well as alter its tactic to

receive foreign assistance. The sharp fall in aggregate demand and numerous interruptions to public services were caused by reduced assistance. Afghanistan's central bank assets were blocked, denying its access to the global financial system and offshore foreign exchange reserves. Sharp drops in investor confidence were caused by disruption and uncertainty, and tens of thousands of highly skilled Afghans left the nation [11].

The Afghan economy shrank by 6.2 percent in 2022 following a sharp 20.7 percent Gross Domestic Product (GDP) drop in 2021. Even though Afghanistan's subsistence and agricultural economy which included the manufacture of illicit opium provided some resilience in rural regions, the country was severely impacted by rising costs, declining demand, job losses, and service interruptions [11].

5. Results

In light of the article's objectives and deep understanding of Afghanistan's context in terms of climate, culture, and economy, and accomplished literature review, it will be possible to determine a suitable criterion for the design of emergency shelters. Considering the mentioned issues and collected data, researchers first divided Afghanistan into three climate zones. Warm arid which includes Balkh, Faryab, Herat, Jozjan, Kandahar, Kunduz, Laghman, Paktika, Sar-e-Pul, Uruzgan, Zabul, Nangarhar, Farah, Helmand, Nimroz provinces. Temperate climates like Badghis, Baghlan, Kunar, Smangan, Takhar, Khost, Paktiya, and Kapisa provinces and cold continental climates like Badakhshan, Daykundi, Ghazni, Ghor, Kabul, Nuristan, Parwan, Wardak, Bamyan, Panjshir, Logar Provinces.

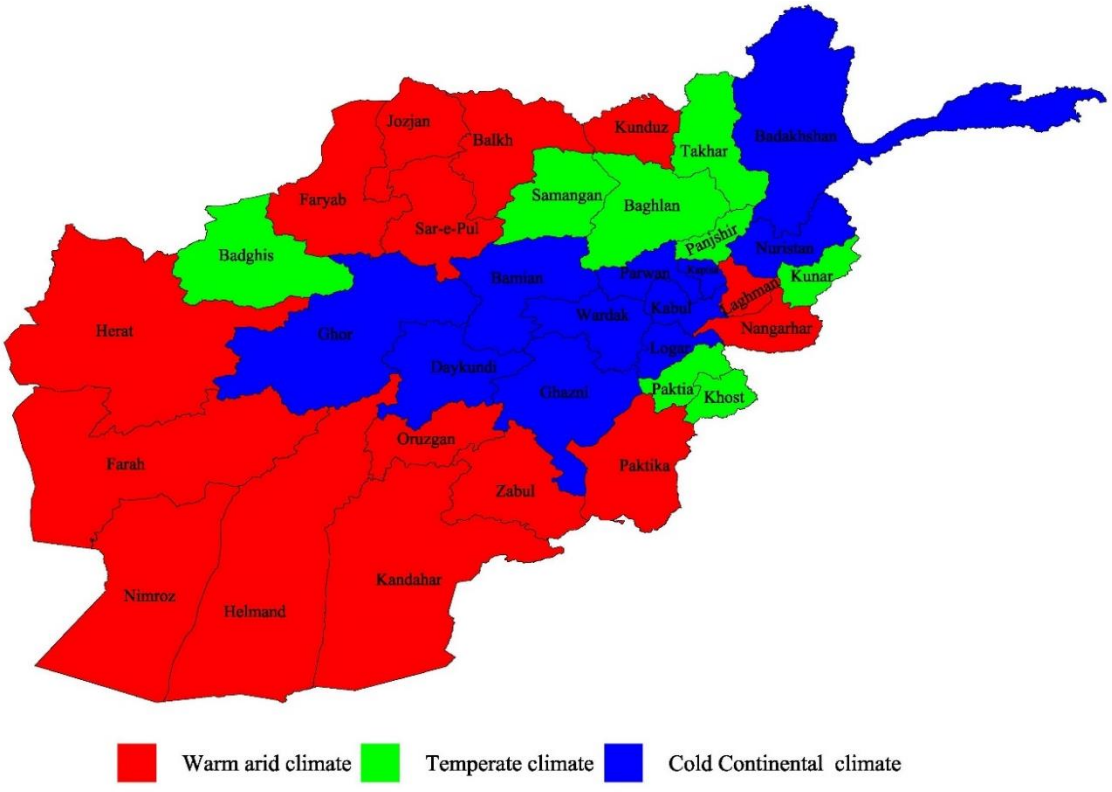


Fig. 2. Afghanistan Climatic Classification map (Source, Author)

From the above perspective, one of the most important components of emergency shelter design and spatial characterization becomes obvious. It declared that shelter providers may attempt to make three types of emergency shelters in terms of climate classifications in Afghanistan's context. Climate-related specifications of each region directly influence the spatial standards, especially the ceiling height of emergency shelters to maintain indoor comfortability regarding airflow and thermal convenience of users. Despite this information, it is difficult to decide on a minimum occupancy area in emergency shelters for Afghanistan without considering cultural and economic factors. Based on [12] definition, a shelter is a livable covered area that offers a safe, private, and dignified living place for those in need of privacy, emotional support, and room to store possessions in addition to shelter from the weather. To ensure privacy and dignity in the sheltering process, the shelter provider must take into account Afghan religious and accepted customs. However, in implemented practices, while families become more than eight persons, the area of shelter decreased. According to the World Health Organization, an Afghan family's average number is eight persons which includes parents and their six children, besides that, in most cases, grandparents also live with core families, who need space inside emergency shelters. In this case, shelter providers may not change the area per person and will consider the whole shelter density for ten family members.

The Economic situation of Afghanistan plays a noteworthy role in figuring out the effectiveness of emergency shelters in meeting spatial standards. With a struggling economy, shelter providers are under rigorous limitations when it comes to using space and materials for preparing shelters for displaced people. Complaints about minimal spatial standards are vital in creating a tranquil environment that considers the local climate and cultural norms, finally helping to prevent the wastage of resources and support the country's economy. By careful consideration of these factors, shelter providers can enhance the efficiency of resources that are utilized in emergency shelter construction, thereby contributing positively to all economic situations in Afghanistan while ensuring that displaced individuals receive safe and adequate shelter. But climate is diverse in each region of Afghanistan, therefore, the below table shows minimal spatial dimensions for emergency shelters in various climatic characterizations.

Table 4. Spatial standards in emergency shelters for Afghanistan

Emergency Shelter Components	Warm Arid Climate	Temperate Climate	Cold Continental Climate
Floor Area	4 m^2	3.5 m^2	5 m^2
Ceiling Height	2.3 m	2 m	2 m
Feeding place	Sufficient space for serving two meals snacks/ hydration to each person per day	Sufficient space for serving two meals snacks/ hydration to each person per day	Sufficient space for serving two meals snacks/ hydration to each person per day
Mosque	0.85 m^2 per person (for 25 % of the whole population)	0.85 m^2 per person (for 25 % of the whole population)	0.85 m^2 per person (for 25 % of the whole population)
Toilet	One per 16 persons	One per 16 persons	One per 16 persons
Hand washing Sink	One per 16 persons	One per 16 persons	One per 16 persons
Bathroom	One shower per 38 persons	One shower per 38 persons	One shower per 38 persons
Total camps are in camp type including household plot	51 m^2 per person	45 m^2 per person	64 m^2 per person
Total camps include household plots with communal services	34 m^2 per person	30 m^2 per person	43 m^2 per person

Starting from the comparison of existing worldwide standards [4] [6] [7] [8] [13] [14]it is vital to highlight the unique problems and constraints in the specific context of emergency sheltering in Afghanistan. By analyzing the article's findings with established global standards, researchers can pinpoint the reasons behind the contextual factors shaping emergency sheltering in Afghanistan. This comparative analysis not only emphasizes the complicities of the local landscape but also offers valuable insight for enhancing emergency sheltering strategies in the country. In warm arid climate

conditions, it is important to consider the floor area when designing emergency shelters to ensure sufficient fresh air circulation. Table 4 specifies a floor area of 4 m^2, whereas other guidelines [4] [6] [7] [8] [13] [14] recommend a slightly smaller floor area of 3.5 m^2 which is directly linked to providing adequate ventilation in such climate conditions. Furthermore, the height of the emergency shelter plays a significant role in allowing proper airflow. The ceiling height specified in Table 4 is 2.3 m while the standard cited sources suggest a little higher ceiling of 2.6 m to enhance ventilation and comfort within the shelter. Considering the importance of climate in the shelter design, ensuring height is essential for creating a safe and breathable environment. The reason behind this issue is building a higher ceiling requires the use of a greater number of materials and resources leading to increased consumption. This becomes important in temperate climate regions where specific guidelines regarding floor area and ceiling height, such as 3.5 m^2 and 2 m respectively, are followed based on references like [4] [6] [7] [8] [13] [14]. Furthermore, taking cultural interests into account, it will be clear that the emergency shelter needs to accommodate a family of 10 people. Thus, with more family members, there arises a necessity for additional space inside the shelter to ensure comfort and functionality for all individuals. In these circumstances, proper planning and utilization of available resources become vital to accommodate the increased needs within compromising.

In contrast to other categories, in Table-4 for cold continental climates, there is 5 m^2 of floor area per person allocation, this shows a higher allowance. This discrepancy stems from the increase in indoor activities necessitated by the cold climate, such as cooking, studying, and general sheltered living during the day. To survive in the harsh winter conditions, inhabitants in these areas often use heating facilities within the shelter, store essential food items, and gather warm clothing like blankets.

Additionally, the ceiling height in these shelters is set at 2 m to aid in maintaining a warm indoor climate and to prevent unnecessary energy loss, creating a more habitable environment. In short-term emergency sheltering within a camp, it is essential to prioritize the provision of sanitary facilities for displaced people. According to established standards, it is recommended to allocate one toilet and one hand-washing sink for every 20 persons. However, in the specific context outlined in Table 4, this ratio is slightly adjusted, with one toilet and one hand-washing sink for every 16 individuals. This adjustment is important in accommodating the religious and cultural practices of the displaced population. Particularly, the need for ablution five times a day and the necessity for gender separation, both of which obligate additional space allocation.
In terms of shower facilities, the guidelines initially suggest one shower per 48 persons. When considering the cultural and religious considerations outlined in Table 4, this ratio shifts to one shower per 38 persons, including a 20 percent increase in shower provision to accommodate the specific needs and demands of the community. Moreover, when considering the total emergency shelter area per person in a short-term sheltering and camp setup, including both individual household plots and communal services, the allocations in the guidelines range from 45 to 30 square meters per person. However, it is important to acknowledge that these figures are subject to proportional adjustments in

Table 4 to reflect the influence of climatic factors in ensuring the overall comfort and well-being of the displaced people. The findings in the article in Table 4 outline the main minimal spatial standards for key components in emergency shelters specifically in the Afghanistan context. These standards serve as a vital blueprint to ensure that the main elements of the shelters meet the needs of displaced people. Furthermore, it is important to note that while these standards focus on the key components, other complementary parts and facilities within the shelters can be effectively designed by using existing guidelines. The researcher brought up the hypothesis that there are not any spatial standards in Afghanistan for emergency shelter design, after getting the result of the research there were not any standards for the mentioned purpose yet in Afghanistan.

6. Discussions and Conclusions

The research findings declare that the lack of specific spatial standards for emergency shelters in Afghanistan is an impressive challenge. Despite the absence of standardization, the paper highlights the importance of effective post-disaster response strategies for government and humanitarian agencies in delivering emergency shelter assistance to affected communities. This study highlights the necessity of adaptable approaches in the reliable provision of emergency shelter to people. Shelter providers will achieve their goals by analyzing and effectively applying the results of this paper. The information and insights of this research will serve as a valuable resource for providers to improve their services. By integrating the findings into their existing frameworks, these providers will be ready to address the needs of the under-care population and enhance the overall quality of assistance. Through a proactive approach, and the knowledge gained from this study, emergency sheltering providers can maximize their efficiency leading to a more sustainable community. The implications of the result emphasize the urgent policy changes and resource allocation to empower the emergency response system in Afghanistan. Moreover, the finding calls for stakeholders to incorporate in developing innovative solutions to fill the gaps in the provision of shelters to decrease the impact of disasters on vulnerable people. Besides, the result of the research evidently explains the direct relationship between the climatic, cultural, and economic conditions of Afghanistan on emergency shelters' spatial dimensions. In addition, the diverse climatic specifications of each region have a fateful influence on shelter sizes, whereas a weak economic situation has a negative impact on applying the standard spatial requirements. In the light of previously outlined challenges, this paper encourages the implementation of minimal spatial standards in Table-4, to balance between climatic and cultural attributes while also considering the economic circumstances. By observing these standards, it is possible to create environments socially and environmentally appropriate, but also financially feasible. The utilization of these minimal spatial standards serves as a practical solution that harmonizes the architectural design of emergency shelters considering the broader context of climate, culture, and economy. With the integration of these standards into the design process, it becomes possible to build environments that are respectful of cultural customs and climate conditions, while being mindful of economic resources. Emergency sheltering is a multifaceted wide research area encompassing a variety of components that necessitate examination of each aspect. The current research serves as a preliminary phase

in the standardization process in emergency sheltering practices in Afghanistan. Future research could focus on identifying structural solutions to enhance the resilience and sustainability of emergency shelters in Afghanistan. Therefore, contributing to sustainable solutions is enough to withstand different environmental challenges and prepare adequate protection and support for people in need during emergencies. Such research could potentially lead to the implementation of more efficient emergency sheltering in the specific context and requirements of the Afghan people. Additionally, for further comprehensive research, researchers could examine the various construction materials utilizing an emergency shelter in the context of Afghanistan. The explorations can conduct an in-depth examination of the durability, cost-effectiveness, and environmental impact of different construction materials commonly used in emergency shelters in Afghanistan.

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