



## **Climate Change-Induced Disasters in Northwest Syria (NWS); Impact, Adaptation, and Needs**

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### **ABSTRACT:**

This academic article examines the impact of climate change-induced disasters on IDP camps in Northwest Syria, an area already affected by an ongoing civil war. The study focuses on the recent environmental disasters, their effects on vulnerable groups, and the adaptation measures used by the affected population. Using a quantitative methodology, data was collected through interviews conducted in selected camps. The findings reveal that the camps' vulnerable conditions, including inadequate shelter and infrastructure, exacerbate the impact of disasters such as windstorms, flooding, and heavy rain. The study underscores the urgent need for interventions to improve the resilience and preparedness of the displaced population in the face of climate change. The article concludes with recommendations for humanitarian response and the development of adaptation plans to address the challenges posed by climate change in Northwest Syria.

**Keywords:** Climate Change, North-West Syria, Humanitarian Response, Internally Displaced people (IDPs), Camps, Environmental Disasters, Civil War

### **1. Introduction:**

The Syrian conflict, which began in 2011, has evolved into one of the most complex and protracted crises of the 21st century. Initially triggered by demands from civil protestors for democratic reforms, an end to the regime's abuse of power, and the release of political prisoners, the conflict quickly escalated as the regime responded to peaceful protests with violence, weapons, and arrests in an attempt to suppress the street demonstrations (Patrycja, 2021). As the engagement between the regime and the protestors intensified, the situation further deteriorated when some soldiers from the Syrian Army defected, leading to the emergence and growth of armed opposition groups. These rebel groups, comprised of defected soldiers and civilians who took up arms, sought to challenge the regime's authority and defend their communities (Robert, 2019). The influx of armed opposition groups added a new dimension to the conflict, transforming it from a peaceful protest movement to a full-fledged civil war. The landscape became increasingly fragmented, with various factions vying for control over territories and resources. This complex dynamic, coupled with the involvement of regional and international actors, further complicated the situation and prolonged the conflict (Kizilkaya et al., 2021).

The conflict hasn't stopped and both groups were trying to control some areas of Syria, furthermore, foreigners started to engage in the Syrian civil war like the Russian army, Iran, and Hezbollah who supported the Syrian regime, as well as, the US, Turkey, ISIS, Islamic individuals, Kurdish groups showed up and the conflict of control went wider (Patrycja, 2021) and (Ozcan, 20021). After 11 years of conflict between all intervened groups, the control of Syria has been divided between the Turkish control in the north, the opposition groups in the northwest, the Kurdish groups in the northeast, and the Syrian government in the rest areas supported by Russia (Chughtai, 2021). The long conflict and engagement between all groups to control caused huge impacts on the economy, infrastructure, and people. The Syrian Observatory for Human Rights (SOHR) reported at least 494,438 civilians were killed, 26,727 victims were women and 27,126 were children. 31,227 civilians of total deaths, including 214 children under 18, were killed under torture in regime prisons where it's expected that the number is higher than what was documented due to the lack of proof (SOHR, 2021).

During 11 years of war, the Government of Syria (GoS) has attacked multiple areas with internationally prohibited chemical weapons and evacuated millions of people from their homes. 14 Million Syrians left their cities, 6.8 million of them left outside of Syria towards Turkey, Lebanon, Jordan, Europe, and other countries, while the rest 7 million were displaced internally to other cities, 4 million displaced or evacuated from the areas controlled by the GoS toward the northern Turkish controlled and the opposition group controlled areas, out of those 2.8 million Internally Displaced People (IDPs), there are 1.7 million are living in tents (Patrycja, 2021) and (UNHCR, 2021).

Although all civilians in Syria have been affected by the war, especially when we talk about the economic deterioration and massive inflation, (from 50 SYP per USD before the war to 4,000 SYP per USD right now), the northern and northwest areas remained the main target of the humanitarian I/NGOs to operate in. Given that, these small areas contain a high population of impoverished host communities and vulnerable IDPs, alongside the lack of shelter, the absence of law and governance, the lack of livelihood and opportunities for income, the high-security risks, and the absence of services, various UN

agencies, international organizations, and local organizations are working from Lebanon, Jordan, and Turkey in the cross-border Syrian response by the UNSCR no 2165 that has been launched in 2015 (UNHCR, 2021). Moving to details, the areas of NWS the Turkish-controlled (Aleppo) and the opposition group-controlled (Idleb) host 4.4 million people, 2.8 million are IDPs and 1.7 million of them are living in 1,421 camps, 80% of them are women and children, 28% are people with disabilities, and 3% are elderly people above 60. In 2022, 2.9 million have been reported as people in need in Idleb, and 1.2 have been reported as people in need in Aleppo (OCHA, 2022). (Figure 1, shows the breakdown of people in need per location, age group, and types of needs by cluster.)

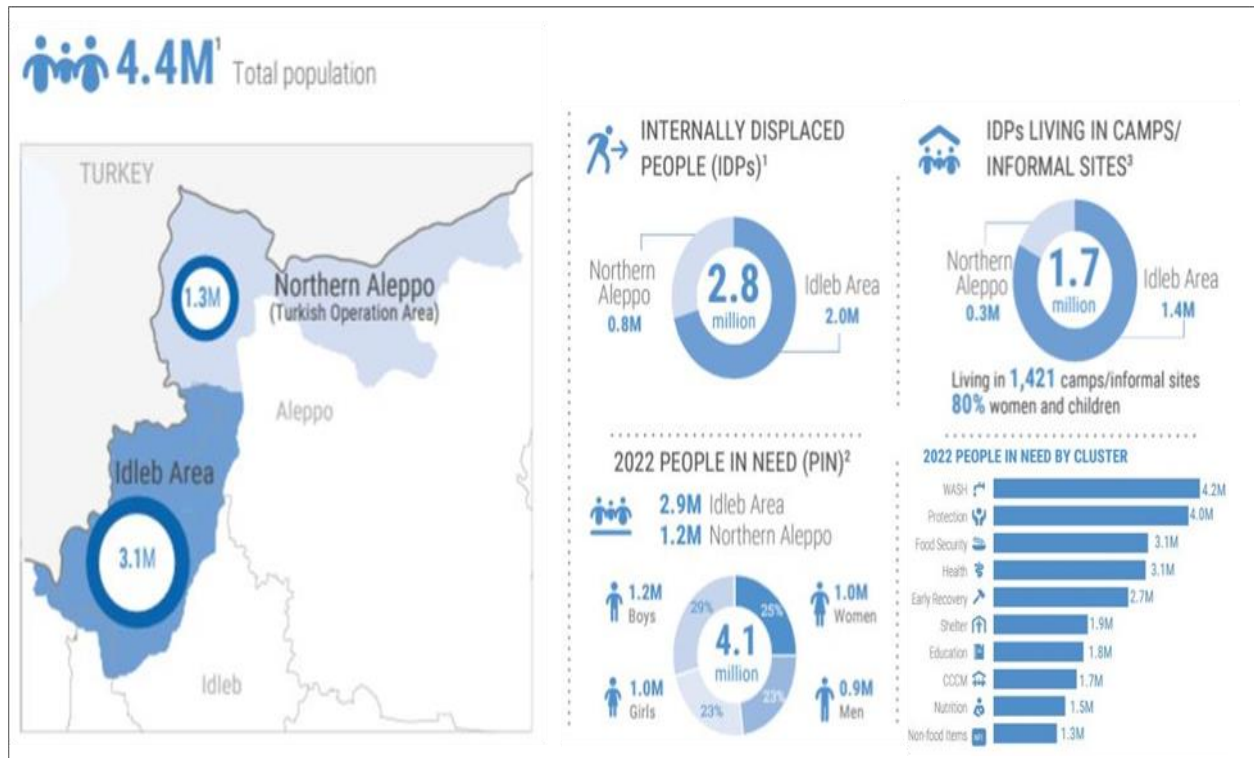


Figure 1. Population overview and needs in NWS. (OCHA, 2022)

This research focuses on the impact of climate change and the environmental disasters in different IDP camps in the areas of Northwest Syria that have already been affected by civil wars since 11 years ago. The first paragraph will provide a general review of climate change and its impact with a specific review of the Syrian situation. The second paragraph will provide a brief on the methodology of the data collection and analysis that has been used in this research. The third paragraph will present different sub-headers about the result of this research in terms of the recent impact of the natural disasters that hit the targeted areas of this research, an overview of the needs, and, various recommendations for humanitarian response.

## 2. Overview of climate change and migration:

The global average surface temperature is increasing every year and the planet is getting warmer accordingly. Unfortunately, the impact of the rising average temperature is not waiting for the future, it's appearing right now. The heat is melting glaciers and sea ice and shifting precipitation patterns, all of these are causing extreme weather events, rising seas, and a range of other impacts. Man-made practices such as using oil, gas, and coal for their homes, factories, and transport, are the main reasons for the rapid climate change that we're seeing now. Climate change is affecting the environment and the lives of the people of the world, this caused major international migration movements, and internal displacements. In the 21<sup>st</sup> century, climate change and its impact became the first attention of the governments, international organizations, institutions, United Nations agencies, and decision-makers around the world. Environmental disasters are not the only reason that pushes the people to displace; altogether, the environmental, economical, and social vulnerabilities are the reasons for the displacement of marginalized people, and here, climate change is exacerbating the vulnerabilities of the displaced people or the international migrants. Despite climate change alone might be the reason for the migration it cannot explain the reasons why those migrants don't return to their original places after the disasters are over. Here we can elaborate more on the relationship between climate change and the people's vulnerabilities (Jayawardhan, 2017).

Syria is one of the countries most impacted by climate change, with prolonged droughts coupled with onset flooding already becoming the norm. The Euphrates River, a lifeline for millions, is at historic lows, meanwhile, the prevalence of flash flooding has increased. Alongside the civil war impact, environmental conditions exacerbated the bad situation in the IDP camps; in winter, poor infrastructure and heavy rain lead to widespread flooding, while in summer, prolonged drought causes frequent shortages of drinking water, leading to increases in health issues, and a further. 83% of people in the camps live in overcrowded conditions, with high population densities and insufficient infrastructure. 33% live in sites that were flooded in the past year. 76% of

IDPs live in sites with no drainage for stormwater. Over 400 IDP sites were affected by floods during 2021 only. 35% of households have faced disasters exacerbated by climate change. More than half a million IDPs were affected by flooding in the last 2021 alone. During summer, IDPs are potentially displaced again due to the shortage of water and drought. The same sites that are prone to flooding face chronic shortages of fresh drinking water, with severe implications for public health and sanitation. In overcrowded IDP sites, water and sanitation are essential to prevent the spread of disease. Together, climate change and poor shelter conditions once again compound existing vulnerabilities. In Northwest Syria, conflict-induced mass displacement and climate change increasingly intersect, exposing hundreds of thousands of people to the risk of disasters. With large numbers of people living in densely populated unplanned sites, often in tents and temporary structures, with little or no drainage or freshwater infrastructure, shelter is the main challenge (Global Shelter Cluster, 2021).

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### **3. Methodology:**

For this research, the quantitative method was used by developing a set of questions within one KoBo interview survey. The questions were designed to assess the situation of the location, the recent environmental disasters, the impact on people, the adaptation they usually use during these disasters, and the need to improve their resilience during emergencies. The survey was designed in general to be gender-sensitive and to address the adaptation measures and needs of different groups focusing on vulnerable people such as women, persons with disabilities, persons with chronic diseases, and older people.

The sample has been selected to cover wide geographical areas in Northwest Syria and both females and males was targeted for the interview when available; Three main districts in northern Aleppo including Jarablus, Al-Bab, and Azaz were reached within the Turkish control area while five districts were covered in Idleb and Western Aleppo including Idleb, Ariha, Harim, Jisr-Ash-Shugur and Jebel Saman within the opposition group control area.

The survey and sample have been shared with six field enumerators to collect data by interviewing displaced people in the selected camps in Northwest Syria after the coordination with the local governance like the Turkish authority in northern Aleppo (AFAD) and the camp management. Field visits have been carried out to 65 different IDP camps; 27 camps are located in the Turkish control areas (northern Aleppo) and the rest 38 camps are located in the areas of the opposition group control (Idleb and Western Aleppo). A total of 92 persons (49% females and 51%) have been interviewed in the assessed camps. These assessed 65 camps are the home of at least 15,000 displaced families (approximately 75,000 individuals).

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### **4. Environmental disasters, impact, and needs overview:**

The survey focused on four main topics to be studied, the current situation of the camps, the shelter, and infrastructure; the recent environmental disasters that affected the camps, the general impact, and in particular how the vulnerable groups have been affected; what people in the camps did, how they adapted during emergencies and the precaution measures of vulnerable groups; and finally, what are the main needed intervention to improve people resilience and preparedness for any potential natural disaster and what are the main recommendations to set an adaptation plan for the climate change.

#### ***4.1 Situation and vulnerability***

The situation in Northwest Syria has already gotten worse due to the civil war and the massive number of IDPs with the lack of services, limited income opportunities, and the absence of governance and law. The civil war started in 2011 and one of the main consequences of it was the displacement and evacuation of people towards the northern areas and the establishment of the IDPs camps that are now hosting 1.7 million people. The camps started to be shown in Northwest Syria in 2013 and were established randomly by the displaced people themselves. Then the Housing and Land Properties (HLP) issue concerned the humanitarian organizations when they were planning to improve these camps' situation. The 65 studied camps were established/renewed between 2016 and 2021, 12% in 2016, 12% in 2017, 20% in 2018, 29% in 2019, 23% in 2020 and 3% in 2021. 51% of the shelters in the studied camps are random tents, 6% are standard tents, 39% are makeshift rooms (block walls with a roof of shelter), and the rest 4% are fully built rooms. The camps were established randomly by the displaced people themselves who set up random tents as temporary residents but unfortunately, this lasted longer than expected and still counting. The majority of the camps including the shelter and infrastructure are getting older year after year; furthermore, the weather conditions and the recent environmental disasters damaged thousands of tents in most of the camps in Northwest Syria. In the studied camps of the opposition-controlled area, 40% of the shelters were severely damaged and 14% were partially damaged while 25% of the infrastructures were severely damaged and 37% were partially damaged. Regarding the camps in the Turkish-controlled area, 8% of the shelters were severely damaged 48% were partially damaged while 43% of the infrastructures were severely damaged and 33% were partially damaged. (Figure 2, presents the type and status of the shelter in both opposition-controlled and Turkish-controlled areas.)

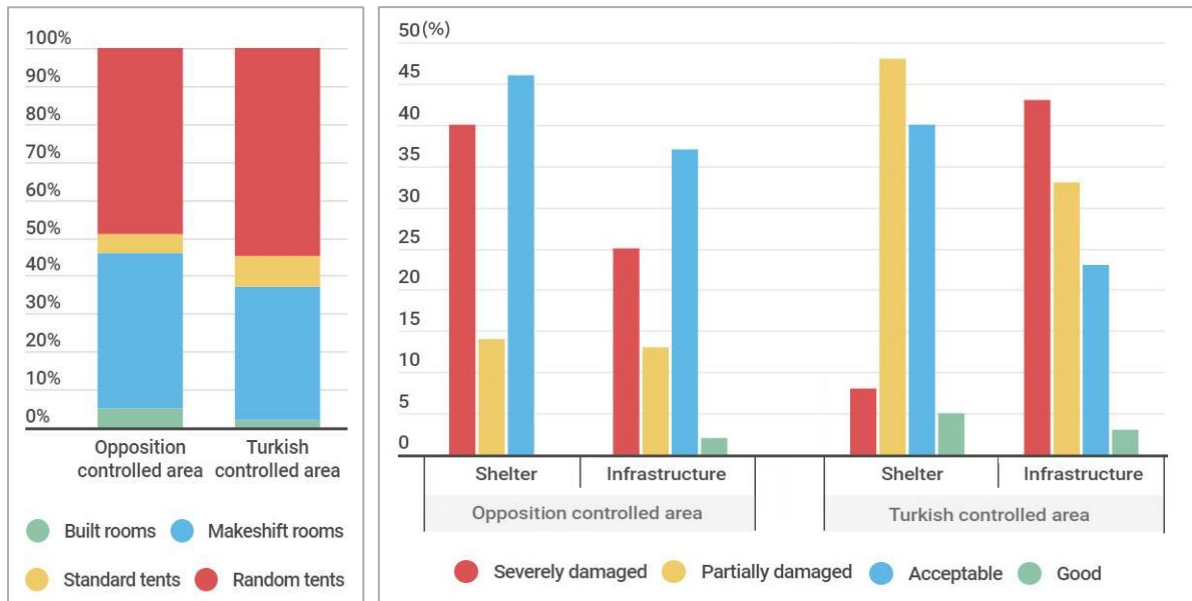


Figure 2. Type and status of shelter in the opposition-controlled and Turkish-controlled areas

In addition to the vulnerability of the camps in terms of the shelter type and the poor infrastructure, 5% of the camps are located in a valley which makes them vulnerable to flooding, and 3% of them are located in an area with no water resources, 41% of the camps are located in a hill that make them vulnerable to wind, and 44% of them are located in very cold areas and this increase the vulnerability during winter and the possibility of impacting the camps by heavy rain and snow.

4.2 Recent environmental disasters and impact

All the studied camps were affected by multiple types of national disasters recently, 96% of the camps were affected by windstorms, 54% were affected by flooding, 39% were affected by heavy rain, 29% were affected by snowstorms, and 5% were affected by the fire. At least 4,050 families (approximately 20,250 individuals) were affected by these disasters, 2,130 families (10,650 individuals) in the opposition-controlled area and, 1,920 families (9,600 individuals) in the Turkish-controlled area. (Figure 3, shows the percentage of the camps that recently were affected by the environmental disasters separately in the opposition-controlled area and Turkish-controlled area)

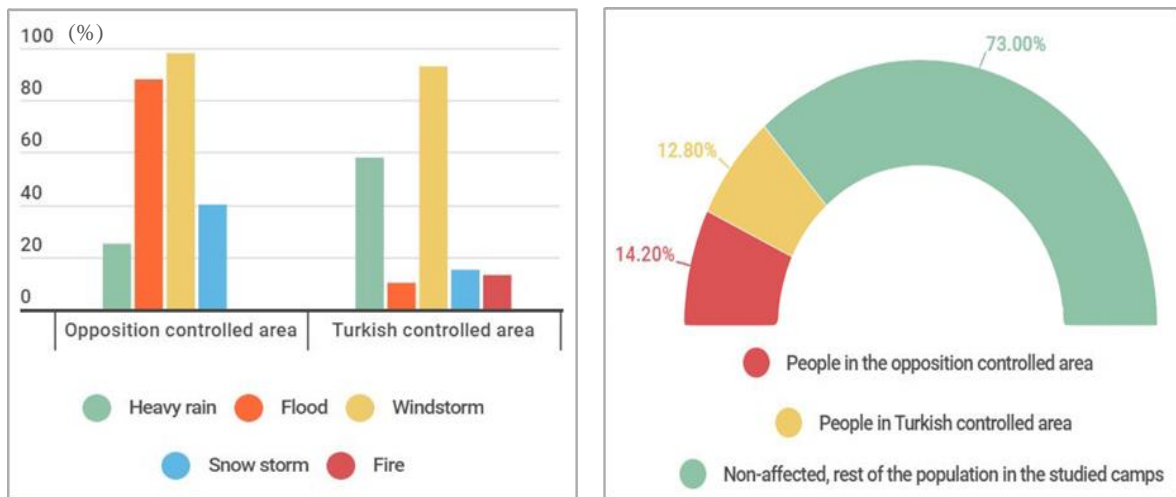


Figure 3. The camps and people were affected by the environmental disasters recently

The environmental disasters resulted in diverse impacts, in the opposition-controlled area, 4% of the camps reported full shelter destruction, 98% reported partial shelter damages, 77% reported road closure, 44% reported displacement movement from the camps, 2% reported damages to the WASH facilities and infrastructure, and 73% reported losses of people belonging like non-food-items, hygiene items, and food items. While in the Turkish-controlled area, 35% of the camps reported full shelter destruction, 83% reported partially shelter damages, 20% reported road closure, 3% reported displacement movement from the camps, 3% reported damages to the WASH facilities and infrastructure, and 90% reported losses of people belonging like non-food-items, hygiene items, and food items. (Figure 4, shows the impact of the recent environmental disasters). The reasons behind the significant impact of the environmental disaster were varied, in the opposition-controlled area, 40% reported that there were no drainage networks to treat the heavy rain, and 29%

highlighted the issue of lack of water resources that caused drought during the year, 90% agreed that the poor shelter situation that doesn't protect people from the weather conditions is the main reason of the huge impact, 92% emphasized that the miserable economic situation of people is a major issue that prevents people from getting prepared for the potential disaster since most of the people cannot afford the cost of improving the shelter. 2% highlighted the absence of support from the governance or the humanitarian organization and 17% said that there are some provisions of humanitarian aid and services that help people but it's not sufficient to fully improve the resilience and the preparedness for any disaster. Similarly, in the Turkish-controlled area, 83% talked about the vulnerability of the camps due to the locations, 40% mentioned the lack of drainage network, 15% talked about the limited water resources, 33% related to the shelter situation, 85% is the reason of the poor economic situation of people, 58% is about the absence of the support and 13% the insufficient support and interventions. (Figure 5, shows the most likely reasons behind the environmental disasters)

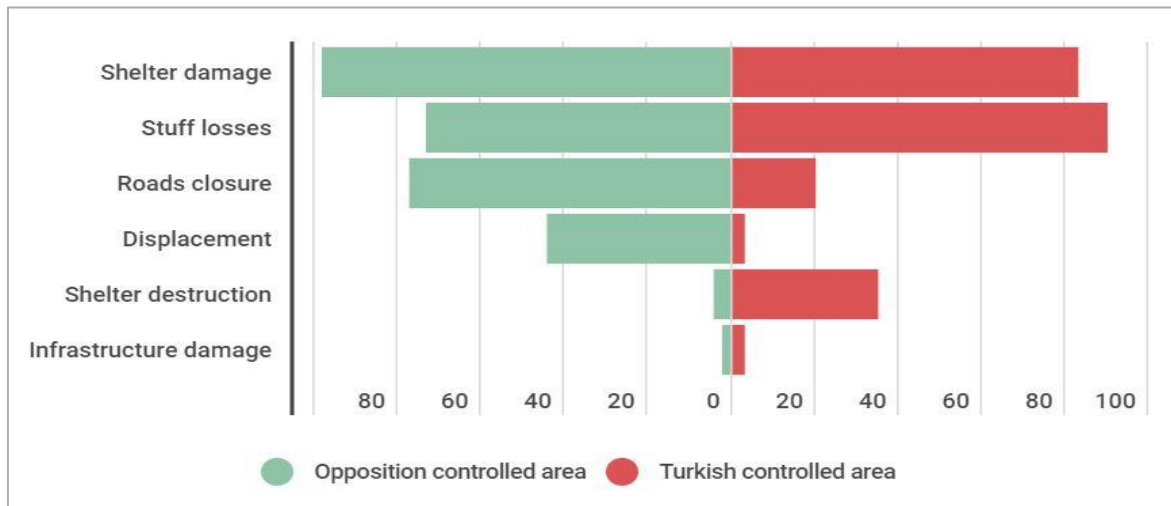


Figure 4. The impact of the recent environmental disasters

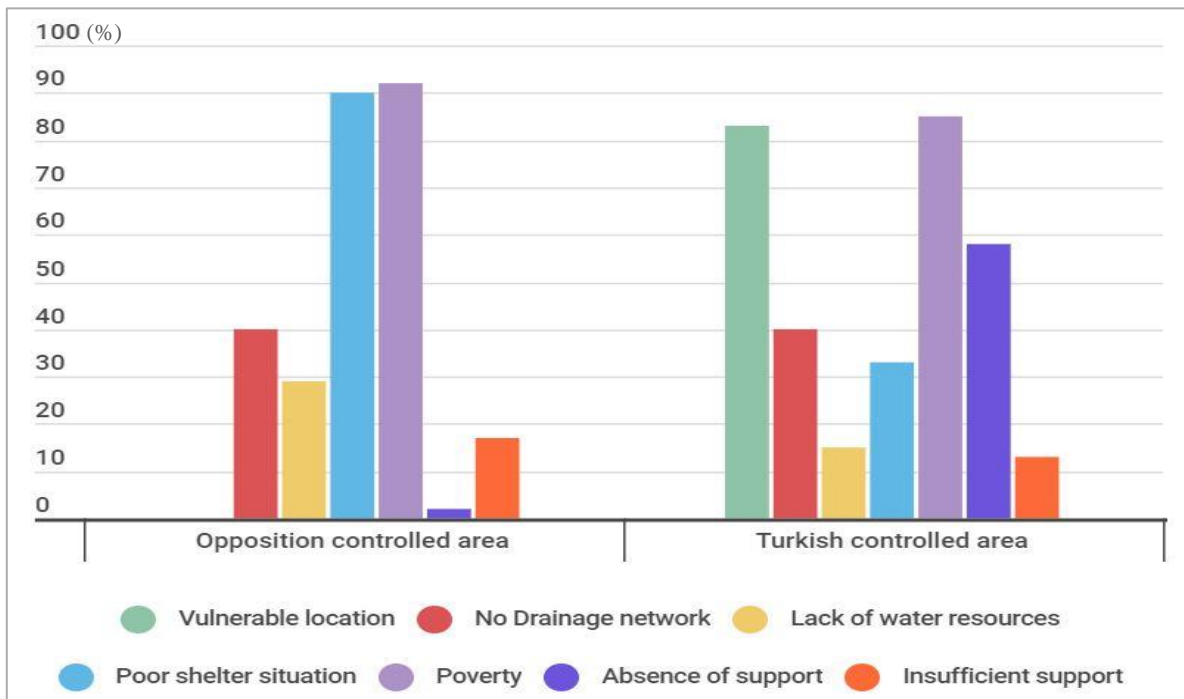


Figure 5. The most likely reasons behind environmental disasters

All people are vulnerable during emergencies, and this can be double impacted when the people are already vulnerable due to conflict, displacement, and poor socioeconomic situations, but belonging to more vulnerable groups like single women, pregnant and lactating women, elderly people, persons with disabilities or persons with chronic diseases, this makes the situation more frustrating, harsh and severe. As previously mentioned, the camps in Northwest Syria are the home of 1.7 million people, 80% of them are women and children, 28% are persons with disabilities and 3% are elderly people above 60 years (OCHA, 2022). This explains the miserable and complicated situation in these camps, especially during environmental disasters.

In the assessed camps, 62% of the interviewees confirmed that women were affected more during the recent disasters, 20% said that all people were affected in the same way, and the rest 18% had no idea about how women were affected during the disasters. Of those who confirmed that women were

extra affected, 14% said that women had less communication with the local authorities and organizations to ask for support, 74% said that single women were not able to move or find another solution of adaptation, 33% highlighted the inability of women to join others' shelters due to their privacy, 61% said that women who joined the shelter with other families lost their privacy, 33% said that women had to use shared/public latrines due to shelter damage or other reasons and 2% mentioned that women were afraid of harassment or sexual abuse. Regarding the other vulnerable groups of elderly people, persons with disabilities, and persons with chronic diseases, 72% of the interviewees confirmed that they were affected more, 16% said that all people witnessed the same impact, and the rest 12% were neutral and had no idea about the impact of this group of vulnerable people. Of those who confirmed the extra impact of disasters on vulnerable people, 6% said that vulnerable groups had less communication with the local authorities and organizations to ask for support, 98% highlighted the challenges of the vulnerable groups in terms of moving and surviving during the emergency, and 41% said that the disaster increased the illness of vulnerable people. (Figure 6. Impact of vulnerable groups)

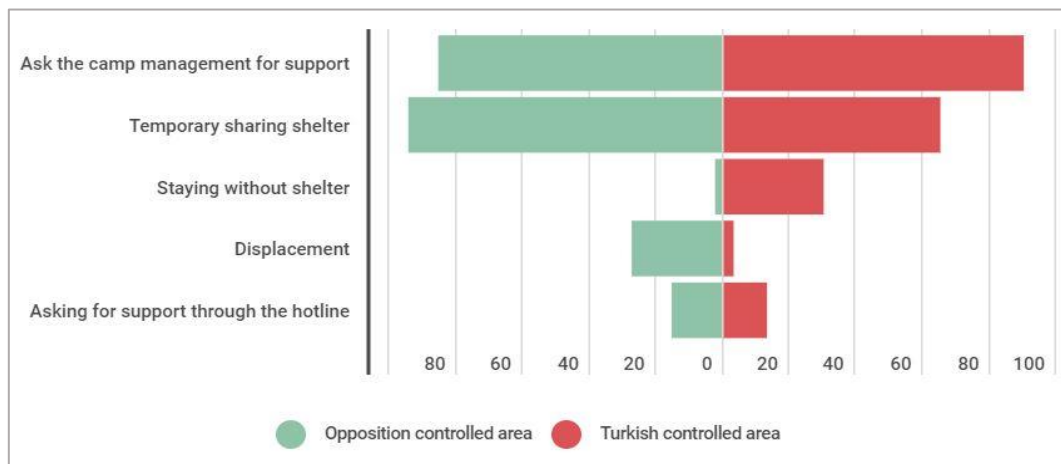


Figure 6. Impact on women and other vulnerable people

### 4.3 Adaptation measures and coping mechanism

People in the camps in Northwest Syria are facing diverse restrictions that prevent them from the good practices during emergencies and adapting to the situation, like the limited movement due to not being able to go to the areas of the Government of Syria (GoS) or crossing the borders towards Turkey, as well as the poor economic situation of the majority of the people. Even though people are trying to survive when any environmental disaster occurs; in the opposition-controlled area, 27% of the interviewees said that people move to find a safer place like other camps, 94% said that people with damaged shelters move temporarily to other families while the disaster ends and they rehabilitate their shelter or receive new shelter, 2% said that people stay without shelter until any intervention is in place, 15% mentioned that people request support from the local organizations through hotlines and 85% said that people request support from the camp management. In the Turkish-controlled area, it's only 3% of displacement to other locations, 65% temporary movement to share shelter with other families, 30% waited for any response without shelter, 13% asked for help through the hotlines, and 90% asked for support from the camp management (Figure 7, Adaptation measures).

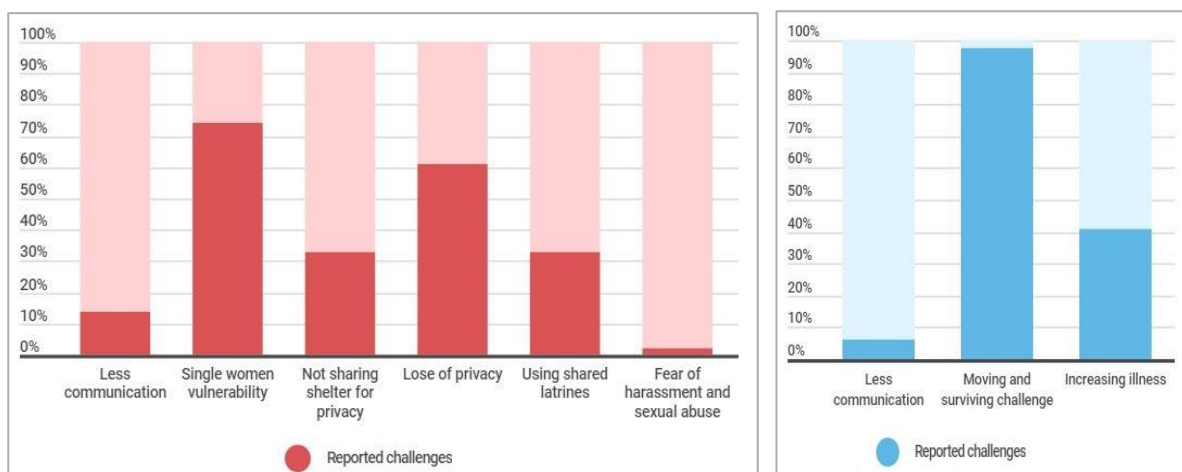


Figure 7. Adaptation measures in opposition-controlled and Turkish-controlled areas

Focusing on the adaptation measures that women carry out during emergencies, the majority of the interviewees mentioned that there are no specific measures that women can take due to the lack of resources. In very few cases, they try to do light rehabilitation to their tents through the plastic sheeting and some ropes, or they ask for support from the neighbors or they move to live with other relatives who have better shelter such as makeshift rooms that

are somehow safer and more reliable during disasters. It's almost similar for the vulnerable groups of elderly people, disabled, and persons with chronic diseases to ask for support from their neighbors who are showing intent to provide help or to move and share safer shelter with other relatives.

#### 4.4 Needs of people to improve their resilience

People in the studied camps expressed the critical need for more improvement in terms, of the shelter situation, infrastructure, socioeconomic situation, and other support that can help the people to get prepared, adapt, and survive during the disasters. In the opposition-controlled area, 90% of the interviewees mentioned that the first need of people is to improve their economic situation, 58% said that transferring people to permanent shelter is a good practice to protect them during emergencies, 37% highlighted the needs of improving the drainage network to help in treating the rainwater, 50% said the roads are required to be improved, 23% mentioned the need to set up or improve the water network in the camps, 21% said replacing the tents by caravans will be good intervention to improve the type of shelter, 8% said that the existed shelters need some improvement and rehabilitation, 15% of people said that for the camps that have no water networks there is a need to deliver regular water trucks, only 8% suggested changing the camp location, however, this usually is not preferred by some people in the camps due to being familiar with the area and especially if this happened from tent to another so will not be effective, 15% said that the existed tents require regular replacement since it become old damaged over the time, and finally, 2% suggested establishing collective shelters to host the people temporary during the emergencies. Similarly, in the Turkish-controlled area, 55% mentioned the need for financial support, 83% mentioned the need to transfer people to permanent shelter, 65% highlighted the need for setting up of improving the drainage network, 35% mentioned the need for roads improvement, 48% said that there is need for setting up or improving the water network, 43% gave the priority to replace the tents by caravans, 25% suggested the tents isolation for the existed ones in the camps if there is no capacity to change them, 10% mentioned the need for shelter improvement, 3% said that there is need for regular water trucks and finally, only 8% suggested changing the camp location. (Figure 8, priority needs of people in the camps)

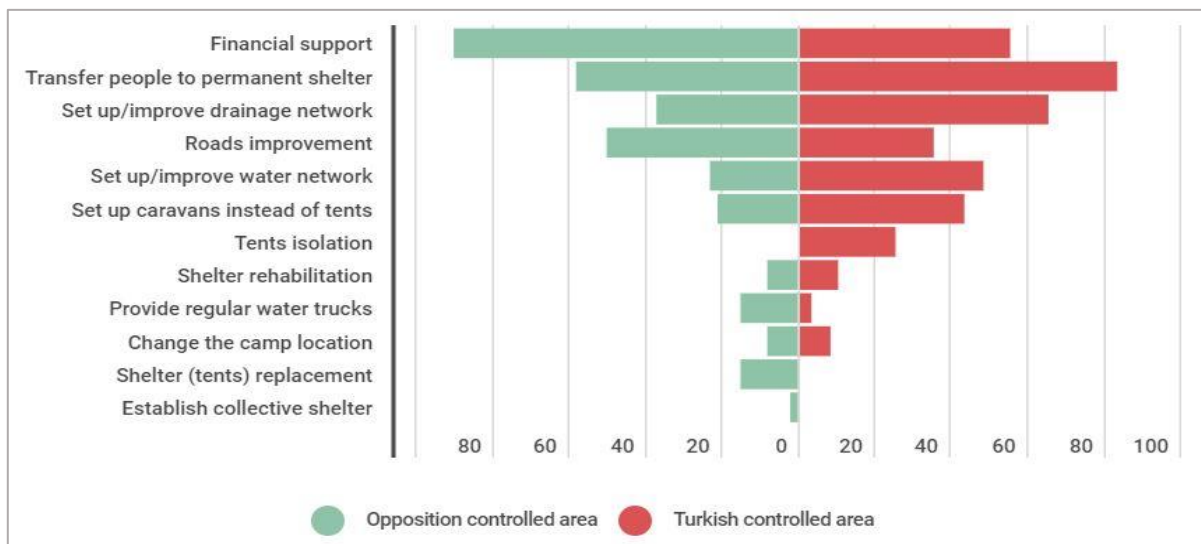


Figure 8. Priority of the needs in the camps

Concerning the women's needs in the camps to increase their preparedness and adaptation, of the total interviewees, 42% suggested providing economic empowerment opportunities to women especially those who are the breadwinners, 4% suggested creating a specific communication channel for women to report their needs and any critical issue to the relevant authorities/organizations, 93% mentioned the women need for better shelter that respects their privacy, 47% said that women need private latrines, 15% suggested providing awareness sessions and capacity building for women in order to explain how they can act in case of any disaster, and finally, 9% suggested having a service mapping with a list of contact that is reachable by women so they can reach out to the needed services easily. (Figure 9, Needs of women)



Figure 9. Needs of women to increase their preparedness and adaptation

In emergencies, various interventions are needed from all stockholders and authorities including the governance, NGOs, local authorities, and other powerful actors that might be able to improve the community's resilience during emergencies. This cannot be done before supporting the whole population including the vulnerable people to be prepared and able to adapt during disasters. Some interventions were raised to be urgently addressed particularly by the local authorities and the NGOs; where 22% of the interviewees were asking the local authorities to take the role of increasing the awareness among people about what they can have to do during emergencies, 59% of people said that the local authorities are required to regularly identify the gaps and needs of camps and find out solutions of how to cover these gaps, 97% mentioned that the local authorities are asked to communicate with the humanitarian organizations and advocate for the assistance and services and finally, 13% of the interviewees asked for helping the families who don't have official ID to issue new ones; this is one of the main issues that people are suffering from due to the losses of their IDs during the displacement journey that started years ago and is still ongoing. People are usually eliminated from the humanitarian aid provision as a result of the lack of required documents and this is an issue that should be solved by the local authorities. (Figure 10, required intervention by the local authorities)

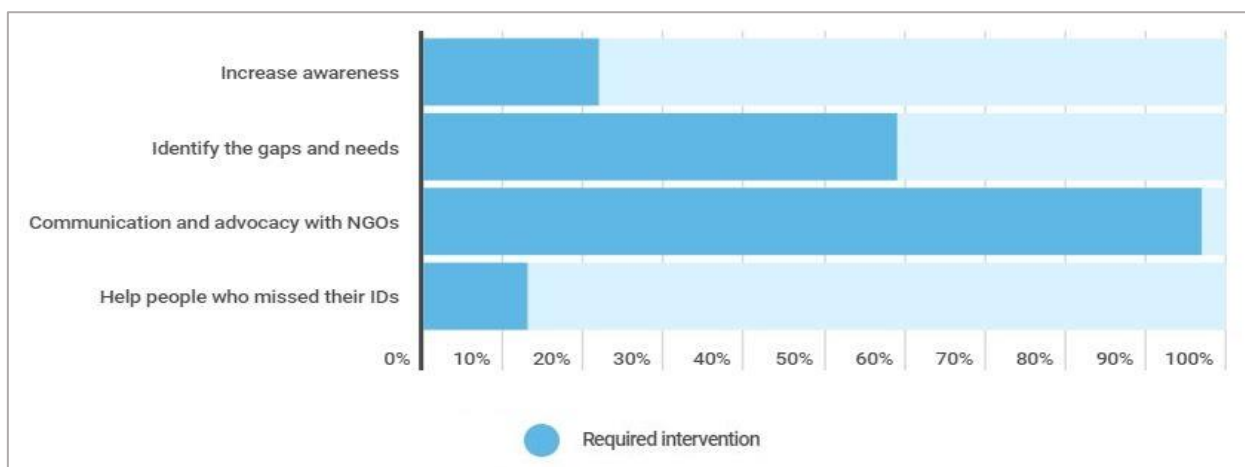


Figure 10. Interventions required from the local authorities

On the other hand, the interviewees emphasized the important role of the organizations, especially during the situation of the government's absence. 21% of the interviewees are asking the NGOs to develop a comprehensive preparedness plan that can be applied during emergencies, 11% emphasize the importance of participation and community engagement in designing the response to the people affected during emergencies, 55% mentioned that the response is required rapidly during emergencies as part of the lifesaving objective, 53% of the interviewees concerning the role of the NGOs in improving the living situation in the camps and finally, 88% asked for permanent solutions for shelter that are more protective from the environmental conditions rather than working on temporary interventions that cannot increase the resilience of people. (Figure 11, required intervention by the NGOs)



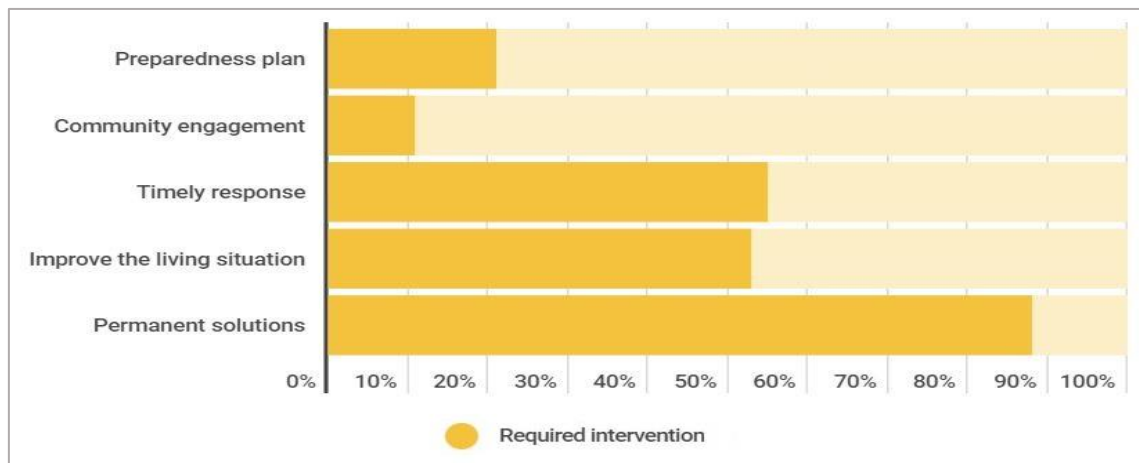


Figure 11. Interventions required from the NGOs

## Conclusion:

In 2010, the Syrian ministry of environment worked in coordination with the UNDP and the Global Environmental Facility (GEF) to set up a project that established a strategy and work plan for the adaptation measures to climate change in Syria. This project studied the vulnerability of Syria in terms of its location, environment, and economy and came up with a strategic plan for the national agriculture and water resources adaptation in Syria during the climate change satiation (Ghaleb et al., 2020) and (Meslmani & Wardeh, 2010). Unfortunately, since the civil war started in 2011, the situation in Syria deteriorated dramatically, and the Syrian government considered other priorities but the project hasn't been implemented. Furthermore, the current division of Syria as a country makes every region of Syria have a different vulnerability.

This research focused on Northwest Syria which might be considered the most vulnerable region due to the continued conflict of control and the frequent natural disasters. However, Northwest Syria is mainly supported by non-governmental organizations but not by governance, and these organizations have the role of improving the resilience of the people and responding to disasters, both natural and human-made ones. Considering that recently, there has been no climate change adaptation strategy for Northwest Syria to be implemented, natural disasters are expected to be more harmful than the same disasters if they happened in another country.

The findings of the research showed the vulnerabilities of the studied camps and the people living there; as well as, these figures prove the vast influence of the natural disasters that recently happened and affected people, their shelters, and infrastructures and had extra impacts on the vulnerable groups including women, elderly people, persons with disabilities and persons with chronic disease who have challenges and difficulties in the adaptation. Finally, it was important to elaborate more on the interventions needed and services that should be provided to the people in these camps in order to increase their preparedness and resilience. However, this is the responsibility of all actors operating in both areas, the opposition-controlled and the Turkish-controlled including the Turkish authorities, local Syrian authorities, and the humanitarian NGOs, here The important role of the NGOs shows up in the community engagement within the process of the emergency preparedness planning and the rapid response to the disasters. And finally, very substantial considerations are required when planning, designing, and implementing any intervention these considerations are to address the vulnerability of the people and the various needs of different groups, as well as the socio-economic situation of the people who are living randomly in the poorest conditions within distressed and unprotected tents.

## References:

- Chughtai, A. (2021, March 18). *Syria's war: Ten years – and counting*. Al Jazeera. Retrieved June 11, 2022, from <https://www.aljazeera.com/news/2021/3/15/syria-ten-years-of-war>
- Ghaleb, F., Meslmani, Y., & Fayad, A. (2010, January). *Climate-Change Atlas of Syria*. <https://doi.org/10.13140/RG.2.2.26562.17601>
- Global Shelter Cluster. (2021, September). *Climate change, conflict and Shelter in North-West Syria*. GFPAdvocacy. <https://sheltercluster.org/x-border-operation-turkey-hub/documents/climate-change-conflict-and-shelter-north-west-syria>
- Jayawardhan, S. (2017). Vulnerability and Climate Change Induced Human Displacement. *Consilience: The Journal of Sustainable Development*, 17(1 (2017)), 1–41. <https://www.jstor.org/stable/26188784>
- Kizilkaya, Z., Hamdi, S., & Salman, M. (2021). *The Syrian Conflict After A Decade*. Brussels School of Governance. Retrieved May 16, 2023, from [https://brussels-school.be/sites/default/files/BSoG\\_Report\\_The\\_Syrian\\_Conflict.pdf](https://brussels-school.be/sites/default/files/BSoG_Report_The_Syrian_Conflict.pdf)
- Meslmani, Y., & Wardeh, M. F. (2010, January). (*Strategy & NAAP\_Ar* سورية مع التغيرات المناخية في سورية). Affiliation: United Nations Development Programme. <https://doi.org/10.13140/RG.2.2.27331.53282>

- OCHA. (2022, February). *2022 Humanitarian Needs Overview: Syrian Arab Republic*. <https://www.humanitarianresponse.info/en/operations/whole-of-syria/document/2022-humanitarian-needs-overview-syrian-arab-republic>
- OCHA. (2022, May). *Population overview in northwest Syria (NWS)*. <https://www.humanitarianresponse.info/en/operations/stima/infographic/northwest-syria-factsheet-25-may-2022>
- Ozcan, E. E. (2021, March 14). *10 years since start of Syrian civil war*. Anadolu Agency. Retrieved June 12, 2022, from <https://www.aa.com.tr/en/middle-east/10-years-since-start-of-syrian-civil-war/2175768>
- Patrycja, P. (2021). Syria: terrorism as a catalyst for proxy war – The case of the civil war. *Conflict Studies Quarterly*, 36, 22–38. <https://doi.org/10.24193/csqr.36.2>
- Robert, S. F. (2019). *The Syrian Civil War A New Stage: But Is It The Final One?* The Middle East Institute. Retrieved May 17, 2023, from [https://www.mei.edu/sites/default/files/2019-04/Ford\\_The\\_Syrian\\_Civil\\_War.pdf](https://www.mei.edu/sites/default/files/2019-04/Ford_The_Syrian_Civil_War.pdf)
- SOHR. (2021, June 1). *Total death toll | Over 606,000 people killed across Syria since the beginning of the “Syrian Revolution”*. Syrian Observatory for Human Rights. Retrieved June 11, 2022, from <https://www.syriahr.com/en/217360/>
- UNHCR. (2021, December). *North-west Syria: Cross-border Humanitarian Response*. ReliefWeb. <https://reliefweb.int/report/syrian-arab-republic/north-west-syria-cross-border-humanitarian-response-fact-sheet-5>