



Policy Guidelines on Climate Change-induced Displacement in Ninewa Governorate

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ACRONYMS

NRC	Norwegian Refugee Council
UN	United Nations
IOM	International Organisation for Migration
MoWR	Ministry of Water Resources
DoWR	Directorate of Water Resources
JCMC	Joint Coordination and Monitoring Centre
NGO	Non-Governmental Organisation
UNDRR	United Nations Office for Disaster Risk Reduction
USAID	United States Agency for International Development
ACF	Action Against Hunger
WFP	World Food Programme
NOAA	National Oceanic and Atmospheric Administration
MEM	Middle East Monitor

LIMITATIONS

This study explored the preparedness of Ninewa Governorate in addressing climate change-induced displacement. While this study was the first of its kind that explored displacement policy in Ninewa Governorate, and Iraq moreover, it is not without limitations. The major limitation was related to the short time frame of planning the study, conducting the workshop, and reporting the findings. The total duration of the study was 8 weeks, during which NRC and Skills House worked together on desktop research to identify stakeholders, develop the study instruments adapting the UNDRR's approach, organising a one-day workshop and finally, reporting the findings based on the data that was collected during the workshop.

As a result of the short time frame, it was not possible to involve all stakeholders, especially those from the private sector entities. Involving stakeholders from the private sector could lead to discovering solutions that focus on the economic empowerment of both host and displaced communities. Also, the workshop of this study did not involve stakeholders from the central Government in Baghdad, who may be aware of national level policy, or upcoming planned policy development. Since the central Government in Baghdad is responsible for approving all policies for Governorates, further study(ies) need to involve stakeholders from multiple respective entities of the central Government. Furthermore, given that the duration of the workshop was only one day, it was not possible to (i) cover all the essential aspects of the DRR scorecard and (ii) utilise all of UNDRR-relevant tools, especially the check list, which provides a list of elements that policy makers need to take into account when assessing their policies. Covering all essential aspects and utilising all tools would require conducting 3-4 days' workshop, which in turn would help establish a comprehensive understanding of the current situation of Ninewa Governorate along with the respective solutions.

It is important to mention that this study was undertaken during the buildup period to the Governorate election, which took place on December 18th 2023. Thus, some Government employees, who were invited to the workshop, were unfortunately not able to attend as they had other political commitments. More government staff would have been available during quieter times of the political year.

The final limitation relates to the inaccessibility of the existing policy by the Joint Coordination and Monitoring Centre (JCMC), which affected the responses of participants. While the JCMC has developed a policy that covers multiple risks and associated occurrence probabilities, this policy is not published online and therefore, remains inaccessible by stakeholders to utilise, or for this research to analyse. As a

result, multiple participants reported the lack of any DRR-relevant policy in Ninewa Governorate.

INTRODUCTION

In light of evidence indicating rapid changes in climate patterns in Iraq and recognising the necessity of locally led solutions for adaptation and mitigation, NRC and Skills House conducted a study on climate change-induced displacement. This study also assesses the level of readiness and preparedness of Ninewa Governorate of Northwest Iraq to effectively address this issue. The focus on this area is driven by its recent history marked by the presence of ISIS, displacements, and vulnerabilities. In Ninewa governorate, the impact of climate change, acting as a significant barrier, is making it more difficult for displaced people to return to their areas of origin, the challenge of which varies depending on the specific district. The difficulty arises due to the lack of livelihood opportunities, services, infrastructure, and social safety net following the impact of conflict in the governorate. The study aims to offer contextually relevant insights, recommendations, and guidelines for the benefit of the local population, policymakers, and all stakeholders. The goal is to create (better) policies addressing displacement caused by climate change in the region.

Two methods are utilised in this study. First, desk research and stakeholder mapping to identify key studies and policies that are relevant to the context of this study. The stakeholder mapping identifies all relevant actors, public, private, and civil society organisations, associated with climate change-induced displacement in Ninewa Governorate. Second, a workshop is conducted with governorate level representatives from various entities, such as Environmental Advisory Council, Directorate of electricity, USAID, and ACF, to discuss existing policies and formulate an action plan.

It is important to emphasise that the guidelines presented in this document are based on the UNDRR Addendum, covering six essential aspects to prepare Ninewa Governorate for displacement prevention, reduction, and management. These aspects include (i) organisation and planning, (ii) data, knowledge, and risk scenarios, (iii) financial planning, (iv) land-use planning, (v) technical and institutional capacity, as well as (vi) infrastructure resilience during disaster displacement.

Stakeholders from the public sector, private sector, and civil society organisations are encouraged to work together using these guidelines to develop appropriate policies for climate change and displacement in Ninewa Governorate. Building resilience and finding sustainable solutions require collaborative efforts.

Climate change in Iraq

Climate change is having a significant impact on Iraq, affecting various aspects of the country's environment, society, and economy. According to UNSDG (2022), Iraq is the fifth most vulnerable country to climate breakdown. In 2021, Iraq had its second driest season in 4 decades, mainly because there were heatwaves and very little rain. The city of Basra, in particular, has experienced temperatures as high as 54°C, making the situation even more critical for the ecosystems.

Over the past 40 years, the amount of water coming from the Euphrates and Tigris rivers, which provide almost all of Iraq's surface water, has gone down by 30% to 40%. According to the Ministry of Water Resources (MoWR), the two main rivers in Iraq would dry up by 2040 (MEM, 2023), which alarmingly, already occurred in 2018 (HRW 2019). Also, the special marshlands in the south of Iraq, as a world heritage site, are slowly drying up. These conditions have led to a drop in water resources and have placed stress on agriculture, which is a critical sector for the country's food security and economy.

Furthermore, these impacts of climate change have led to the displacement of more than 130,000 people in areas assessed by IOM in central and southern Iraq from January 2016 to September 2023 (Aziz, 2023), which highlights the clear relationship between climate change and migration in Iraq. This situation is expected to worsen, especially if there are no sufficient plans in place to address and adapt to these challenges.

The agricultural sector in Iraq engages approximately 20% of the country's workforce, making it the second largest contributor to the gross domestic product (WFP, 2021). It is estimated that up to 40% of arable land in southern regions in Iraq could be lost in the next few years due to desertification (NRC, 2023). The scarcity of water has directly impacted the agricultural productivity in Iraq. Farmers are struggling to adapt to changing conditions and crop yields have decreased. This impact is particularly evident among women, as 15% reported not earning income in 2023, compared to 6% in 2022. In addition to the agricultural sector, other vital industries such as energy, health, and infrastructure are also impacted by climate change. Higher temperatures in the country increase the demand for cooling systems, which in turn increases energy consumption and strains the electricity grid.

In Ninewa Plains, the lives of people and their livelihoods were negatively impacted due to climate change as well as the ISIS conflict between 2014 and 2017 that caused immense destruction and displacement (Bourhrous, 2023). Water scarcity has caused significant displacement in two districts of Ninewa, Ba'aj and Hatra. As of 14 December

2021, IOM recorded a total of 1,818 people (303 families) displaced due to drought conditions (IOM, 2022). Farmers in the Ninewa Plains, particularly people who live in rural areas, have been dealing with numerous challenges in resuming their farming activities and livelihoods. These challenges include lack of support from the government and the bad financial situation of the farmers to repair the damaged farming equipment and irrigation systems that were destroyed by ISIS. This puts their yields and crops at greater risk from extreme weather conditions. As a result, many farmers have abandoned farming and moved to urban centres in search of work in other sectors.

Additionally, this situation poses increased challenges for farmers in areas such as Sinjar and Ba'aj in Ninewa, due to the absence of irrigation networks and insufficient governance of the Tigris and Euphrates. Consequently, a majority of farmers are heavily reliant on rainfall for cultivating their crops. According to a study conducted by NRC (2023), one in four farmers in Sinjar and Ba'aj was forced to abandon farming in 2023 due to a lack of rain, and nearly 40% had spent less on food. Furthermore, the Rainwater Harvesting study conducted by NRC (2023) shows that the absence of a water resources management plan may lead to further conflicts and tensions among communities, particularly those residing in Sinjar and Ba'aj, due to the diverse backgrounds and religions of the people living in these areas.

Moreover, the Ninewa Plains is host to nomadic livestock herders, known as Bedouin, who migrate across districts and governorates. The scarcity of grazing land and the nomadic nature of their lifestyle, which includes a seasonal movement in search of suitable grazing areas for their livestock, are significant factors that can contribute to displacement and conflicts over resources, such as access to water.

Necessary actions are needed to be taken to address this situation because Iraq is expected to experience the following climate change impacts, as retrieved from the Climate Change Knowledge Portal and USAID (2022):

- By 2050, the mean annual temperature is estimated to increase by 2°C.
- By 2050, the mean annual rainfall is expected to decrease by 9%, with the most significant decrease of 17% during December, January, and February.
- Over the last two decades, the number of dusty days each year increased from 243 to 272. Therefore, it is expected to reach 300 days by 2050.
- An average 22% decrease in runoff across the country.
- The water crisis could potentially displace up to 4 million people by 2030.

Focus and scope of study

This study focuses on Ninewa Governorate, which has a total population of **3,729,998** individuals according to the last census that took place in 1997 (Central Statistics Unit of Ministry of Planning, 2013). It focuses on Ninewa Governorate for several reasons. First, the recent history of Ninewa Governorate, marked by the presence of ISIS and the subsequent displacements, underscores its vulnerability. Residents of Ninewa were forced to flee ISIS for the sake of safety and better living conditions. Secondly, climate change and existing water resources represent another threat of displacement, especially in rural areas where it is becoming increasingly difficult to practice agriculture, which represents the main source of income for the majority. This means that climate change could potentially lead the displacement of thousands of individuals from towns, such as Ba'aj, Sinjar and Tel Afar, to the already highly populated Mosul city, which lacks employment opportunities and necessary infrastructure to support a large influx of population.

The study at hand provides contextually relevant insights and recommendations on the development of a specific policy that enabled the Governorate of Ninewa to better prepare for displacement due to climate change.

A specific policy to address displacement caused by climate change is needed because climate-related hazards, such as floods, dust storms, and heat waves, are occurring more often and displacing people from their homes. Desertification, drought and salination are slowly decreasing the availability of suitable agricultural land. Another reason for focusing on Ninewa Governorate is the lack of research concerning climate change in this area. Accordingly, this study fills a pressing and timely gap which has been neglected to date.

Guidance on using these guidelines

The guidelines that are presented in this document are based on the Displacement Addendum to the [Disaster Resilience Scorecard for Cities](#), which aims to assist municipalities to assess the extent to which their policies and practices effectively prevent and address disaster displacement. By applying the Addendum, municipalities can identify gaps and areas for improvement in addressing disaster displacement, which could form the basis for a disaster displacement action plan for the city or as an input to be integrated into the city's broader resilience action plan.

The Addendum structure follows that of the Ten Essentials for Making Cities Resilient and the Disaster Resilience Scorecard. These guidelines, which focus on 6 of the 10

essential aspects, enable stakeholders from public sector, private sector and civil society organisations to work together on developing a policy that is appropriate to the current context of climate change as well as existing and potential displacement patterns within the Governorate of Ninewa. It is important to emphasise that the best practice of developing this policy would require the involvement of relevant stakeholders working together, with one stakeholder acting as a focal point to coordinate efforts. This in turn would help in building resilience and finding long-lasting sustainable solutions.

METHODOLOGY

This study was conducted from October 16th, 2023, until December 10th, 2023, utilising two different types of methods which are desktop research and participatory design workshop. The choice of methods was discussed with the Norwegian Refugee Council (NRC) during the project's inception and planning phase.

Stakeholder Mapping

We employed a top-down approach to identify stakeholders. We first identified the sectors of the stakeholders within Ninewa Governorate. These sectors are:

1. **Public sector:** This sector includes governmental and public institutions and organisations within Ninewa Governorate, such as higher education institutes and Directorate of housing.
2. **Private sector:** The private sector includes a range of businesses, industries, and corporations operating within Ninewa Governorate owned by a board or individuals, such as small and medium-sized enterprises (SMEs).
3. **Civil society organisations/activists:** This sector includes non-profit and non-governmental organisations, community groups, and individuals who are actively engaged in climate-related activities, such as national NGOs.

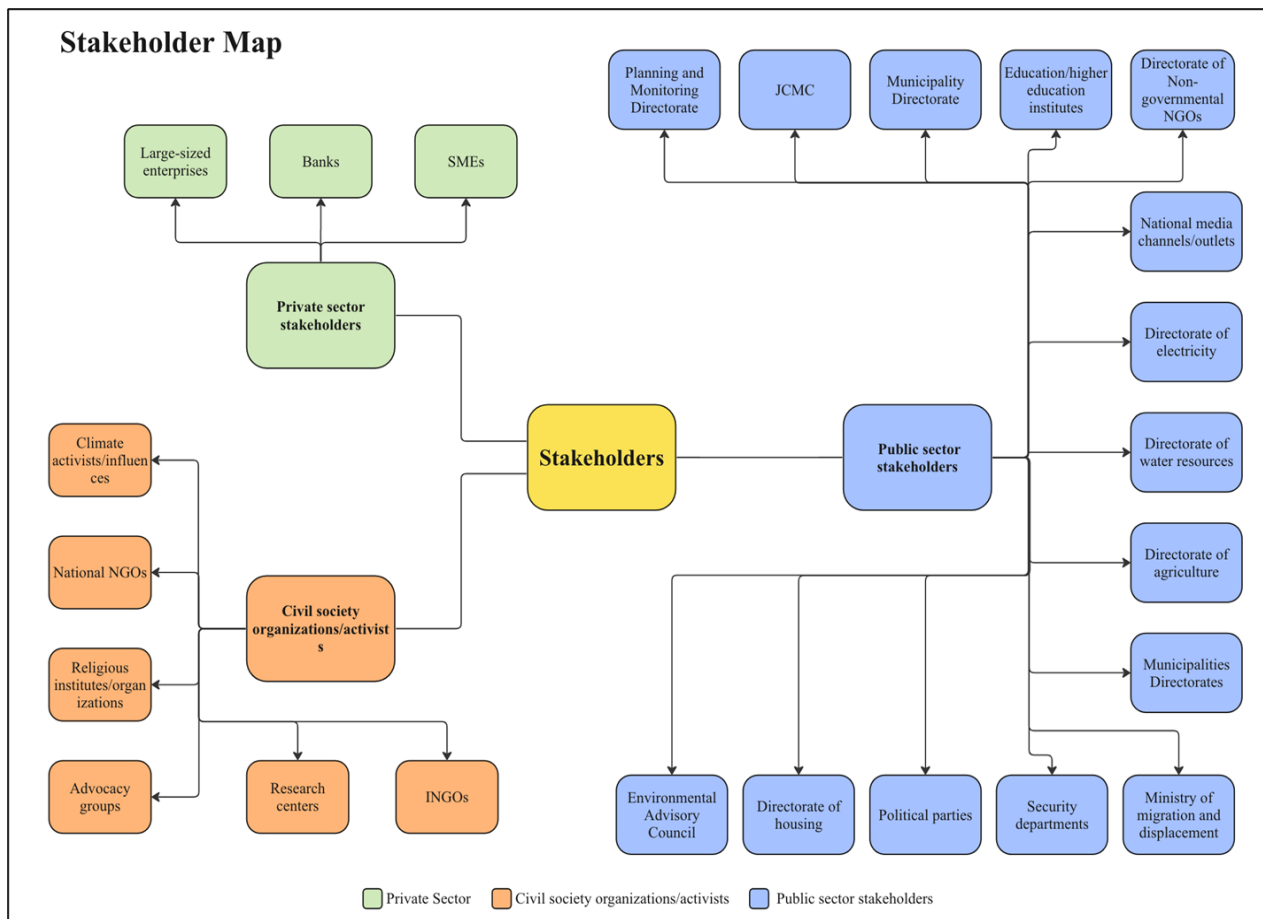


Figure 1: Stakeholder mapping

#	Sector	Stakeholder	Role
1	Public sector	Environmental Advisory Council	Monitoring Climate change patters, providing real-time data to help policy makers and assessment
		Education/higher education institutes	Publishing academic studies and raising awareness
		National Media Channels/outlets	Influencing public opinion, sharing data and raising awareness
		Ministry of migration and displacement	Management of displacement
		Directorate of Housing	Management and planning of housing for host communities and displaced population
		Directorate of Electricity	Management, planning and fulfilling electricity requirements
		Directorate of Water Resources	Management, planning and fulfilling water requirements
		Directorate of Agriculture	Supporting farmers and agribusinesses, initiating and implementing policies related to best practices

		Political Parties	Influencing public opinions, engaging community segments
		Security Departments	Ensuring the security of host communities and displaced population
		Directorate of non-governmental NGOs	Coordinating efforts of local and international NGOs
		Planning and Monitoring Directorate	Planning for potential displacement, monitoring displacement patterns
		JCMC	Monitoring climate change hazards and displacement patterns, coordinating efforts between stakeholders
		Municipality Directorate	Fulfilling various requirements of host community in the City of Mosul
		Municipalities Directorate	Fulfilling various requirements of residents in rural areas (e.g., Towns)
2	Private sector	Banks	Providing necessary fund
		Large-sized enterprises	Providing employment opportunities for host communities and displaced population, innovating solutions to handle climate change and displacement
		SMEs	Providing employment opportunities for host communities and displaced population, innovating solutions to handle climate change and displacement
3	Civil society organisations/ activists	National NGOs	Raise awareness, protect vulnerable individuals and, engage in policy making processes,
		INGOs	Raise awareness, protect vulnerable individuals and, engage in policy making processes
		Religious institutes/organisations	Influence public opinions and raise awareness
		Research centers	Timely publications on climate change and displacement/migration patterns
		Advocacy groups	Raising awareness, influencing public opinion
		Climate activists/influences	Raising awareness, influencing public opinion

Table 1: The stakeholder sectors and their roles in relation to the climate change

Workshop

The aim of conducting the participatory design workshop was to collect primary data, both quantitative and qualitative, from relevant stakeholders to assess the preparedness of Ninewa Governorate to prevent and/or manage any displacement due to climate change. The findings were used to identify the fundamental guidelines to develop a specific policy that tackles climate change-induced displacement.

An all-day workshop was conducted on 23rd of November in the city of Mosul. Out of 27 people who were invited to attend the workshop, 18 individuals participated. The participants represented different sectors, including Municipality Directorate, Municipalities Directorates, Planning and Monitoring Directorate, Electricity Directorate, Environmental Advisory Council, Mosul University, Mercy Corps, ACF, USAID, Al-Maluma Women Local NGO, Muthabron Local NGO, East Gate Research Center, Baghdad Vision Research Center, Noon Research Center, Mosul Space Station, Qudorat Development Academy (Local NGO) and Ninewa Ala'an Channel. Involving people from different sectors aimed to bring diverse perspectives, expertise and experiences, enabling them to share insights on the work that has been done and identify areas that require further attention.

Findings/Guidelines

Organisation and Planning to Address Disaster Displacement in Prevention, Preparedness, Response and Recovery

Participants reported by the end of 2021, about 20,000 individuals were displaced from southern to northern regions as a result of climate change in Iraq. These rural inhabitants were displaced because they were not able to earn sufficient revenue due to [the impact of] climate change. This emphasises the urgent need to address the impacts of climate hazards on local communities. In this respect, participants reported that the Ninewa Governorate currently lacks a legal framework to effectively address displacement caused by climate change. This highlights a crucial gap that needs attention and intervention to ensure the protection and well-being of vulnerable communities.

During the workshop, participants shared a perception that the current Government of Iraq has not implemented any specific climate change policies to address the issue of displacement. Participants pointed out the challenges faced by the Government in addressing this issue, including a lack of necessary mechanisms, planning strategies, supportive laws, and financial plans. They also highlighted that despite the presence of an Environmental Advisory Council in the Ninewa Governorate, it was reported that the department is neither adequately prepared nor functioning effectively. This raises

concerns about the Ninewa Governorate readiness to address climate change and emphasises the need for improvements in the council's capabilities and operational efficiency.

Furthermore, the JCMC has developed a policy to address displacement resulting from natural disasters. However, the stakeholders involved in the workshop were not aware of this policy, indicating a lack of data sharing, communication, and information dissemination among the stakeholders. Additionally, this policy is broad which makes it difficult to apply. It also lacks crucial details, particularly in providing estimates of the size of the affected population related to each type of disaster, as well as clear guidance on relocation and housing plans for affected populations. This emphasises the need for a rather detailed policy, which is *easier* to apply and measure.

Additionally, the absence of a designated focal point to take responsibility of coordination between the stakeholders is a point of concern. A focal point plays a crucial role in facilitating effective communication and coordinating prevention, preparedness, response and recovery of disaster displacement. Currently, there is a lack of coordination among the stakeholders, including Governmental departments, non-governmental organisations and community groups. By fostering coordination and information sharing among stakeholders, a coordinated approach could enhance the overall resilience of vulnerable people who are impacted by climate change, promote sustainable solutions, and develop (effective) policies.

Aspect/issue	Question	Indicative Measurement Scale	Rating
Legal framework to address displacement due to climate change	Is there legal framework (local, state, national or federal) that regulates displacement prevention and assistance to people displaced by disasters?	5. There is a national legal framework with rules and regulations that is applied at local and sectorial levels. 4. There are national-level provisions and resolutions that apply locally. 3. There are subnational laws, rules and regulations. 2. There are municipal resolutions/policies. 1. There are departmental resolutions at municipal level. 0. There is no legal framework at any administrative level.	2
Inclusion of climate change-induced	To what extent do city plans and policies consider	5. City plans and municipal public policies, based on disaster scenarios, address	0

displacement in city planning	disaster displacement prevention, preparedness, response and recovery?	<p>displacement with adequate legal support and linkages to higher administrative levels.</p> <p>4. There is no public policy in place but plans consider displacement scenarios, associated risks and possible impacts, and describe actions to address them at local level with linkages to the national level.</p> <p>3. Plans consider displacement scenarios, associated risks and possible impacts, and describe actions to address them but only at national and state levels.</p> <p>2. Plans consider displacement scenarios, associated risks and possible impacts, but do not describe actions to address them.</p> <p>1. Plans only mention displacement in general terms and do not describe actions to address it.</p> <p>0. There are no city plans or policies.</p>	
Focal point for displacement caused by climate change	Is there a focal point/ institution responsible for coordinating prevention, preparedness, response and recovery of disaster displacement?	<p>5. A focal point with a clear role and responsibilities has been designated by the authority. The focal point is responsible for the development of a work programme and periodically reports on its implementation.</p> <p>4. A focal point with a clear role and responsibilities has been designated by the authority. The focal point is responsible for the development of a work programme but does not report on its implementation.</p> <p>3. An area, directorate or department and an individual have been designated. A work plan has been developed.</p> <p>2. An area, directorate or department has been designated but not an individual. A work plan has been developed.</p> <p>1. An area, directorate or department has been designated but not an individual. A work plan has not been developed.</p> <p>0. No focal point has been designated.</p>	0

Institutional collaboration on displacement	Does the governorate convene/ promote collaboration on disaster displacement among departments, sectors, agencies and institutions?	<p>5. The governorate, through its protocols and structures, leads and maintains active networks for collaboration among departments, sectors, agencies and institutions on displacement.</p> <p>4. There is a collaborative network co-led by actors from outside the governorate that is active and permanent but not all the required city protocols and structures are integrated.</p> <p>3. There is a collaborative network promoted by actors from outside the governorate in which departments and local representatives participate actively and permanently.</p> <p>2. There is a collaborative network promoted by actors from outside the governorate in which a department or local representative participates sometimes.</p> <p>1. There is a collaborative network promoted by actors from outside the governorate in which departments and local representatives do not participate.</p> <p>0. There is no collaborative network involving the governorate.</p>	
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Table 2: Quantitative illustration of Ninewa Governorate’s readiness in organisation and planning

In order to address the above-mentioned issues, we suggest the following guidelines:

1. Legal Framework:
 - a. Working towards developing a legal framework that addresses the specific challenges of climate change displacement in the Ninewa Governorate.
 - b. The legal framework should clearly mention the relevant stakeholders (Section 5.1).
 - c. The framework needs to be designed to be adaptable and flexible, considering the evolving nature of climate change and its impact on displacement.
 - d. Clearly outline legal provisions for the protection, rights, and well-being of displaced individuals.
 - e. The legal framework should require meaningful engagement of all stakeholders mentioned in section 5.1.

2. Inclusion of displacement in city planning:
 - a. Municipalities need to assess potential disaster scenarios for highly exposed areas in the Governorate. These assessments need to consider the number of potentially displaced people, their needs and the infrastructure capacity of target areas.

3. Focal point for displacement:
 - a. Specify and establish a central coordinating entity responsible for overseeing and facilitating a comprehensive approach to climate change displacement policies. Multiple stakeholders stated that migration and displacement directorate should play a central role in managing and coordinating efforts by different stakeholders.

4. Institutional collaboration on displacement:
 - a. Facilitate collaborative discussions between the stakeholders to gather insights on legal, policy, and practical considerations related to climate change displacement. The findings of the workshop clearly show lack of regular collaboration as well as communication between relevant stakeholders. Thus, it is necessary to hold meetings/workshops on regular basis to share timely data, communicate requirements and identify potential solutions.
 - b. Engage directly with affected communities (both to be displaced and host communities) to understand their needs, concerns, and aspirations.
 - c. Establish a mandatory practice of data sharing among stakeholders and ensure public accessibility to the shared data. While the University of Mosul reported conducting studies on climate change, this research remains inaccessible by stakeholders who require the data for decision-making.
 - d. Establish appropriate strategic partnerships and collaboration agreements between relevant stakeholders. Formalising the partnerships and collaboration could lead to creating a greater sense of accountability to take responsibility and action.

Data, Knowledge and Risk Scenarios on Disaster Displacement

Our findings clearly suggest that participants were aware that access to timely data is essential in the management of disasters. However, it seems that they lack access to data. While the University of Mosul has been conducting research, in the form of Master and PhD research projects, this data is not accessible by stakeholders. This is possibly because the data is published on platforms, such as academic journals (online

and/or offline) that cannot be accessed by stakeholders. The absence of the data poses a substantial challenge, leaving stakeholders and responsible entities uninformed about the specific requirements and circumstances of displaced people.

Aspect/issue	Question	Indicative Measurement scale	Rating
Understanding of human mobility patterns caused by climate change	What is the level of knowledge about human mobility patterns in times without a major disaster?	<p>5. There is updated knowledge about human mobility patterns in times without a major disaster. Databases are updated at least once a year.</p> <p>4. There is updated knowledge about human mobility patterns in times without a major disaster. Databases are updated every two years.</p> <p>3. There are studies and data were collected about human mobility patterns in times without a major disaster; these were undertaken in the last 5 years. The studies focus on specific groups.</p> <p>2. There are studies and data were collected about human mobility patterns in times without a major disaster; these were undertaken 5-9 years ago.</p> <p>1. There are studies and data were collected about human mobility patterns in times without a major disaster but these were undertaken 10 or more years ago.</p> <p>0. There is no knowledge on human mobility patterns and data is not collected.</p>	2
Understanding of displaced people's needs during and after disaster	Are information systems and capacities adequate to understand displaced people's needs during disaster and during disaster recovery?	<p>5. There are studies and data are collected through interoperable systems on displaced people's needs during disaster and disaster recovery. There is adequate capacity to interpret the data and enable decisions.</p> <p>4. There are studies and data is collected on displaced people's needs during disaster and disaster recovery. Information systems are not interoperable but capacity is adequate to interpret the data and enable some decisions.</p>	2

		<p>3. There are studies and some data is collected on displaced people's needs during disaster and during disaster recovery. Information systems are not interoperable but capacity is adequate to interpret the data collected.</p> <p>2. There are studies and some data is collected on displaced people's needs during disaster but not during disaster recovery. The information systems are not interoperable but capacity is adequate to interpret the data collected.</p> <p>1. Some data is collected on displaced people's needs during disaster but not during disaster recovery. The information systems are not interoperable and capacity is inadequate to interpret the data collected.</p> <p>0. There is no knowledge and data is not collected on displaced people's needs during disaster and during disaster recovery.</p>	
Data integration in risk assessment	To what extent is data collected on human mobility patterns (and disaster displacement specifically) integrated in risk assessment and risk mapping?	<p>5. Data collected on human mobility patterns (and disaster displacement specifically) is integrated in risk assessment and risk mapping, including climate change and environmental degradation impacts.</p> <p>4. Data collected on human mobility patterns (and disaster displacement specifically) is integrated in risk assessment and risk mapping, but information does not include climate change and environmental degradation impacts.</p> <p>3. The information on human mobility collected only addresses climate change and environmental degradation impacts.</p> <p>2. Data is collected but not integrated in risk assessment and risk mapping; in some cases, some references to data exist.</p> <p>1. There is a mandate to collect data but it is not applied.</p> <p>0. Data is not compiled.</p>	2

Table 3: Quantitative illustration of Ninewa Governorate’s readiness in terms of data, knowledge and risk scenarios

In order to address the above-mentioned issues, we suggest the following guidelines:

1. Understanding of human mobility patterns
 - a. Understanding of human mobility patterns along with needs of displaced people though collecting real-time data that can be easily interpreted to enable data-driven decision-making.
 - b. Consider social and cultural aspects influencing mobility decisions, such as religion, language, gender roles and existing conflicts within the communities.
 - c. Regularly update policies based on emerging data and evolving climate scenarios. Given the difficulty of predicting climate change patterns, policy makers need the flexibility of updating associated policy(ies) in a way that fit with the changing circumstances to better serve the needs of affected communities.
2. Understanding of displaced people’s needs during and after disaster
 - a. Conduct a rapid assessment of basic needs, including shelter, food, water, and healthcare, during and after the displacement. This requires the collection of both secondary as well as primary data. Secondary data to be collected using existing documentation. Primary data collection requires the deployment of data collectors to collect data in the field with affected communities.
 - b. Identify and prioritise the needs of vulnerable groups, such as children, the elderly, most vulnerable groups of women (e.g., pregnant women), and people with disabilities.
 - c. Ensure policies prioritise and support the human rights of displaced individuals. This would require appropriate livelihood support, developing the capacity of displaced individuals in order to access employment opportunities and, ensure the fairness of salaries of displaced individuals . Certainly, achieving this would require the involvement of private sector and the innovation of models that help better economic integration of displaced individuals.
3. Data integration in risk assessment
 - a. Collected data to be integrated in risk assessment policies and strategies.
 - b. Incorporate local perspectives to enhance the accuracy and relevance of risk assessments.

Financial Planning to Address Displacement in Disaster Prevention, Preparedness, Response and Recovery

The Ninewa Governorate lacks financial plans to address displacement, and there are no incentives provided to people who have been displaced to assist them in rebuilding their lives or integrating into host communities.

Our data shows that there is no public or private system to provide compensation for housing losses for affected people. This means that those affected by climate change displacement will face challenges, especially in terms of finding a new place to live. The Governorate of Ninewa needs to take into consideration how to enable displaced population to rebuild their lives, including receiving compensation for housing losses.

Aspect/issue	Question	Indicative Measurement scale	Rating
Adequate resources to address displacement caused by climate change.	Is the budget adequate to prevent displacement, address the needs of people displaced by disaster and strengthen their resilience?	<p>5. There is an adequate municipal budget for displacement prevention, addressing the needs of displaced people and the implementation of short-term recovery strategies and over time.</p> <p>4. There is an adequate municipal budget for displacement prevention, addressing the needs of displaced people and the implementation of short-term recovery strategies.</p> <p>3. There is an adequate budget, financed by national and international cooperation sources, which enables activities to prevent displacement and address the needs of displaced people.</p> <p>2. There is a small budget to prevent displacement and address some of the needs of displaced people.</p> <p>1. There is a small budget either to prevent displacement or address the needs of displaced people.</p> <p>0. There is no budget to prevent disaster displacement and address the needs of displaced people.</p>	0
Compensation for housing losses due to climate	Is there a (public or private) system to provide compensation	<p>5. There is an adequate public system financed by the private sector to support all displaced people who have lost housing.</p>	0

change caused displacement	for housing losses?	<p>4. There is a public system financed by the private sector but it does not support all displaced people who have lost housing. 3. There are some compensation mechanisms developed and accessible ad-hoc based on impacts and dependent on the reallocation of existing resources.</p> <p>2. There is a compensation system based on public insurance model but with significant limitations on amounts and scope. 1. There is a private compensation system accessible only to policyholders.</p> <p>0. There is no compensation system for housing loss.</p>	
Host family incentives	Are there financial incentives for host families?	<p>5. There are financial and tax incentives (national and local) for host families.</p> <p>4. There are financial incentives (national and local) for host families.</p> <p>3. There are tax incentives (national and local) for host families.</p> <p>2. Host families receive temporary financial support. 1. Host families receive temporary benefits as part of humanitarian assistance.</p> <p>0. There are no financial incentives for host families.</p>	0

Table 4: Quantitative illustration of Ninewa Governorate’s readiness in terms of financial planning

In order to address these issues, the following are the guidelines that could be used when creating (new) policies for the climate change displacement:

1. Adequate resources to address displacement.
 - a. Allocate a budget specifically aimed at preventing displacement. One possible way to do so is through allocating budget to enable farmers to conduct agricultural practices to earn sufficient revenue despite of climate change. These practices are rainwater harvesting, hydroponic farming, conservation agriculture and, crop cultivation.
 - b. Dedicate a budget to address the immediate needs of people displaced by disasters, such as shelter, food, health care, water and psychosocial support.

- c. Allocate a budget for the implementation of short-term recovery strategies over time.
 - d. Implement a monitoring and evaluation mechanisms to assess the effectiveness of budget allocations.
2. Compensation for housing losses
 - a. Establish a system, financially supported by the private or public sector, to provide comprehensive support for all displaced individuals who have experienced housing losses. Ensure that this system is inclusive, well-funded, and efficiently addresses the diverse needs of those affected by displacement.
 3. Providing incentives for host communities to host displaced population.
 - a. Establish a criteria for eligibility to receive financial incentives, considering factors such as household income.

Land-Use Planning for Disaster Displacement in Prevention, Preparedness, Response and Recovery

The findings reveal that municipalities in the Ninewa Governorate have no current plans for land-use planning for disaster displacement due to climate change as well as their capabilities to prepare large areas with camps in case of emergencies is uncertain, such as places in Hammam Al-Alil and Al-Hamdaniya. These areas were previously used for camps and are equipped with electricity. However, the status of protection against encroachment for these lands remains uncertain. Additionally, the specific capacity of these areas to host displaced individuals remains unspecified, as there is no available information on the maximum number of people these lands can accommodate.

Another factor that contributes to the absence of climate change policies is the lack of political stability in Iraq. This instability poses challenges in establishing and maintaining consistent ideas and solutions. It is essential to take this instability into account when creating climate change policies and engaging in long-term planning.

The lack of a clear vision for the future in Iraq, particularly in the Ninewa Governorate, suggests potential challenges in preparedness and planning, especially when addressing aspects related to climate change displacement.

Aspect/issue	Question	Indicative Measurement scale	Rating
Sites for temporary displacement and relocation	Is land allocated and protected from encroachment for use as	5. Land is adequately identified, allocated and protected from encroachment for use as temporary displacement sites and for potential permanent relocation with necessary services.	1

	<p>temporary displacement sites and for potential permanent relocation with necessary services?</p>	<p>4. Land is adequately identified, allocated and protected from encroachment for use as temporary displacement sites and for potential permanent relocation but services are not available.</p> <p>3. Land is adequately identified, allocated and protected from encroachment for use as temporary displacement sites, and essential services are available.</p> <p>2. Land is adequately identified, allocated and protected from encroachment for use as temporary displacement sites, but services are not available.</p> <p>1. Areas for temporary displacement sites and permanent relocation have been identified.</p> <p>0. Areas for temporary displacement sites and permanent relocation have not been identified.</p>	
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Table 5: Quantitative illustration of Ninewa Governorate’s readiness in terms of land-use planning

In order to address the above-mentioned issues, we suggest the following:

1. Sites for temporary displacement and relocation
 - a. Ensure that land is appropriately identified, allocated, and protected from encroachment to serve as both temporary displacement sites and potential permanent relocation areas, equipped with essential services. While the Directorate of Municipalities has identified Al-Ba’aj and Tel Abta as potential areas that are suitable for camps for IDPs, it is not clear whether the essential services could be provided and how.
 - b. Define the maximum number of people that these areas can accommodate.
 - c. Define the timeframe that is needed to implement these solutions, such as camps, in case of disaster.
 - d. Assess the climate resilience of allocated land to mitigate risks associated with climate change.

Technical and Institutional Capacity to Address Displacement in Disaster Prevention, Preparedness, Response, and Recovery

Participants pointed out that the Ministry of Migration and Displacement is the stakeholder that is responsible of Displacement and Migration across the entire country. However, there are concerns regarding its effectiveness in making informed

decisions, providing applicable solutions, managing safe return as well as local integration and relocation. For example, in Al-Intisar District, the population has significantly grown from 40,000 in 2017 to 100,000 in 2023. This makes it hard for one government department to adequately address the needs of such a substantial number of displaced people. It is important for different government departments, such as Electricity Directorate and Municipality, to collaborate to effectively support this growing population of displaced individuals.

Furthermore, the primary income source for a significant portion of the population relies on agriculture. This becomes particularly problematic for women in rural areas and villages, who are the most vulnerable segment of the population. Women engaged in farming often find themselves in a more vulnerable position compared to males due to lack of awareness, which hinders their ability to participate in decision-making processes. Additionally, the lack of sufficient skills and limited access to financial capital further limit women involvement in agriculture sector. Therefore, the absence of technical plans and uncertainty about institutional capacity in the affected areas continues to increase vulnerability, especially for women in rural communities. By prioritizing specific disaster risk reduction strategies, governments and institutions can not only protect livelihoods, but also empower vulnerable populations, fostering a more resilient and sustainable future.

Aspect/issue	Question	Indicative Measurement scale	Rating
Adequate resources to address displacement caused by climate change.	Is there adequate institutional capacity to prepare for and manage evacuations and longer displacement (including knowledge of human rights principles)?	<p>5. There is adequate institutional capacity to prepare for and manage evacuations and longer displacement, including knowledge of human rights principles.</p> <p>4. There is adequate institutional capacity to prepare for and manage evacuations and longer displacement but limited knowledge of human rights principles.</p> <p>3. There is some capacity to prepare for and manage evacuations and longer displacement in all the relevant institutions.</p> <p>2. There is capacity to prepare for and manage evacuations and longer displacement in some of the relevant institutions but not all that are required.</p> <p>1. There is little capacity to prepare for and manage evacuations and longer displacement.</p>	1

		0. There is no capacity to prepare for and manage evacuations and longer displacement.	
Institutional capacity to manage safe return, local integration and relocation	Is there adequate institutional capacity to manage safe return, local integration and relocation?	<p>5. There is adequate institutional capacity (at short, medium and long terms) to manage safe return, local integration and relocation.</p> <p>4. There is adequate institutional capacity to manage safe return or local integration or relocation (but not all three).</p> <p>3. There is limited capacity to manage safe return, local integration and relocation in all of the relevant institutions.</p> <p>2. There is capacity to manage safe return, local integration and relocation in some of the relevant institutions.</p> <p>1. There is little capacity to manage safe return, local integration and relocation.</p> <p>0. There is no capacity to manage safe return, local integration and relocation.</p>	0
Host family incentives	Are there financial incentives for host families?	<p>5. There are financial and tax incentives (national and local) for host families.</p> <p>4. There are financial incentives (national and local) for host families.</p> <p>3. There are tax incentives (national and local) for host families.</p> <p>2. Host families receive temporary financial support. 1. Host families receive temporary benefits as part of humanitarian assistance.</p> <p>0. There are no financial incentives for host families.</p>	0

Table 6: Quantitative illustration of Ninewa Governorate’s readiness in terms of technical and institutional capacity

In order to address the above-mentioned issues, the following guidelines are suggested:

1. Institutional capacity to prepare and manage evacuations and longer displacement

- a. Conduct assessment to evaluate the institution's capacity for managing evacuations and displacement as well as their skills in evacuation planning and coordination.
 - b. Provide regular training programs for staff to enhance their skills in evacuation planning, coordination, and human rights principles.
2. Institutional capacity to manage safe return, local integration and relocation
- a. Develop comprehensive and detailed plans for the safe return of displaced individuals, considering factors such as security, infrastructure, livelihood opportunities and community support.
 - b. Conduct an evaluation to assess conditions in place of origin to determine whether return is safe. Places of origin are expected to be rural towns, such as Sinjar, Tel Afar and Ba'aj.
 - c. Implement mechanisms for continuous monitoring and evaluation of return, integration, and relocation processes.

Infrastructure Resilience During Disaster Displacement

The findings highlight a significant gap in infrastructure resilience during disaster displacement, as it was demonstrated by the lack of preparedness observed in 2014. This emphasises the crucial role the government must play in disaster management and allocating resources for it. Unfortunately, the existing infrastructure is not well prepared and lacks the necessary capacity to handle displacement caused by climate change, which makes things more challenging for the affected communities. Furthermore, the data indicates that frequent political changes often contribute to difficulties in addressing these situations – meaning that changes of personnel with decision-making authority led to changes in agenda and priorities.

Aspect/issue	Question	Indicative Measurement scale	Rating
Access to critical infrastructure for displaced people during disaster	Is access to critical infrastructure ensured for displaced people staying in temporary or transitional housing or shelters in disaster scenarios?	<p>5. The functioning of critical infrastructure is ensured for displaced people in disaster scenarios.</p> <p>4. The functioning of critical infrastructure is ensured for some displaced people in disaster scenarios.</p> <p>3. The functioning of critical infrastructure is ensured on a temporary basis and with possible interruptions for displaced people in disaster scenarios.</p>	0

		<p>2. The functioning of critical infrastructure for drinking water and for other essential infrastructure with possible interruptions is ensured for displaced people in disaster scenarios.</p> <p>1. The functioning of critical infrastructure is ensured only with possible interruptions for displaced people in disaster scenarios; functioning depends on the recovery and/or reconstruction measures implemented.</p> <p>0. The functioning of critical infrastructure cannot be ensured for displaced people in disaster scenarios.</p>	
Restrictions on use of critical infrastructure for temporary accommodation	Are there provisions to avoid use of critical infrastructure as temporary accommodation?	<p>5. There are provisions forbidding the use of critical infrastructure as temporary accommodation to guarantee its functioning.</p> <p>4. There are provisions allowing use of open areas and sports facilities of critical infrastructure for temporary accommodation as a last resort.</p> <p>3. There are provisions allowing use of critical infrastructure for temporary accommodation as a last resort.</p> <p>2. There are no provisions on temporary accommodation. In case of displacement, open areas, school sports facilities, educational centers and other critical infrastructure are an option (but not the first choice) for use for temporary accommodation.</p> <p>1. In case of displacement, open areas, school sports facilities, educational centers and other critical infrastructure are always used for temporary accommodation.</p> <p>0. In case of displacement, schools, educational centers and other critical infrastructure are always used for temporary accommodation.</p>	2

Table 7: Quantitative illustration of Ninewa Governorate’s readiness in terms of infrastructure resilience

In order to address these issues, the following are the guidelines that could be used when creating policies for the climate change displacement:

1. Access to critical infrastructure for displaced people during disaster
 - a. All temporary or transitional housing facilities established during disaster scenarios must be designed to accommodate the diverse needs of displaced individuals, considering age, gender, disability, and other relevant factors.
2. Restrictions on use of critical infrastructure for temporary accommodation
 - a. Establish and enforce clear policies that explicitly forbid the utilization of critical infrastructure for temporary accommodation during disaster situations.

SUMMARY OF RECOMMENDATIONS

Overall, the report provides two types of recommendations: short- and long(er)-term recommendations, that can enhance the capabilities of Ninewa Governorate in preventing, mitigating, and responding effectively to climate change-induced displacement:

Short-term recommendations: In order to overcome the limitation of this study, we recommend conducting further workshop(s) to achieve the following:

- **Involving stakeholders from the private sector:** Identifying solutions that enable the economic empowerment of host and displaced communities requires the involvement of stakeholders of the private sector, such as banks and large enterprises. In this respect, private sector stakeholders can help identify the skills that are in demand and furthermore, inform the development of strategies to address the skills gap. This in turn could lead to the creation of employment opportunities and the growth of the private sector.
- **Involving stakeholders from the central Government in Baghdad:** During the one-day workshop, participants reported that the central Government in Baghdad is responsible for approving all policies for all Governorates. This

means that next steps/studies need to involve multiple stakeholders both from the central Government in Baghdad and stakeholders from Mosul Governorate, to establish direct communication and collaboration platform to better prepare Ninewa Governorate for potential climate change-induced displacement. Such a platform could be utilised as model to establish direct communication and collaboration platform between the central Government of Baghdad with other Governorates, that are similarly prone to receiving large influx of displaced populations due to climate change.

- **Conducting a comprehensive workshop on DRR:** The short duration of workshop (i.e., 1 day) neither allowed covering all essential aspects of the DRR scorecard nor utilising the checklist. In order to address these limitations, the duration of future workshop(s) need to be longer, for example 3 to 4 days, where participants need to discuss in-depth each essential aspect and perhaps, form groups that focus on solutions for each essential aspect. For instance, stakeholders from the Directorate of Municipalities would need to work with Directorate of Electricity as well as Directorate of Water Resources to identify exact appropriate locations to host displaced population, the current and necessary infrastructure (e.g., electricity and water) and then, formulate a readiness plan including a time frame and necessary resources to achieve goals. When doing so, it is important for each group to share plans and information with other groups because information sharing is a necessary component of collaboration that would ultimately lead to better prepare Ninewa Governorate to address climate change-induced displacement.

Long(er) term recommendations: These recommendations would be based on the outcomes of the short-term recommendations:

- **Developing a specific policy that focuses on climate change-induced displacement:** Overall, participants reported that the Ninewa Governorates is in urgent need of a specific policy that is both possible to implement and monitor. Participants mentioned that developing such a policy requires the engagement of multiple stakeholders from both the central Governorate of Iraq and Ninewa Governorate for at least one year. They also mentioned that the efforts of implementation and coordination need be coordinated by the migration and displacement Ministry, as the main focal point.
- **Collecting and integrating reliable timely data:** The preparation and management of climate change-induced displacement requires the collection of data of mobility patterns, size of the affected population, approximate timeframe of displacement and the current needs of affected population,

especially most vulnerable groups, such as pregnant women, children, elderly, and those with special needs. Stakeholders need to identify mechanisms of not only collecting data, but also sharing data on a regular basis to enable timely data-driven decision-making.

- **Financial support to public stakeholders, displaced and host communities:** The lack of budgeting for potential climate change-induced displacement poses significant barriers that hinders the ability of different stakeholders from the public sector to carry out the necessary DRR-related tasks. Furthermore, financial compensation for housing losses by displaced communities and incentives to host communities for hosting displaced population would certainly help reduce the severe economic impacts of the displacement for both communities. Stakeholders need to identify the budget that is necessary to support displaced and host communities.
- **Capacity building for public stakeholders:** Representatives of public stakeholders reported lack of essential skills and knowledge in regard to displacement prevention, mitigation and management. Thus, training curricula need to be designed and delivered to different stakeholders, depending on their roles, to enable them to plan scenarios and how to respond effectively to each scenario.

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