



Final Evaluation Report of Mosul Dam Emergency Preparedness Project in Iraq (Mar 2019-Oct 2021)

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ACRONYMS

CD	Civil Defense
CDMCs	Civil Defense Management Committees
CIP	Critical Infrastructure Protection
CIP-WG	Critical Infrastructure Protection Work-Group
COVID-19	Novel Coronavirus SARS-CoV2
CPD	UNDP country programme document
CSO	Civil Society Organization
DIM	Direct Implementation Modality
EACS	Early Alert and Communication System
ECC	Environment and Climate Change
EOCs	Emergency Operations Centers
EPRP	Emergency Preparedness and Response Plan
FGDs	Focus group discussions
GoI	Government of Iraq
IRCS	Iraqi Red Crescent Society
ISIL	Islamic State
KIIs	Key informant interviews
M&E	Monitoring and Evaluation
MDEP	Mosul Dam Emergency Preparedness in Iraq Project
MoE	Ministry of Environment
MoH	Ministry of Health
Mol	Ministry of Interior
MoWR	Ministry of Water Resources
OECD/DAC:	Organization for Economic Cooperation/Development Assistance Committee
PB:	Project Board
PMCCC	Prime Minister /Civil Crises Cell
PMNOC	Prime Minister's National Operations Center
SOS	Save Our Ship (emergency message code)
ToR	Terms of Reference
UNDP	United Nations Development Programme
UNICEF	United Nations Children Fund
UNSDCF	UN Sustainable Development Cooperation Framework
USAID	US Agency for International Development
USD	United States Dollar
WfSGI	Women for a Safe and Green Iraq initiative
WHO	World Health Organization

EXECUTIVE SUMMARY

Mosul Dam Emergency Preparedness (MDEP) Project in Iraq, has been implemented by UNDP in collaboration with stakeholders, from 1st March 2019 to 31st October 2021. Towards the end of the project, UNDP has commissioned this end of project evaluation to assess whether the project has achieved or is likely to achieve the project objectives. The evaluation assesses the project performance against the standard evaluation criteria of relevance, coherence, efficiency, effectiveness, sustainability and impact. The evaluation provides an overall assessment of project progress and performance and offers recommendations to improve future interventions.

Mosul Dam was built during the early eighties on the Tigris river, over the years, cavities have been formed underneath the Dam's base, due to presence of soluble gypsum, which needs continuous grouting. In 2014, ISIL occupied the Dam area and the grouting operations were halted, which gave rise to serious concerns about dam collapse, threatening the lives and livelihoods of around 4-6 Million people living in the downstream Tigris flood plains. MDEP project is the continuation of the previous phase started in 2016, to support the Government of Iraq in emergency preparedness actions. The overall objective of the MDEP was to safeguard the lives of vulnerable populations and major installations/facilities along the Tigris flood path, in case of Mosul dam collapse. The main outputs of the project included building national capacities of stakeholders and awareness raising among communities on disaster preparedness in the three high risk governorates of Nineveh, Salah ad din and Baghdad.

The total estimated original budget of the project was USD 5.56 Million and the project has been implemented in collaboration with wide range of stakeholders at the national, subnational and community level. These included Prime Minister National Operation Centre, Ministry of Water Resources, Civil Defense, the Ministry of Health and Environment and Prime Minister Civil Crises Cell and Governor's Offices and relevant departments in the target governorates. UNICEF, WHO and Iraqi Red Crescent Society (IRCS) were involved as main responsible parties, to undertake and implement specific interventions related to schools and hospital emergency preparedness and mass awareness. The project was guided and overseen by a Project Board, consisting of members from relevant national and subnational level counterparts.

The project final evaluation exercise was conducted in accordance with UNDP Evaluation Guidelines 2021 and OECD-DAC standard assessment criteria of relevance, coherence, efficiency, effectiveness, sustainability and impact. Mixed method approach was adopted using qualitative and quantitative data collection and analysis methods and tools. In summary the overall evaluation process consisted of five standard evaluation steps including 1) Evaluation Questions, 2) Evaluation Design, 3) Data Collection Methods, 4) Data Analysis and 5) Presentation and Reporting. The evaluation adopted a mix of non-probability sampling strategy through employing purposive and convenience sampling techniques.

Data collection methods included review of documents, key informant's interviews and focus group discussions. In total 102 key informants (including 19 women) were consulted individually or in focus groups (out of total 26 persons were consulted through key informant interviews and the remaining 76 were consulted through focus groups discussions). Respondents included officials of UNDP, USAID, UNICEF, WHO, IRCS, PMNOC, Mo Environment, Mo Health, Mo Industry, Mo Interior, Mo Water Resources, Civil Defense, Baghdad, Nineveh

and Salah ad Din Governorates. Due to Covid-19 and security restrictions it was not possible to visit project sites and to reach out to communities directly, therefore most of the data related to community awareness campaigns was obtained indirectly from project records/reports, social media back-end data and discussions with stakeholders. Qualitative data was processed manually using validations, triangulations and interpretations. While, quantitative data, mostly pertaining to project progress against output level targets, was analyzed to determine progress and achievement status.

Overall analysis suggests that project objectives, design, approach and interventions were found relevant and responded to the priorities of Iraqi government and needs of target communities. Collaboration among relevant stakeholders remained satisfactory and most of project interventions were found compatible with the mandates and scope of involved institutions in the context of emergency response and preparedness. Overall the project has achieved all targets stipulated for the output level indicators in the results framework, which has contributed handsomely towards achieving its overall objectives. However, there is still a need to continue and expand the emergency preparedness interventions to cover other major dams and at risk communities living in the downstream of these dams.

The project support was found instrumental in putting in place the coordination mechanisms and building capacities of relevant stakeholders, especially government officials, for the operationalization and implementation of Emergency Preparedness Plans. Project supported awareness campaign was also found successful in reaching out and raising awareness among target communities. In this regard, the community direct reach out campaign was found more effective as compared to social media campaign. Hospital and school preparedness interventions were also found helpful in building the capacities of relevant officials and awareness raising among communities and children to deal with flood emergencies. Similarly, emergency simulation and drills exercises at the national and subnational levels greatly helped in testing and ensuring readiness of various institutions and mechanisms for flood emergency.

Capacities of the officials of MoWR, especially the staff of major dams, on dam safety and Emergency Alert & Communication Systems have been built. However, since the focus was on the Mosul dam, therefore other major dams have received lesser attention in terms of comprehensive emergency planning and preparedness. The project has also helped in identification and development of contingency plans for identified critical infrastructures in the Tigris flood path. However, there is still a greater need to strengthen capacities for the implementation of these plans. Furthermore, the project has contributed in the identification of potential dangerous hotspots and building capacities to deal with toxic and chemical pollution in case of flood emergency. However, there is still a greater need to duly monitor, safeguard and mitigate these potential hazards.

Despite the implementation delays and slow down resulting from security situation and COVID pandemic, the project has successfully utilized 98% of its total available resources (as of 30th September 2021). However, this was made possible due to the eight months no cost extension in project original timeframe. Project implementation arrangements and collaboration and partnerships among various stakeholders remained appropriate and satisfactory. However, involvement of civil society, community groups and private sector was found very limited and spontaneous.

The alignment of the project results and interventions with the priorities of GoI and the high level of ownership among various institutions for response and preparedness interventions, provides a sound basis for sustainability of project interventions and benefits in times to come. However, due to the resource intensive nature of preparedness and awareness interventions, wider scale replicability and scalability of good practices will require continued technical and financial support in times to come. At this stage it seems too early, to assess the longer term impacts of the project interventions. However, discussions suggest that the involved institutions are now in much better position to effectively coordinate and deal with any such flood emergency. Having said this, stakeholders also expressed the need for continued technical support to further strengthen capacities and scale up interventions to generate a formidable impact in the longer run.

Nevertheless, project has made some efforts to make interventions more inclusive through involving women, vulnerable and disadvantaged groups in the capacity building and especially in the awareness related interventions. However, the results framework didn't provide specific indicators and targets related to participation of women and disadvantaged groups, which makes it slightly difficult to assess the involvement and benefits for women and marginalized groups. The number of women in the capacity building interventions remained small, one of the main reasons is that Iraq is among one of the male dominated conservative societies, with proportionately lower share for women, especially in government positions.

Based on the detailed findings and conclusions of the evaluation exercise, following are the main recommendations;

Recommendation-1: There is a greater need to replicate and scale-up the flood emergency preparedness practices to cover at least 4-5 major remaining dams and their flood paths. Therefore, UNDP should develop comprehensive project proposals for other dams and similarly develop a robust resource mobilization strategy to generate adequate funding for the implementation of future such projects.

Recommendation-2: Beside catastrophic floods, Iraq is also faced with multiple natural and manmade disasters including droughts, desertification, earthquakes, pandemics, heat waves, dust storms and chemical and nuclear contamination etc. Therefore, if resources allow, UNDP in collaboration with partners should develop and implement individual or umbrella projects to promote emergency response and preparedness covering all kinds of disasters.

Recommendation-3: There is also a greater need for developing a robust and comprehensive strategy, at the national level, to address climate change and disaster risks related issues. The strategy should define various national priorities and provide guidelines and mechanism for effective coordination and implementation. UNDP should support the MoE and relevant stakeholders in the development of the required strategy and necessary implementation plans and mechanisms.

Recommendation-4: The next generation of projects need to be designed based on good practices from the Mosul dam project and needs of the beneficiaries, especially vulnerable and disadvantaged segments. During the project's design phase detailed mapping exercise of key actors/stakeholders should be carried out to determine their contributions and roles. Project Result Framework should be developed in a 2-3 days' workshop set-up and the Results Frameworks should also incorporate specific indicators to measure the involvement and

benefits for women and disadvantaged groups. Future projects should also develop comprehensive M&E plans and employ dedicated M&E expertise at the project level to implement and guide the M&E Plans.

Recommendation-5: Future projects should involve more local CSOs and community based groups and strengthen their capacities to raise mass awareness regarding emergency preparedness. In this regard it is recommended to duly involve local CSOs as equal partners on longer term basis, not only as recipient of small grants.

Recommendation-6: Future projects should duly incorporate specific measures in their designs to mitigate impacts of COVID on project implementations. This will require designing specific activities which can be implemented remotely, using telecommunication tools and technologies. For this purpose, capacities of stakeholders should also be duly built to enable them to effectively participate and benefit from the remotely implemented activities.

Recommendation-7: There is a strong need to continue using social media to spread the awareness related to emergency preparedness. However, future awareness messages should be designed in a more innovative, interactive and targeted way to catch the attention of the viewers. Furthermore, content promotion tools and techniques should be also employed to reach to maximum number of targeted audience.

Recommendation-8: To give way to sustainability WHO, UNICEF and IRCS should duly incorporate the emergency preparedness related good practices in their upcoming programmes, projects and plans to replicate and scale up these interventions in their respective areas. Furthermore, ICERS should also take measures to keep the volunteers network active and awareness going on. However, IRCS resources are found to be very limited and therefore continued external financial assistance will be required in times to come.

1. INTRODUCTION

This is the Final Evaluation Report of Mosul Dam Emergency Preparedness Project in Iraq. The project has been implemented by UNDP in collaboration with relevant stakeholders from 1st March 2019 to 31st October 2021. Towards the end, UNDP has commissioned this evaluation to assess whether the project has achieved or is likely to achieve the project objectives. The evaluation assesses the project performance against the standard evaluation criteria of relevance, coherence, efficiency, effectiveness, sustainability and impact. In addition, it also assesses the integration of and progress towards cross cutting issues including gender equality and rights of disabled persons etc.

The evaluation provides an overall assessment of project progress and performance and offers recommendations to improve future interventions. The primary audience of this report includes UNDP, participating UN agencies, counterpart governmental organizations and the donor. However, the report is also prepared with the view to benefit all relevant stakeholders in Iraq. It is expected that UNDP, UNICEF, WHO, IRCS and main governmental counterparts will duly consider and incorporate, the recommendations of this evaluation to further improve the performance of future disaster preparedness and mitigation initiatives in Iraq.

The report is structured according to the UNDP standard guidelines for project evaluations reports, accordingly, the report also complies with the contents of USAID-BHU evaluation report template. and the main sections include; Introduction, Description of the intervention, Evaluation Scope and Objectives, Evaluation Approach and Methods, Data Analysis, Findings, Conclusions, Lessons and Recommendations. The Findings section analyses in detail the Relevance, Coherence, Effectiveness, Efficiency, Impact and Sustainability of the project. The report also analyses and provides information on the results achieved against the targets stipulated for output level indicators. Similarly, it also furnishes a set of recommendations to improve the performance of upcoming disaster preparedness and mitigation initiatives.

2. DESCRIPTION OF THE INTERVENTION

Mosul Dam is one of the largest dams in the Arab region and was built during the early eighties on the Tigris river. The Dam was built at a location where the foundation contains a lot of soluble gypsum. Over the years, cavities have been formed underneath the Dam's base, which must be filled with grout. In 2014, when ISIL occupied the Dam area, the grouting operations were halted until 2016, which gave rise to serious concerns about dam break and catastrophic floods threatening the lives and livelihoods of around 4-6 Million people living in the downstream Tigris flood plains. Since 2016 considerable efforts have been made to stabilize the dam infrastructure through grouting etc., which has considerably reduced the likelihood of an eminent Dam collapse. However, experts continue to express concerns about the likelihood of collapse and have called for sustained actions on emergency response and preparedness for the vulnerable communities.

Since January 2016, UNDP has supported the Government of Iraq and has mobilized emergency preparedness actions for safeguarding the vulnerable population along the Tigris floodplain through various interventions. Building on the lessons learned over the past years and in continuity with the previous phases the 'Mosul dam Emergency Preparedness' Project was conceived and was implemented from March 2019 to October 2021. The MDEP overall

objective is *“to safeguard the lives of vulnerable populations and major installations/facilities along the Tigris flood path through provisioning technical assistance to the Government of Iraq (GoI)”*. In achieving this objective, the project was designed to undertake targeted interventions toward achieving the following two outputs:

Output 1: National capacities including the high-risks governorates (Nineveh, Salah ud din, Baghdad} strengthened on disaster preparedness, early warning and risk reduction

Output-2: Local and community capacities enhanced in the high-risk municipalities on flood preparedness and risks awareness.

Project results framework outlined seven key results areas to achieve the above outputs and the overall objective;

- Rapid deployment of preparedness training and tools to operationalize the Governorate preparedness plans
- Risk advocacy for vulnerable communities along the Mosul Dam flood path.
- Simulations/drills to ensure readiness and strengthen emergency preparedness conducted at all levels
- Volunteer network(s) strengthened for community early warning and evacuation
- Emergency preparedness and safety measures of major Dams strengthened
- Major facilities protected along the Tigris flood plain to avoid domino impacts
- Environmental risks of toxic and chemical pollution mitigated to reduce the impacts of Mosul dam collapse

MDEP has been implemented in collaboration with wide range of stakeholders at the national, subnational and community level. Among others, main project counterparts at the national level included the Prime Minister National Operation Centre, Ministry of Water Resources, Civil Defense, the Ministry of Health and Environment and Prime Minister/Civil Crises Cell etc. At the subnational level project collaborated with Governor’s Office and relevant departments at the governorates and district level, in the target governorates of Baghdad, Nineveh and Salah ad Din. It is important to mention that UNICEF, WHO and Iraqi Red Crescent Society (IRCS) were involved as main responsible parties, to undertake specific interventions related to schools and hospital emergency preparedness and mass awareness. The project has also involved local communities in awareness campaigns for flood emergency preparedness. Overall, the project is guided and overseen by a Project Board, chaired jointly by UNDP and the Prime Minister National Operation Centre and consisting upon members from relevant national and subnational level counterparts.

According to Project document the total estimated original budget of the project was USD 5.56 Million out of which around \$ 4.74 Million (85% of total estimate budget) was provided by USAID-Bureau for Humanitarian Assistance (BHA) and the rest were in kind contributions from UNDP, Government and partners. USD 239,252 were also allocated through UNDP TRAC funding for the project. To add up in total \$ 4.98 Million were made available as actual funding in addition to the in kind support. According to the financial statement provided by the project for the purpose of this evaluation, out of \$ 4.98 Million funds received, the project has utilized around \$ 4.86 Million from March 2019 to September 2021, which is around 98% of the total project available budget.

3. EVALUATION SCOPE AND OBJECTIVES

3.1 Objectives and scope of the evaluation

According to the ToR, the final evaluation will cover the project life span from 1st March 2019 to 30th September 2021. Geographically the evaluation covers at risk population from floods, in the three target governorates of Nineveh, Salah ad din and Baghdad. The main objectives of the evaluation are the following:

1. The main objective of this final evaluation is to assess whether the project has achieved or is likely to achieve the project objectives. The evaluation assesses the project performance against the five evaluation criteria: relevance, efficiency, effectiveness, sustainability and impact.
2. Take stock of the overall Project progress, achieved against the Project's expected results, and contribution towards Outcome 4.1 of the UNDP Country Programme Document (CPD).
3. The objectives of the evaluation are also to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.
4. The evaluation assesses the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluation include whether the project has contributed to, or enabled progress toward, building comprehensive preparedness capacities for safeguarding lives, livelihoods, and assets in the vulnerable communities along the Tigris flood path.
5. The Final Evaluation is also expected to draw lessons and develop recommendations that may help in improving the selection, enhancing the design and implementation of similar future projects and activities in the country, improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

3.2 Evaluation Criteria

In line with the UNDP evaluation guidelines and (OECD) Development Assistance Committee (DAC) evaluation criteria, the evaluation used the standard criteria of *Relevance, Coherence, Effectiveness, Efficiency, Sustainability and Impact* to assess the overall project progress and performance. Similarly, evaluation also assessed cross-cutting issues i.e. gender equality and disability rights etc. Following is a brief outline of the main evaluation criteria and cross cutting themes.

- **Relevance:** The extent to which the project strategy, proposed activities and expected outputs and outcome are justified and remain relevant to the Government of Iraq (GoI) priorities and needs of the target population.
- **Coherence:** To assess how and to what extent the project intervention is in coherence with Government's policies and UNDP's priorities and to what extent the intervention was consistence with other actor's interventions in the same context.
- **Effectiveness:** The extent to which the project's expected outputs and outcomes are being achieved or are expected to be achieved. Factors contributing to or detracting from the achievement of the project desired results and objectives should also be included in the assessment.
- **Efficiency:** The extent to which the project resources (funds, expertise/human resources, time, etc.) are optimally used and converted into intended outputs.

- **Sustainability:** Analyzing whether benefits of the project are likely to continue after the project cycle.
- **Impact:** The extent to which the project's is expected to contribute to longer term outcomes/results. The impact or effect of the intervention in proportion to the overall situation of the target institutions or direct beneficiaries

In addition to the main evaluation criteria the evaluation also assessed the extent to which cross-cutting issues of gender equality and disability rights etc., are taken into consideration in the project design and implementation.

3.3 Evaluation Questions

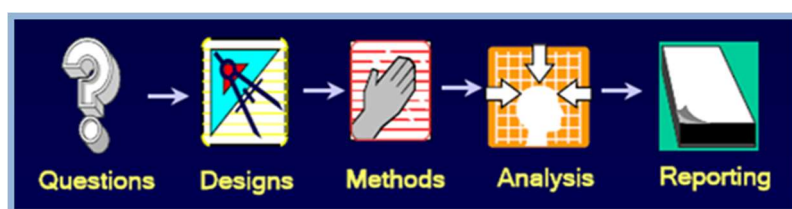
A number of evaluation questions were provided in the ToR, to assess the overall relevance, coherence, efficiency, effectiveness, impact, sustainability and cross cutting issues. These questions were further refined and elaborated and were used during the key informant interviews and focus group discussions, during the data collection process. Details of various evaluation questions, for each evaluation criteria, are provided in the Evaluation Matrix, please see Annex-2. The Evaluation Matrix also outlines data sources/methods, indicators and data analysis methods etc.

Similarly, the main questions were further elaborated and a long list of specific evaluation questions has also been prepared keeping in view the role and contributions of specific stakeholders and were used during stakeholder's interviews and focus group discussions, please see Annex-3. It is important to highlight that most of these questions were qualitative in nature and were meant to assess the overall progress and performance of the project keeping in view the standard evaluation criteria.

4. EVALUATION APPROACH AND METHODS

a) Evaluation Approach

Overall the project final evaluation exercise was conducted in accordance with UNDP Evaluation Guidelines 2021, OECD-DAC standard evaluation criteria and USAID-BHU Guidance for Monitoring and Evaluation 2021. Keeping in view the scope of the project evaluation, a mixed method approach was adopted using qualitative and quantitative data collection and analysis methods and tools. In summary the overall evaluation process will consists of five standard evaluation steps i.e. 1) *Evaluation Questions*, 2) *Evaluation Design*, 3) *Data Collection Methods*, 4) *Data Analysis* and 5) *Presentation and Reporting*.



The evaluation followed a participatory and consultative approach that ensured close engagement with all stakeholders including, UNDP, governmental institutions, responsible parties, donors and direct beneficiaries to the extent possible in light of the Covid-19 and security situation in Iraq.

b) Sampling strategy

In view of the limited timeframe of data collection (10 days), and restrictions due to Covid-19 pandemic and security situation it was identified from the on-set that it would not be feasible to reach all stakeholder's and especially beneficiary communities. Given the limited timeframe and qualitative nature of the evaluation and heterogeneousness and larger geographical spread of project stakeholders, especially communities it was not possible to conduct any structured/formal surveys through adopting probability/random sampling. Therefore, the evaluation adopted a mix of non-probability sampling strategy through employing purposive and convenience sampling techniques. Academically, purposive sampling it is a form of non-probability sampling in which researchers (in this case the evaluator and project team) rely on their own judgment when choosing members of the population (in this case, stakeholders) to participate in the study¹. Similarly, convenience sampling is a type of non-probability sampling method where the sample is taken from a group of people easy to contact or to reach².

As mentioned, the project stakeholders consisted of heterogeneous groups, including government officials at the national and sub-national levels, UN agencies, CSOs and target communities in the target governorates of Nineveh, Salah ad din and Baghdad. Since it was not possible to reach out to communities directly, who were involved or benefited from project awareness campaigns, therefore most of the data related to awareness campaigns was obtained indirectly either from project/partner records/reports, back-end data of social media platforms and discussions with IRCS, WHO and UNICEF officials and volunteers, who were involved in conducting these awareness campaigns. Nevertheless, an effort was made to plan a visit to meet some of the communities in Mosul area, however it was cancelled at the last moment, due to the security clearance, alternative only four community members (2 men 2 women) were consulted through zoom, to get at least some flavor of firsthand impressions.

Regarding key respondents from counterpart government institutions at the national and sub-national levels, key persons were identified with the help of project team, UNDP, WHO, UNICEF and IRCS in the three target governorates. These key persons were mostly senior government officials, who have either participated or benefited directly from project interventions, therefore were considered the most informed people to be consulted for the purpose of this evaluation. Overall project has trained 435 governorate and district level officials in emergency preparedness and response etc., out of which 31 persons (around 7% of total) were consulted through group discussions, including 12 from Nineveh, 10 from Salah ad din and 9 from Baghdad, with no women. Similarly, project has trained 120 officials of MoWR, out of which 18 persons (around 15% of total) were consulted through group discussions, including officials from 6 major dams, with only one women.

Project has trained a number of nurses and doctors, out of total 117 trained doctors, 6 people (around 5% of total) were consulted through group discussion, including 3 each from Nineveh and Salah ad din, with no women. Nurses couldn't be reached out during the course of evaluation exercise. Accordingly, UNICEF trained 304 teachers, out of which 10 persons (around 3% of total) were consulted through online group discussion in Baghdad, including 6 women. Similarly, out of total 200 trained volunteers, 7 persons (around 3.5% of total) were consulted through group discussion, including 2 from Nineveh and 5 from Salah ad din, with only one women. The rest of 30 key persons consulted, individually or in groups, belongs to PMNOC,

¹ <https://www.alchemer.com/resources/blog/purposive-sampling-101/>

² https://en.wikipedia.org/wiki/Convenience_sampling

Federal Ministries, UNDP, Project team, WHO, UNICEF, IRCS and USAID etc., out of which 11 were women.

c) Data Collection Methods

• **Desk Review of documents**

A good deal of relevance, efficiency, effectiveness and sustainability related data was obtained from review of relevant documents and secondary sources. Qualitative and quantitative data was extracted from various project documents and secondary sources and was used during the analysis to assess project progress and performance based on mentioned evaluation criteria and indicators of the Project Results Framework. These documents included;

- MDEP Project document
- Revised project results framework
- UNDP Country Programme Document (2020-2024)
- Project Work Plans
- Project Annual and Quarterly Reports
- Technical Studies and Publications
- Workshop, training, events and field visit reports
- National Policy and Programme Documents
- Project Financial Statements
- Minutes of Project Board Meetings etc.
- Secondary sources and national statistics etc.
- Online resources as needed

• **Key Informants interviews and Focus Group Discussions**

Key informant's interviews and focus group discussions remained the main data collection tool for collection of primary data related to evaluation questions. Key informants among stakeholders, especially governmental institutions, at the national and sub-national levels, were identified with the help of project team, UNDP, WHO, UNICEF and IRCS, keeping in view the level of their participation in implementation of various interventions and their availability for interviews/FGDs.

In total 102 key informants (including 19 women) were consulted individually or in focus groups, out of total 26 persons were consulted through key informant interviews and the remaining 76 were consulted through focus groups discussions. Respondents included officials of UNDP, USAID, UNICEF, WHO, IRCS, PMNOC, Mo Environment, Mo Health, Mo Industry, Mo Interior, Mo Water Resources, Civil Defense, Baghdad Governorate, Nineveh Governorate, Salah Al Din Governorate. The following table provides a summary of the main stakeholders, number of respondents consulted (both men and women), geographical distribution and method of data collection.

It is important to note the consultations with USAID officials, teachers from Baghdad area and communities from Mosul area were conducted online through zoom. The rest of consultations were held in person in Baghdad and Erbil. Please see Annex-1 for list of key persons consulted during the evaluation exercise. Overall the evaluation questions/checklist developed for various groups of stakeholders were used to guide the key informant interviews and focus group discussions to obtain required information (Please see Annex-3). The FGDs were

conducted in a participatory way and efforts were made to ensure feedback from all individual participants.

Summary Table: Key Persons Consulted during the evaluation exercise				
Stakeholders	Men	Women	Total	Data collection method
UNDP CO & Project Team	6	1	7	Key Informant interviews
Federal Government officials (PMNOC, Mo Environment, Mo Health, Mo Industry, Mo Interior, Mo Water Resources)	7	1	8	Key Informant interviews
USAID Officials	1	1	2	Key Informant interviews (online)
UNICEF officials	0	6	6	Key Informant interviews
WHO officials	1	0	1	Key Informant interviews
IRCS HQ officials	2	0	2	Key Informant interviews
Baghdad Governorate officials	9	0	9	Focus Group Discussions
Nineveh Governorate officials	12	0	12	Focus Group Discussions
Salah ad Din Governorate officials	10	0	10	Focus Group Discussions
IRCS staff and volunteers Salah ad Din and Ninawa	8	1	9	Focus Group Discussions
Dept. of health officials from Ninawa and Salah Al-Din	6	0	6	Focus Group Discussions
MoWR officials from Mosul, Dokan, Derbandikhan, Hadhitha, Hemrin Dams and Samarra Barrage	15	1	16	Focus Group Discussions
School Teachers from Baghdad	4	6	10	Focus Group Discussions (online)
Community members from Mosul area	2	2	4	Focus Group Discussions (online)
Total respondents consulted	83	19	102	
Total respondents consulted though KIs	17	9	26	
Total respondents consulted though FGDs	66	10	76	

d) Limitations of the Evaluation

Like every evaluation this evaluation exercise also had its own limitations. Due to Covid-19 and security restrictions it was not possible to visit project sites and to reach out to communities directly, who were involved or benefited from project awareness campaigns, therefore most of the data related to awareness campaigns was obtained indirectly either from records/reports, social media platforms and discussions with IRCS, WHO and UNICEF officials and volunteers, who were involved in conducting these awareness campaigns.

Similarly, it was not possible to meet officials of governmental institutions in their offices and jurisdictions, with the only exception of PMNOC. Therefore, group meetings with key persons from relevant governmental institutions were held in hotels in Baghdad and Erbil. Furthermore, a number of beneficiaries like trained school teachers and few member of communities were reached out remotely through Zoom. Indeed, project site visits and in persons meeting especially with communities always provide deeper insights and understanding of project interventions and impacts. Nevertheless, the limited timeframe and tight schedule of the evaluation exercise also posed some challenges due to condensed workload.

5. DATA ANALYSIS

In view of the nature of evaluation questions and use of mix-method approach for data collection, the acquired data was analyzed both qualitatively and quantitatively. Since most of the primary data was acquired qualitatively therefore it was processed manually using qualitative data analysis techniques like validations, triangulations and interpretations. As

mentioned earlier, most of the primary data was collected through informal key informant's interviews and focus group discussions, whereas an open discussion was generated on various evaluation questions and the feedback, reflections and impressions of the respondents was recorded by the consultant through taking diary notes of the main points of the discussions.

Efforts were made to logically interpret stakeholder's opinions, impressions and statements, while analyzing data, keeping in view the specific perspectives of various respondents. During the analysis, data obtained from review of project and other documents, especially project progress reports, was triangulated and validated manually against the data and impressions collected during key informant interviews and group discussions, to identify similarities, contradictions and patterns and to confirm the accuracy of data.

It is also important to mention that for such limited duration evaluation exercises, no such large scale formal/structured questionnaire/surveys could be employed, which should generate large quantitative data sets, requiring use of computer based statistical analysis tools. Having said this, the relevant quantitative data, mostly pertaining to project progress against output level targets, was analyzed using simple statistical methods to determine progress and achievement status. Project Results Framework indicators and targets were used as the main reference during the analysis to assess the achievability status of various outputs level indicators. Nevertheless, the reported fact and figures from progress reports were validated and triangulated manually against data obtained from interviews/discussions with key stakeholders etc. Furthermore, the project results framework didn't provide gender disaggregated targets, however efforts were made during the evaluation, to the extent possible, to collect and process data disaggregated by gender.

As mentioned, it was not possible to reach out to communities directly to receive their feedback regarding validation of the project awareness campaigns, therefore the evaluation relied on and used the already processed backend data of various social media platforms, like Facebook, Instagram and twitter, provided by IRCS media cell. Having said this, overall there was no such challenges faced in the data analysis and the data analysis mechanisms used were found appropriate in addressing the evaluation questions. The only exception, as mentioned, was that the facts and figures of project awareness campaigns couldn't be validated through direct consultations with communities. Indeed, the direct feedback from communities would have provided deeper insights and understanding of project interventions and benefits.

(please see the links in footnote about the provided backend data related to social media campaign by IRCS³)

³<https://docs.google.com/document/d/1OtJzwChc5CpuxKivF7RXXdIr5ZKmgXs0Vw5b7Y-8w54/edit?usp=sharing>
https://docs.google.com/document/d/1m6hdayf1PzYAAceBQiZs1btAio_bFLcNG1UyZ0XzKQQ/edit?usp=sharing
https://docs.google.com/document/d/12xKvHpy5bFD5jSlw_QtfyvXM4aKOzeckP99PPXaoWE/edit?usp=sharing

6. FINDINGS

The following sections describe the detailed findings of the project evaluation. The analysis and discussion are intended to assess the overall project progress and performance towards achieving its outputs and objectives, using the key evaluation criteria of relevance, coherence, effectiveness, efficiency, impact and sustainability and cross cutting issues of gender equality and rights of disabled persons etc.

6.1 RELEVANCE

In February 2016, the US Embassy in Iraq warned of a "serious and unprecedented" danger of the Mosul dam collapsing and suggested that plans for evacuation should be made, as the cities Mosul, Tikrit, Samarra, and Baghdad could be at high risk in the event of collapse, and that up to 1.5 million people could be killed due to the ensuing flash floods. The Prime Minister of Iraq, Haider al-Abadi, repeated these concerns, and called for citizens in Mosul to evacuate and move at least 3.5 miles away from the river".⁴ The situation was so alarming that it also got the attention of international media BBC News: January 22, 2016 "Iraq's Mosul Dam at risk of bursting as erosion takes its toll"⁵ NBC News: April 9, 2016 "Mosul Dam: Residents Living Downstream in Fear of Annihilation"⁶

Overall it was concluded that until the structural vulnerability is stabilized, the Mosul Dam remains in a high-risk condition and poses a major threat to the lives and livelihoods of the vulnerable communities along the Tigris River valley. Keeping in view the catastrophic nature of the consequences resulting from Mosul dam collapse, there was an immediate need, on one hand, to structurally stabilize the dam foundations by immediately resuming the grouting operations. On March 2, 2016, the Iraqi government signed a contract of estimated \$408M with Trevi –an Italian firm, which resumed the grouting process in October 2016.

On the other hand, there was also a greater need for sustained actions on emergency response and preparedness for the vulnerable communities downstream. There was immediate need for development and implementation of comprehensive flood emergency response and preparedness plans, at all levels and involving all stakeholders in the flood path of Tigris river to mitigate the ravages of flood, in case of Mosul dam collapse. To address the dire need for emergency response and preparedness, UNDP, with funding from USAID, had initiated the 1st phase of the project January 2016, to help Government of Iraq to establish emergency alert and communication protocols to warn populations along the flood-path in the event of dam failure.

This helped in establishing an Emergency Alert and Communication System (EACS), preparation of emergency preparedness plans, building capacities of relevant officials, raising risks awareness in the vulnerable communities etc. The 1st phase was concluded in 2019, however keeping in view of the continued demand for strengthening capacities, especially for operationalization of developed emergency preparedness plans, and mass awareness raising among the target communities, the government counterparts and the local authorities have

⁴ Mosul Dam: https://en.wikipedia.org/wiki/Mosul_Dam

⁵ <https://www.bbc.com/news/world-middle-east-35351888>

⁶ <https://www.nbcnews.com/news/world/mosul-dam-residents-living-downstream-wana-fear-annihilation-n551516>

requested UNDP to continue its support over the coming years in a targeted way so as to minimize the risks and vulnerabilities of the vulnerable communities along the Tigris flood path.

This resulted in the development and implementation of the current phase of the project, called as “Mosul Dam Emergency Preparedness Project in Iraq” implemented from March 2019 to October 2021, with the funding support of USAID and UNDP. Keeping in view the above context and needs of the government institutions and local communities, the overall project objectives to build comprehensive preparedness capacities for safeguarding lives, livelihoods and critical assets along the Tigris flood path was found highly relevant and consistent with need of the at-risk communities and priorities of Iraqi government at the national and sub-national levels.

Similarly, the project design (results chain) and approach also duly responded to beneficiaries and governmental institution needs and priorities, towards minimizing the risks and vulnerabilities of the target communities along the Tigris flood path. Project has implemented a diverse range of interventions including putting in place the coordination mechanisms and building capacities of relevant officials, awareness campaign for target communities, organization of emergency preparedness drills at the national level and governorate level, establishing volunteers network and building their capacities, developing dam safety guidelines/standards and building the capacities of the officials of MoWR, development of contingency plans for some of the Critical Infrastructure and various measures to reduce and mitigate environmental risks of toxic and chemical pollution.

These interventions were found greatly inline and consistent with the needs of relevant institutions and target population. Having said this, keeping in view the needs of large population base of at-risk population and number of critical infrastructures in the Tigris flood path, project inputs couldn't be deemed sufficient enough to address all issues, however were found instrumental in addressing the main issues.

Overall the project is found aligned with the various legal frameworks and policies of GOI, which governs the emergency response and mitigation at national and sub-national levels. These include Emergency Use Law 1961, Civil Defense Law 1978, Public Health Law 1981 and Social Care Law 1980. Additional laws that have been enacted after 2003 include the Immigration Law, which deals with the issues of internally displaced people; the Governorate Law, which regulates the response between the governorate and central authority in case of disaster; and the Law of Budget Management, which coordinates the allocation of financial resources to disaster-affected area⁷.

Accordingly, project objectives and interventions are also fully aligned with global agenda of Sendai Framework for Disaster Risk Reduction 2015-2030, which Iraq has also adopted. Sendai Framework aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years⁸. Overall project agenda is also in line with SDGs goal 13: Take urgent action to combat climate change and its impacts and has a special relevance to target 13.1 i.e. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6407463/>

⁸ <https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030>

Project objectives and outputs are also fully aligned with and responds to UNSDCF Iraq Outcome: 4.1 Strengthened and resourced policies and frameworks are implemented for managing natural resources, developing renewable resources, and increasing resilience to climate change, environmental stress and natural hazards, and human-induced and natural disasters. More specifically project interventions responds and contribute to CPD (2020-2024) Output 4.2: Disaster risk management and resilience strengthened with multi-stakeholder engagement, in geographic locations at high risk of human-induced or natural disasters⁹. Similarly, project agenda is also in line with UNDP Strategic Plan Outcome 2: Accelerate structural transformations for sustainable development. Nevertheless, project objectives and interventions were also greatly aligned with the strategic priorities of USAID's Bureau of Humanitarian Assistance in Iraq at the time of the project design. Discussions with USAID BHA officials suggest that recently there has been a shift in BHA priorities in Iraq and disaster risk management is not on the priority list anymore.

Overall UNDP's role, as the main implementation agency of the project, is also found very relevant in responding to diverse challenges the country is faced with from time to time. UNDP is ranked among the top-most influential and resourceful UN agencies in Iraq and enjoys very good relations and reputation with all development actors and stakeholders in general and with governmental institutions in particular. Due to its broad mandate, expertise and vast linkages UNDP is well positioned as a connector and knowledge broker to bring in and share, especially international expertise and solutions to support national priorities. UNDP's role is also found very relevant in mobilizing much needed resources from various donors and international agencies. One of the promising comparative advantages of UNDP, as highlighted by stakeholders, includes its ability to effectively identify, convene and coordinate diverse range of stakeholders to collaborate on various projects and initiatives.

Presently, UNDP is actively supporting the Government and people of Iraq during their transition towards reconciliation, reform and stability. The support ranges from promoting emergency livelihoods and community dialogue in districts impacted by the humanitarian crisis, to helping stabilize newly liberated areas, to providing technical assistance in support of governance reforms and decentralization. Discussions with stakeholders suggest that UNDP's role is well appreciated by all stakeholders for providing needed expert technical assistance in building capacities, advocating and promoting the agenda of flood emergency response and preparedness at the national and sub national levels in Iraq.

6.2 COHERENCE

The project was implemented in close collaboration with relevant governmental institutions at the national and sub-national level, UN agencies and other development partners. It greatly helped in facilitating and promoting synergies among various stakeholders at national, governorate and local levels. At the national level project collaborated with the Prime Minister's National Operations Centre (PMNOC), as the lead counterpart. Among its other functions, one of the important functions of PMNOC is to coordinate the emergency response in the wake of natural or manmade disasters. Discussions with PMNOC officials suggest that project collaboration with PMNOC was found optimal and project interventions were found fully compatible with the organizational mandate of PMNOC, especially for flood related emergencies.

⁹ CPD (2020-2024)

Other project counterparts at the national level included the Ministry of Water Resources, Civil Defense, Ministry of Health and Environment and Prime Minister/Civil Crises Cell etc. At the subnational level project collaborated with the relevant institutions in the target governorates of Baghdad, Nineveh, and Salah al Din. Discussions with stakeholders suggest that overall collaboration among stakeholders remained satisfactory, with no major issues, which greatly helped in promoting synergies during the implementation of project interventions. Furthermore, most of the project interventions were also found compatible with the mandates and scope of involved institutions in the context of emergency response and preparedness.

Project Board, co-chaired by UNDP and PMNOC, and consisting upon members from MoWR, MoH, MoE, Civil Defense, Prime Minister Civil Crises Cell, USAID and the target governorates, remained the main project steering body at the highest level. The PB met once a year and reviewed project progress, approved work plans and provided guidance for project implementation and other issues like revision of the results framework etc. The PB also remained the highest-level coordinating body and among its other functions, its role was found instrumental in promoting synergies among various stakeholders to effectively implement project interventions. Furthermore, the Civil Defense Management Committees (CDMCs), supported by the project, at the governorate and district level also helped in bringing together all stakeholders on regular basis to discuss emergency preparedness related issues and clarifying roles and responsibilities of member organizations to promote synergies and compatibility.

Project has actively collaborated and partnered with UN agencies and non-governmental organizations including WHO, UNICEF and IRCS through signing of partnership agreements for implementation of relevant activities of the project related to health and education sectors and awareness and mobilization of communities. The partnerships between UNDP, WHO, UNICEF and IRCS were found very rewarding and helped in mustering specialized expertise and good will, -UN agencies and IRCS enjoy very good reputations among government and development partners-, of these agencies to address various sectoral issues in the context of flood emergency response and preparedness. A wide range of technical interventions were successfully implemented by these organizations to strengthen the capacities of especially health and educational institutions, including hospitals and schools, and mass awareness raising among targeted at-risk communities.

Discussions with UNDP, WHO, UNICEF and IRCS officials suggest that partnerships were found very rewarding and project interventions also corresponded with their organizational mandates and roles and helped in promotion of synergies. However, due to lockdowns and restrictions from COVID pandemic also considerably hampered the timely implementation of project interventions and many of the activities were considerably delayed especially related to hospital and school-based emergency preparedness and community awareness. These delays, at times, also resulted in some sort of strain among respective organizations due to their inability to meet specific deadlines and milestones of the project.

6.3 EFFECTIVENESS

A Comprehensive Results Framework had been developed at the time of project design, consisting of outputs, key results areas, respective indicators, baselines, targets, data sources. Overall the project outputs were initially intended to contribute to the CPD (2016-2020) “Outcome 3: Conditions improved for the safe return of internally displaced persons in newly liberated areas”. Later on with the formulation of CPD (2020-2024) the project was intended to contribute to the “CPD Output 4.2: Disaster risk management and resilience strengthened with multi-stakeholder engagement, in geographic locations at high risk of human-induced or natural disasters”.

The original Results Framework consisted of two main outputs and seven key results areas, a number of indicators with respective targets were provided to monitor the progress towards key results areas and outputs. However, during late 2020, the results framework was revised and a number of modifications were made in the indicators and targets to make them more specific and measurable and to align them with the new CPD outputs. In this regard out of total 24 output indicators, 12 were modified partially or were replaced by new ones. These changes in the results framework were duly approved in the Project Board meeting, held in December 2020. These changes can be deemed as good example of adoptive management, however, the tendency of the new indicators was more on the quantitative side, which makes it little difficult to assess the qualitative aspects. The results framework didn’t provide specific disaggregated indicators and targets related to participation of women and disadvantaged groups, which makes it slightly difficult to assess the issues of gender equality and benefits for the marginalized groups.

Overall, UNDP in collaboration with stakeholders, including national and sub-national governmental institutions, UN agencies, non-governmental entities and communities etc., have made rigorous efforts and has implemented diverse range of interventions to achieve the outlined project outputs and objectives. In the following section an effort has been made to assess overall progress, achievement status and effectiveness project outputs and respective key result areas. In addition, towards the end of this section a matrix has been produced which provides the summarized achievement status of the project output level indicators and targets as outlined in the revised Results Framework.

Output 1: National capacities including the high-risks governorates (Nineveh, Salahuddin, Baghdad) strengthened on disaster preparedness, early warning and risk reduction

The project document envisaged a set of four targeted/key results areas to achieve this output. Following are the details of implementation and achievement status of these key results:

1.1 Rapid deployment of preparedness training and tools to operationalize the Governorate preparedness plans.

According to the project document, in the previous phase, UNDP had collaborated with the high-risks Governorates and the local authorities along the Tigris floodplain and supported the preparation disaster preparedness plans. The Governorate Flood Emergency Preparedness Plans of Baghdad and Salahuddin were officially endorsed by the respective Governors in December 2018. While the endorsement of the Flood Emergency Preparedness Plan of Nineveh governorate was delayed and was finally approved in October 2019. Though the preparation

and approval of these plans was a big step forward, however, the counterparts have expressed the need for capacity building of relevant authorities to operationalize these preparedness plans. The planned activities to achieve this targeted result included (a) realignment of roles and coordination functions and activation of flood emergency committees, (b) imparting training for the officials/staff in the Governorates and vulnerable districts in line with the requirement of the preparedness plans, (c) conducting multi-hazards community alert and early warning as well as gender-responsive trainings.

¹⁰To effectively implement the Emergency Preparedness Plans, the project has supported the establishment of required coordination platforms in the flood high-risk districts and sub-districts of the three Governorates. In this regard Civil Defense Management Committees (CDMCs) have been established, in line with the Civil Defense (CD) Laws¹¹ both at the district and sub-district levels. The main function of the CDMCs is to facilitate multi-stakeholder



Baghdad Governorate CDMC meeting, Feb 2020

communication and cooperation for emergency coordination and to keep a close liaison with the Governorate level CDMC. Overall the project has supported the establishment and functionalization of 3 governorate level and 44 district and sub-district level CDMCs in the target governorates of Baghdad, Nineveh, and Salah ad Din.

To build the capacities of relevant officials for the implementation of the developed Emergency Preparedness Plans, the project has organized several workshops, consultation meetings and bilateral discussions etc. These capacity building activities mainly focused on three main areas i.e. 1) emergency response and preparedness, 2) multi-hazards early warning and 3) operationalization of local preparedness plans. In total 435



Workshop on Multi-Hazard early Warning System for Ninewa June 2021

governorates, district and sub-district level officials and other stakeholders from Baghdad, Nineveh, and Salah ad Din governorates participated and benefited from these capacity building workshops and meetings. It is important to mention that almost all of the participants were men with only very few women. Overall the project has achieved over and above the

¹⁰ All pictures are obtained from project quarterly progress reports

¹¹ CD laws and Services Decisions were the principal guides to establishing the coordination mechanism at different levels of administration to ensure compliance with existing laws and regulations.

stipulated targets for various indicators outlined in the results framework under this key result area.

In addition to establishment of CMDCs and capacity building of relevant officials, the project also provided technical support to produce up to date maps of governorate and district levels to support the functions of operations rooms and CDMCs. The maps included expected inundation levels in the case of Mosul Dam collapse, safe areas as well as details on locations of key facilities including first responders.

Group discussions with relevant governorate, district and sub-district level official from Baghdad, Nineveh, and Salah ad Din suggest that project technical support in establishment of CMDCs and especially in the capacity building was found very instrumental in addressing the potential risk of damages from catastrophic floods resulting from Mosul Dam collapse in particular and risks of damages from other seasonal floods in general. Before project interventions, many of them had some idea about the collapse of dam and the kind of damages it can bring about, however they had very little knowledge on how to deal with such emergencies. Though the emergency preparedness plans were prepared and endorsed in the previous phase, however there was a serious lack of capacities and coordination mechanisms to implement these plans.

The establishment and activation of CMDCs greatly helped in bringing together and engaging relevant departments and entities at the governorate, district and sub-district level to effectively coordinate and to make timely decisions to implement the Emergency Preparedness Plans during the flood emergencies. Similarly, the capacity building events organized by the project provided the required knowledge and practices related to emergency response and preparedness, multi-hazards early warning and operationalization of local preparedness plans. These workshops were found very instrumental in clarifying and defining the specific roles and responsibilities and distribution of tasks among various organizations involved in the implementation of emergency plans. It also helped in explaining and clarifying the related Civil Defense laws and legal framework and operating procedures for coordination structures during preparedness and response. Capacities of stakeholders were also developed in early warning communications mechanisms and procedures. The development of detailed maps for flood emergency was also found very useful in identifying the most at-risk areas and the high grounds for evacuation purpose and preparation of evacuation plans.

Respondents, contacted during the evaluation exercise, unanimously highlighted that now they are in a much better position to implement the Emergency Preparedness Plans, in case of any such flood emergencies. Similarly, they also expressed the need for continued technical support to further strengthen capacities of all relevant stakeholders.

1.2 Risk advocacy for vulnerable communities along the Mosul Dam flood path

The project document outlined that the project will prioritize reaching out to the vulnerable communities living along the Tigris floodplain through targeted risks advocacy following an inclusive approach that ensures the weaker and disadvantaged sections of the populations in particular benefit from such advocacy efforts. The project will continue to use multiple platforms for media advocacy to cover all population along the Tigris floodplain in partnership with Iraq Red Crescent Society (IRCS). Similarly, 20 vulnerable hospitals/health facilities will be covered under the hospital-based preparedness trainings in partnership with World Health Organization (WHO). School-based emergency preparedness campaign will be implemented in

100 more vulnerable schools (both boys and girls) along the Tigris floodplain, in partnership with United Nations Children's Fund (UNICEF).

The activities under this key result were implemented in collaboration with responsible parties including WHO, UNICEF and IRCS through partnership agreements. Initially the project conducted an overall analysis of the need for inclusive risks messaging for vulnerable and disadvantaged groups along the flood path of Mosul dam and subsequently integrated these messages in their awareness campaign.

The community awareness campaign used a two pronged approach including directly reaching out to most at risk target communities and disseminating risk messages through various communication channels including social media platforms, animated risk awareness videos, targeted SMS messaging and broadcasts by local TV channels.

ICRS developed various flood emergency related awareness material including posters, brochures and pamphlets etc., which were directly disseminated/distributed among the most at-risk communities in the Tigris flood path. According to project progress reports around 262,048 members of communities (including 32% women) were directly reached out and awareness material were delivered through organizing community gathering and door to door campaign. Following are screenshots of some awareness materials used during the community awareness campaigns.



Community awareness campaign by IRCS



Screen shots of awareness material IRCS used in the campaign

In additions to direct reach out, IRCS also embarked upon a large-scale awareness campaign and disseminated relevant messages through various communication channels including targeted SMS through phones, posts and videos through social media platforms and special broadcasts by local TV channels. During the project period around 4 Million SMS were sent to targeted communities in the target districts.

Similarly, risk related posts and videos were shared through social media platforms; i.e. Facebook, Twitter, and Instagram. Facebook, the being the most popular social media platform in Iraq, facilitated the engagement of maximum users. According to project progress reports and social media back-end data, these posts have generated around 3.7 Million¹² engagements/views from general public, especially in the targeted areas, out of which 28.3% were from women folk. It is important to mention that these posts also included few posts related to children and persons with disabilities.



Samples of posts shared through social media

Moreover, four short infographic risk-awareness video-clips were produced on 1) Family emergency plan, 2) Supporting people with disabilities, 3) Children's reaction towards disasters, 4) Returning to the affected houses and these videos were broadcasted over local TV networks in Nineveh, Salah Al-Din and Baghdad. Similarly, ten large billboards have also been installed at prominent locations in target governorates. Overall project has achieved over and above against its stipulated targets for communities' awareness. However, it is important to highlight that due to security situation and especially due to the COVID lockdowns the community awareness related work was considerably delayed and most of the work was expedited in the second half of the project period.



One of the Billboard designs

Group discussions with ICRS team and volunteers suggest that the overall awareness campaign was found successful in reaching out and raising awareness among target communities related to flood risks and adaption of necessary measures in case of flood emergency. The community direct reach out campaign was found more effective and generated a good deal of interest from target communities, according to IRCS, around 98% of the communities responded well

¹² <https://docs.google.com/document/d/1OtJzwChc5CpuxKivF7RXXdIr5ZKmgXs0Vw5b7Y-8w54/edit?usp=sharing>

https://docs.google.com/document/d/1m6hdayf1PzYAAceBQizs1btAio_bFLcNG1UyZ0XzKQQ/edit?usp=sharing

https://docs.google.com/document/d/12xKvHpy5bFD5jSlw_QtfyvXM4aKOzeckP99PPXaoWE/edit?usp=sharing

to the various messages and found it quite useful in improving their understanding and knowledge related to floods risks and how to protect themselves in case of such emergencies.

Similarly, the social media, SMS and TV awareness campaign was found helpful in disseminating relevant messages to larger population in target areas, given the limited resources it was not possible to reach out all at risk population directly. Having said this, it is also important to highlight that in the age of social media, users are being showered with several diverse range of messages on a daily basis through multiple social media platforms. Therefore, at this stage it is found quite difficult to assess the overall outcomes of the social media campaign and the kind of awareness and benefits it has created related to flood risks and adaption of necessary measures in case of flood emergency.

It is important to highlight that during this evaluation exercise the target communities couldn't be reached out in person due to field travel restriction for security reasons. However, four of community members (2 men and 2 women) from Mosul area, who live very close to the river, were contacted online/zoom to receive their feedback. Discussions with community members suggest that the messages, delivered by IRCS volunteers, were well received and considerably helped in increasing their awareness regarding flood risks and measures to be taken in case of flood emergency. Respondents highlighted that once they receive the flood warning, they will quickly assemble their family members, collect their valuables, switch off the electricity and gas, store food items at some high place in the house and quickly leave the house and will proceed by any means to the designated evacuation points, which have been already identified. Regarding evacuation of vulnerable people, especially disable persons they highlighted that due help will be extended to them on priority basis with the help of neighbors etc. The community members also highlighted the need for continued awareness to spread the message to more and more people.

Regarding hospital preparedness campaign for flood emergency, WHO remained the main responsible party for implementation of this component. WHO in consultation with local authorities selected 20 health facilities for support, based on hazard exposure, risk, population density and proximity to the Tigris flood path. Out of these 14 were in Nineveh, 5 in Salah ad Din and one in Baghdad. The reason for selecting more facilities in Nineveh was due to the extensive damage to health facilities during the war time and its close proximity to the Mosul dam.



To enhance the capacity of healthcare service providers for lifesaving first aid, triage, and basic and advanced trauma and life support, several training sessions were organized, through combining theory and practice and 211 nurses and paramedics and 117 doctors were trained.

In addition to capacity building of nurses and doctors, WHO also implemented an awareness campaign for communities to increase the awareness of communities in the high-risk locations on flood-related communicable disease outbreaks. Specific awareness material was development and distributed among the communities. The campaign reached out to more than 59,000 members of at-risk communities in Ninawa and Salah Al-Din.



The project has achieved its stipulated targets regarding hospital preparedness.

However, it is important to highlight that due to security situation and especially due to COVID lockdowns the capacity building and awareness related work was considerably delayed and most of the work was expedited in the second half of the project period.

Discussions with a group of doctors from Nineveh and Salah Al-Din suggest that the trainings were found very helpful in preparing them to deal with health issues arising from a flood emergency. However, they highlighted that most of the hospital infrastructure has been fully or partially destroyed especially in Nineveh due to the war. The rehabilitation work is ongoing, however progress is very slow and some hospitals are being operated from makeshift (prefabricated) arrangements. Overall there is a very serious lack of infrastructure, equipment and financial resources to meet even the routine needs of respective population for medical services. Therefore, in case of flood emergency resulting from Mosul dam collapse, it will be very difficult to deal with the surge in emergency medical needs of the population. Discussions also suggest that there is a long road ahead to fully rehabilitate the health infrastructure in the war-torn areas to enable them to cater the needs of local population, especially in case of any such flood emergency.

Regarding school preparedness for flood emergency, UNICEF remained the main responsible party for implementation of this component. UNICEF in collaboration with local education authorities selected around 100 schools (50 in Nineveh, 20 in Salah ud din, 30 in Baghdad) for capacity building and emergency preparedness. Project supported 78 schools in improving some of the basic infrastructure, this included improvement/provision of water supply and sanitation facilities, sewerage, electrical systems, shed areas and prefabricated structures for safe rooms, to enable these schools to serve as emergency evacuation centers for displaced families during the flood emergency.

Similarly, teacher training for selected schools was also organized to build their capacities of teachers to deal with flood emergency at the school level. In total 304 teachers have been trained (176 in Nineveh, 67 in Salah ud din, 61 in Baghdad) out of which 144 were women. Discussion with a group of teachers from Baghdad suggest that the training was helpful in enhancing their knowledge and measures to adopt in case of any flood emergency. They also highlighted that the training was very short duration and didn't cover all schools, furthermore a number of schools are not well prepared/equipped to deal with any such emergency. UNICEF also organized coordination workshops in school areas to ensure better coordination between civil defense and other related partners and schools, in case of flood emergency. This helped

in improving coordination to ensure that the risk is mitigated, and schools are well prepared for floods.

Initially the project had also planned for school-based student flood awareness sessions, however due to COVID schools remained closed for most of the time. Therefore, school-based awareness activities were replaced with community awareness activities, targeting the school hosting neighborhoods in order to reach the students and their families. Awareness materials have been printed and, following a community mapping exercise, social mobilization and awareness-raising activities have been organized in selected communities.

Airing of awareness messages continued on 4 channels for 25 days every day twice per day in all three governorates. Furthermore, a digital campaign was also launched; over 10 live videos were broadcasted on social media discussing how to prepare for, and respond to, floods. Evacuation maps were prepared, printed and placed in 100 schools. SOS test messages were sent to 200,000 people. School guidelines were also prepared, outlining a clear plan for evacuation as well as roles and responsibilities and measures to be adopted. These guidelines were finalized, printed and distributed to all schools.



Overall, it can be concluded that activities related to school preparedness for flood emergency helped considerably in improving infrastructure in selected schools, building capacities of teachers, improving coordination among relevant authorities and raising awareness among students and local communities to effectively deal with flood emergency. Having said this, school preparedness activities were also severely hampered and delayed due to the COVID related closure of schools. Employee attendance in the Departments of Education was very low and the ban on mass gatherings directly affected the implementation of activities that require in-person interaction. The reduced employee attendance also caused serious delays in organizing teachers' training. Similarly, school level awareness campaigns were also delayed and were replaced by community awareness. As a result, most of these activities were conducted in the last six months of the project period.

1.3 Simulations/drills to ensure readiness and strengthen emergency preparedness conducted at all levels

The project document outlined that the project will focus on conducting a series of simulations/drills at all level. These simulation exercises will allow the communities, first responders and the relevant authorities to test their knowledge, skills, tools, and capacities to respond to a likely situation of Mosul Dam collapse and will help draw critical lessons to prepare better for the actual situation. At the central level, the project will continue to coordinate with PMNOC to lead the preparation and organize simulation exercises by involving the Civil Defense, Dam Managers, local authorities and other crisis coordination apparatus in the country. At the local level, provincial authorities in Nineveh, Salah ud din and Baghdad will be supported to conduct simulations involving early warning, first responders and key emergency

actors at the local level. In addition, WHO and UNICEF will be partnered with to conduct simulations/drills to test the hospital-based and child-centric preparedness at the local level.

Project has supported the organization of emergency preparedness drills these included one at the national level and six (two each) at governorate level in Nineveh, Salah ad din and Baghdad. These drills were meant to address the issues of early warning communication, first response and role and responsibilities of officials at the national, governorates and district level. The overall objective was to test and ensure effective communication and coordination during the flood emergency resulting from collapse of Mosul dam.



National EACS Drill Review Meeting - PMNOC

At the national level the drills were coordinated by PMNOC with the help of relevant authorities to test the Emergency Alert and Communication System (EACS) at the national level. The Ministries of Interior, Defense, Health and Environment, Water Resources, governorates of Baghdad, Nineveh, and Salah Al-din, Iraqi Red Crescent Society participated in the drill. The drill was followed by a review and assessment session chaired by PMNOC where participating agencies identified shortcomings in the exercise and made recommendations to improve performance.

At the governorate level all drills were based on decisions by the Governorate Civil Defense Management Committee and supervised by the respective governors. Wide range of officials participated in these drills, please see list of participants for Ninawa governorates. For other governorates similar number of authorities participated in these drills. The Civil Defense Operations Room played a central role in managing communications in each governorate.

A review and assessment meeting was held after each provincial drill which was attended by all participating agencies. The meeting reviewed the results of exercise, identified areas which worked well according to plan and the areas of improvement. The reviews noted that generally there was an improvement in performance of agencies during the second set of drills in comparison to the first set of drills.

Discussions with governorate and district level official during the evaluation exercise suggest that these drills were first of its kind since 2003 and

Example: Drill participants in Ninawa

- Ninawa Crisis Management Cell/ Governor's office
- Ninawa CD Operations room
- Management of Mosul Dam
- Ninawa Directorate of water Resources
- Ninawa Directorate of Health
- Ninawa Directorate of Municipalities
- Ninawa Directorate of Traffic Police
- Mosul Municipality
- Ninawa Directorate of Agriculture
- IRCS-Ninawa Branch
- Qaimmaqam Telkaif and Wana, Zummar, and Rabiya sub-districts
- Qaimmaqam Mosul, Bashiqa, Hammam Al-Aeel, Qayyara, Shura sub-districts
- Qaimmaqam Hamdaniya and Nimrud sub-districts

were found quite useful in testing the communication and coordination mechanisms and preparedness level of involved authorities. These drills were also found instrumental in identifying various loopholes in the readiness and preparedness of various entities for the flood emergency.

Similarly, in coordination with the Civil Defense the long-range mobile sirens, were also tested in Nineveh and Salah Al-Din. The purpose of field-based testing of the sirens was to ensure readiness in two governorates. The Civil Defense had to go through a cumbersome approval process from the federal level before organizing the testing. All six mobile long-range sirens operated satisfactorily during the drill.



Mobile long-range sirens testing drill

Regarding Hospital-based preparedness, mass casualty management drill for health personnel and first responders was conducted in the Emergency Regional Training Center with participation of 41 officials from emergency medical department and emergency operations centers of the Nineveh, Kirkuk, Salah Al din and Baghdad health directorates. The mass casualty management drill included response to the collapse of buildings from a flood event and contamination caused due a leakage in a chemical factory in addition to normal non-contaminated casualties. Discussion with group of doctors suggest that the drill was found quite useful in testing the preparedness and readiness of relevant officials towards flood emergencies. However, they also highlighted the need for such drills in various hospitals at the governorate and district level.

The school level drills have been considerably delayed due to the school closure in the academic year 2020-2021. Due to COVID, it was not possible to conduct the drill exercises in all schools. Therefore, a video and clear instructions were prepared and were shared online with schools, teachers, families and children to ensure they are well prepared. Overall, 87 schools have been targeted across the target governorates for the drilling exercise and 8,700 persons have been reached online through sharing and evacuation guidelines and drill video, which demonstrate how the evacuation should take place. Additionally, 464 people have participated in the person drill exercises in schools. The overall number reached is 9,164 beneficiaries.

1. 4 Volunteer network(s) strengthened for community early warning and evacuation

The project document envisaged the establishment of volunteer networks in the disaster vulnerable communities to help communities during the flood emergency, especially in awareness and evacuations. IRCS had agreed to set up and assign volunteers who will be entrusted with the tasks of early warning dissemination and to facilitate community evacuation at the time of disaster emergency across the Tigris floodplain.

Iraq Red Crescent Society remained the main responsible party for implementation of this component. IRCS selected 200 volunteers (145 men and 55 women) from its existing roster of pre-screened community volunteers were selected. Capacities of these volunteers were built through series of trainings. Due to COVID pandemic, most of the trainings were conducted using video-recorded lectures and printed materials. The training curriculum included: 1)

creating and operationalizing local private social networks, 2) linking volunteers to the provincial network to get access to provincial alerts and response plans, 3) risk awareness of local communities, 4) establishing a community early warning system, and 5) ensuring community preparedness for response and evacuation.

Group discussions with volunteers from Nineveh and Salah Al din suggest that they have actively participated in the community awareness campaign organized by project and have reached out directly to the respective communities through community gatherings, door to door campaign, meetings with key persons in the communities and distributed various awareness material among the most at-risk communities. They are in touch with respective target communities on regular basis and have made considerable efforts to fully educate them about flood related risks and adaption of necessary measures in case of flood emergency, especially the evacuation mechanisms. Overall at the community level the role of the volunteers is of pivotal nature, especially in informing them in case of an emergency and guiding them to designated safe evacuation centers. These volunteers belong to the respective communities and are working on volunteer basis, therefore they will keep performing their roles and responsibilities, even after the end of the project. It is also important to highlight that keeping in view very large population base in the Tigris flood path, the numbers of volunteers seems small to cover all at risk communities.

Output 2. Local and community capacities enhanced in the high-risk municipalities on flood preparedness and risks awareness:

The project document envisaged a set of three targeted/key results to achieve this output. Following are the details of implementation and achievement status of these key results:

2.1 Emergency preparedness and safety measures of major Dams strengthened.

The project document outlined the importance of the continuity of momentum of previous phase and envisaged to undertake a set of urgent activities to establish emergency preparedness measures in the Ministry of Water Resources for the purpose of safeguarding the lives of the vulnerable communities along the flood paths of Darbandikhan, Dokan and Haditha Dams etc. Emergency preparedness measures and protocols to be activated, and dam safety training to be provided to the managers and the technical staffs at the dam sites and detail operational plans to be developed and finalized for Darbandikhan, Dokan and Haditha Dams. With the objective to scale up the efforts by the MoWR, a national dam safety standards manual to be developed and finalized to help the Government of Iraq to scale up emergency preparedness efforts across all the vulnerable dams in the country.

In view of the technical nature of the interventions and international expert was hired to review dam safety measures of Darbandikhan and Dokan dams in Sulaymania and Haditha dam in Anbar to provide specialized training on dam safety, and to provide technical support to develop national standards and guidelines for dam safety. Detailed gap assessment of dam safety and emergency preparedness and response plan were conducted and guidelines/standards for dam safety were prepared and emergency preparedness and response plan were formulated for Darbandikhan, Dokan and Haditha Dams.

Based on the gap analysis and guideline for dam safety training syllabus was developed and a workshop on dam safety was conducted for the officials and engineers from the MoWR headquarters and respective dams. The workshop introduced and deliberated on various technical issues and concepts of dam safety and on-site emergency preparedness and response planning.



Training on Emergency Alert and Communication System

Similarly, workshops were also organized for the officials of MoWR, on transboundary water resources management and on dam's emergency alert and communication system for the technical staff of Dokan, Derbandikhan, Hemrin and Haditha dams, and the Samarra Barrage. The objective of the workshops was to enhance the understanding of MoWR official on transboundary water management and to train the dams' staff to install and operate Thuraya phones at these dams for satellite-based connectivity during emergencies to create redundancy in addition to the terrestrial mobile network and integrate these dams in the national Emergency Alert & Communication System (EACS). The expansion of EACS system to cover these dams will allow the EACS to provide early warning for emergencies arising from these dams. Overall around 120 (including 45 women) officials from MoWR HQ and respective dams participated and benefited from these capacity building workshops.

Discussions with MoWR senior officials in Baghdad and dam officials of Mosul, Dokan, Derbandikhan, Haditha, Hemrin dams and Samarra Barrage suggest that overall the project capacity building support was found quite instrumental on dam safety and early warning systems. Overall the Mosul dam has been considerably stabilized by substantial investments in infrastructural reinforcements through grouting, carried out from 2017-2019. This has considerably reduced the risk of Mosul dam collapse from the levels of 2016, when it was declared as one of the most dangerous dams. Similarly, emergency planning and early warning and communication systems are considerably strengthened.

Since the main focus of project was on Mosul dam and Tigris flood path therefore other dams have received little support in terms of emergency planning, early warning systems and especially emergency preparedness. Discussions with officials of Dokan (1959), Derbandikhan (1961), Haditha (1987), Hemrin (1981) dams and Samarra Barrage (1956) suggest that many of these dams are quite old. Though they are considered structurally stable, however the monitoring systems are old fashioned and mostly rely on physical inspections. There is a need for detailed inspection studies to determine the conditions of these dams, as some of the dams like Derbandikhan have been affected by 2017 earthquake and there are also land sliding issues on the dam site. Presently there are some basic emergency plans and early warning systems like satellite phones available to deal with any emergency. However, there is substantial need for developing comprehensive emergency plans, capacity building, strengthening of monitoring and early warning systems and flood emergency preparedness for these remaining dams and downstream.

2.2 Major facilities protected along the Tigris flood plain to avoid domino impacts

The project document outlined that the collapse of Mosul Dam would have a domino effect, leading to the destruction of critical national infrastructure that is situated along the Tigris flood path. Five major categories of critical infrastructures were identified along the Tigris flood path, these included water and waste water plants, power & electricity facilities, oil and gas facilities, health care facilities and industrial facilities. It was envisaged that the project will work with the authorities to help prepare contingency plans to mitigate the risks of Mosul Dam collapse.

The project has implemented this component in partnership with the GoI, which has already established the Critical Infrastructure Protection Work-Group (CIP-WG) since December 2017. Project provided technical and facilitation support to the Work-Group in the development of a draft National CIP Strategy and development of prioritization and criticality assessment tools. With the support of the project the Work-Group has identified and mapped seven facilities as the highest priority for development of contingency plans, these facilities are mainly government owned. On the other hand, three hospitals were identified by the WHO in coordination with the MoH for development of contingency plans in the three target governorates. Following is the list of identified CIPs and hospitals:

Sr.	Facility	Location/District	Governorate
1	Al-Doura oil Refinery (Midland Refinery Company)	Al-Doura	Baghdad
2	Al-Doura Thermal Power Plant,	Al-Doura	Baghdad
3	Al-Karkh Water Treatment Plant,	Al-Taji	Baghdad
4	Battery Production Plant,	Waziriya	Baghdad
5	Rustamiya Sewage Treatment Plant,	Rustamiya	Baghdad
6	Al- Mishraq Sulfur Plant:	Qayyara	Ninewa
7	Al-Taji Gaz Plant:	Al-Taji	Baghdad
8	Tikrit Hospital	Tikrit	Salah Al Din
9	Al Salam Teaching Hospital	Mosul	Ninewa
10	Al-Jamhury Teaching Hospital	Mosul	Ninewa

Guidelines for the preparation of contingency and business continuity plans for critical infrastructure facilities were prepared and a workshop was organized, participated by senior officials from the ministries of Health and Environment, Electricity, Industry, and Oil, including technical staff from the seven selected facilities. The workshop provided the opportunity to review the state of contingency planning in the target facilities, and introduce international best practices and templates. The trained staff were assigned to work on the development of contingency plans. Overall contingency plans for all identifies CIPs have been prepared. Overall development of the contingency plans for CIPs was heavily impacted by the lockdown due to the closure of facilities and the non-accessibility of the relevant officials.

WHO in coordination with the department of Health and hospital authorities, finalized the Emergency Preparedness and Response Plans for three major hospitals in the three governorates. Similarly, a consultative workshop was also organized to finalize the drafted emergency preparedness and response plans. The hospital preparedness plans included various key elements that should be considered by the targeted hospitals including: activation/establishment of hospital incident command group, communications, safety and security, triage, surge capacity, continuity of essential services, human resources and logistics and supply management. The plans also considered other public health risks, such as chemical hazard management, vector-borne diseases and outbreak surveillance, safe management of medical waste products in the absence of routine collection and treatment services and water and hygiene in health care facilities during and after floods.

One of the CIP for which the contingency plans was prepared was Al-Mishraq Sulfur, a state owned Sulphur mine, which has stopped production since 2003, however there still lies a huge quantity (1.8 Million tons) of Sulphur residue from the past, which is extremely dangerous and the site has experienced several fire accidents in the past, resulting in the spread of toxic smoke in the whole region. Discussions with the manager of the Al-Mishraq Sulfur suggest that the site is very prone to fire incidents and there was a greater need for an effective plan to deal with emergencies. Previously they had an emergency plan, but it was quite outdated. With the support of the project a new contingency plan has been developed to deal with emergencies. The manager also highlighted that presently surveillance cameras are installed to monitor the site for any fire related incident, however they have very little capacities and resources to deal with large scale fire emergencies. There is still a greater need to devise desired coordination and safety mechanisms and to build capacities to prevent and deal with any such emergency.

Similarly, discussions with Head of Environment of Salah ad din governorate suggest that they actively participated in the development of contingency plans for CIP at the governorate level, with the support of project. Overall these contingency plans will be very useful in dealing with any such emergency. However, there is further need for capacity building and availability of resources to duly implement these contingency plans in the wake of an emergency.

2.3. Environmental risks of toxic and chemical pollution mitigated to reduce the impacts of Mosul dam collapse

Project document outlined that three decades of conflict and inadequate environmental management has turned the Tigris floodplain into contaminated hotspot by the release of hazardous pollution and toxic materials which poses grave risks to human health and ecological resource base. Therefore, the project should include concerted efforts to mitigate the life-threatening toxic and hazardous impacts as a result of Mosul dam collapse. The first responders and emergency operators must be provided with updated information on the sources of hazardous materials and toxic pollution along the Tigris floodplain.

The project, in consultation with the Ministry of Health and Environment, developed a roadmap to mitigate environmental risks to reduce the impact in the case of the Mosul Dam collapse. A consultation workshop was organized on “Toxic and Chemical Pollution along the Tigris Flood Path”. The workshop focused on reviewing the environmental risks of Chemical and Toxic Pollution along the Tigris Floodplain. Similarly, the lists of facilities that pose environmental risks in case of flood were presented and discussed. The project also organized a workshop to collect relevant information and identify priorities that allow the finalization of the mitigation plan of the environmental impact of chemical/ toxic contamination from risks of Mosul Dam

flooding. Workshop activities included the identification and review of relevant laws, regulations and policies, the assessment of actual capacities and prevalent practices, as well as the validation of the list of critical infrastructure Facilities in Nineveh, Salahuddin, and Baghdad.

Based on the consultation workshop the project produced a "Potential Environmental Risks from Mosul Dam Collapse: Situation Assessment Report." Using the assessment report, the MoE formulated a Mitigation Plan. The project also supported the integration of chemical incidents in the Governorate Early Alert and Communication System in coordination with the MoE. The Environment directorates set up working groups in each governorate to compile and prioritize hot spots and collect the necessary information for integrating these facilities in the Governorate EACS. The project also helped in building the capacities of building of safety inspectors of chemical facilities. Current inspection practices and relevant regulations were reviewed by the technical team of MDEP project. Similarly, a technical training for Civil Defense and Ministry of Environment's first responders was conducted to build their capacities to duly respond to respond to and mitigate the risks in case of flood emergency.

Overall discussions with stakeholders met during the evaluation exercise suggest that toxic and chemical pollution as a result of a flood posed one of the most dangerous threat to life and environment. Project has contributed in raising awareness among stakeholders and have identified dangerous potential hotspots and has also prepared a response and mitigation plan. However, keeping in view the scale of potential threats there is still a greater need for capacity building of relevant stakeholders to duly monitor, safeguard and mitigate the potential hazards of toxic and chemical pollution and especially the implementation of the mitigation plan.

The following matrix provides a summary of achievements of the project output level indicators and targets as outlined in the Results Framework.

Table 1: Project Results Framework Targets and Achievements

KEY RESULTS	INDICATORS	OVERALL TARGETS	RESULTS ACHIEVED	STATUS
Output 1: National capacities including the high-risks governorates (Nineveh, Salah ad din, Baghdad) strengthened on disaster preparedness, early warning and risk reduction.				
Key Result 1.1 Rapid deployment of preparedness training and tools to operationalize the Governorate	<u>Indicator 1:</u> # of local and emergency officials trained on response and preparedness	100 officials	204 officials ¹³	Completed
	<u>Indicator 2:</u> # of Governorate level officials trained in multi-hazard early warning	150 officials	153 officials	Completed
	<u>Indicator 3:</u> # of officials trained to operationalize local preparedness plans in Baghdad, Ninewa and Salah ad Din	80 officials	78 officials	Completed

¹³ No of women were very few, as most of the government officials were mostly men

KEY RESULTS	INDICATORS	OVERALL TARGETS	RESULTS ACHIEVED	STATUS
preparedness plans	<u>Indicator 4:</u> # of flood emergency committees (CDMCs) activated	40 committees	47 committees	Completed
Key Result 1.2 Risks advocacy for the vulnerable communities expanded and strengthened/WHO	<u>Indicator 1:</u> Analysis of risk perceptions conducted to design inclusive risk messages for minorities and disadvantaged groups along the flood path.	1 analysis	1 analysis conducted	Completed
	Indicator 2: # of Persons targeted in at risk communities through risk advocacy events along the Tigris river conducted	225,000	261,289 (including 32% women)	Completed
	Indicator 3: # of messages disseminated to at-risk communities through various media and social media platforms	Twitter, Facebook, SMS and radio campaigns	4 million SMSs sent through cell phone 3,680,176 engagements through social media (including 28.3% from women)	Completed
	Indicator 4: # of hospitals supported for emergency preparedness.	Hospitals in 3 governorates, 70 health care services providers, doctors, most vulnerable communities in communicable hotspots	211 nurses & paramedics trained (mostly women) 117 doctors trained Equipment to ERTC Baghdad provided 59,000 members of community in Ninawa and Salah Al-Din reached out for awareness	Completed
	Indicator 5: # of schools supported	100 schools	Upgradation works in 78 schools	Completed

KEY RESULTS	INDICATORS	OVERALL TARGETS	RESULTS ACHIEVED	STATUS
			304 Teachers trained (including 144 women) 200,000 SOS messages sent Airing of messages on 4 local channels 10 live videos broadcasted on social media	
Key Result 1.3 Simulations/drills conducted to ensure readiness and strengthen emergency preparedness at all levels (WHO, UNICEF, UNDP)	<u>Indicator 1:</u> # of high-level simulation/drills for EACS	2 drills national level	1 national level drill for EACS conducted	2nd drill is planned for 27th October
	<u>Indicator 2:</u> # of simulation/drills at governorate level	6 drills (2 per governorate)	6 drills conducted (2 at each governorate)	Completed
	<u>Indicator 3:</u> # of school-based simulations and drills conducted	100 drills (1 per school)	87 school drills. 8,700 persons have been reached online and 464 people participated in person during the drills	Completed
	<u>Indicator 4:</u> # of hospital-based simulations and drills conducted.	Hospital drills in 3 governorates	Hospital drills conducted for officials of 3 governorates	Completed
Key Result 1.4 Volunteers network strengthened for community EW and evacuation	<u>Indicator 1:</u> # of community volunteers recruited (gender disaggregated) and trained for the Community Early Warning and Evacuation	Skill enhancement training for the volunteer's network (200 volunteers)	200 volunteers trained (including 55 women) Community level early warning network setup by volunteers	Completed

KEY RESULTS	INDICATORS	OVERALL TARGETS	RESULTS ACHIEVED	STATUS
Output 2. Local and community capacities enhanced in the high-risk municipalities on flood preparedness and risks awareness:				
Key Result 2.1 Emergency preparedness and safety measures of major Dams strengthened	<u>Indicator 1:</u> # of Dam managers and staff trained in emergency preparedness and safety of dams.	120 officials	120 officials of MoWR trained (including 45 women)	Completed
	<u>Indicator 2:</u> Safety standards established.	1 set of standards	1 set of standards developed	Completed
	<u>Indicators 3:</u> # of dam operational plans developed	Operational plans developed for 3 Dams.	Emergency plans developed for 4 dams developed	Completed
Key Result 2.2 Major facilities protected along the Tigris flood plain to avoid domino impacts	<u>Indicator 1:</u> priority Critical Infrastructure (CI) sectors mapped.	CIs mapped in the flood path	CIs mapped in the flood path of Tigris river	Completed
	<u>Indicator 2:</u> # of CI selected for respective contingency planning.	10 CIP selected	10 CIP selected in consultation with relevant authorities	Completed
	<u>Indicator 3:</u> # of contingency plans/business continuity Plans prepared for the CIPs.	10 contingency plans	10 contingency plans drafted for selected CIPs	Completed
Key Result 2.3 Environmental risks of toxic and chemical pollution mitigated	<u>Indicator 1:</u> Risk Response and mitigation plan developed.	1 plan	1 plan developed environmental risks of toxic and chemical pollution	Completed
	<u>Indicator 2:</u> # of first responders trained on response to hazardous emergencies (CD and IRCS).	20 first responders	41 first responders trained	Completed
	<u>Indicator 3:</u> # of key national officials trained.	40 officials	42 officials trained	Completed
	<u>Indicator 4:</u> # of targeted risk communication products developed.	2 communication products	2 risk awareness workshops conducted	Completed

6.4 EFFICIENCY

a) Financial progress and efficiency

According to Project document the total estimated original budget of the project was **USD 5.56 Million** out of which around **\$ 4.74 Million** (85% of total estimate budget) was provided by USAID-Bureau for Humanitarian Assistance (BHA) and the rest were in kind contributions from UNDP, Government and partners. Please see the table for breakdown of the programme resources. According to estimates provided by the Country Office **\$ 239,252** were also allocated through UNDP TRAC funding. To add up in total **\$ 4.98 Million** were made available as actual funding in addition the in-kind support.

Project Total Budget 2019 – 2021	
Donors	Amount (\$)
USAID BHA	4,744,440
UNDP In-kind:	590,000
Government In-kind	190,000
Partner In-kind:	40,000
Grand Total	5,564,440
Source: Project document	

According to the financial statement provided by the project, for the purpose of this evaluation, out of **\$ 4.98 Million** available funds, the project has utilized around **\$ 4.86 Million** from 1st March 2019 to 30th September 2021, which is around **98%** of the total project available budget. The remaining amount is expected to be consumed during the last month of the project. Despite the implementation slow down resulting from the COVID pandemic, the project utilization rate has been quite satisfactory. However, this was made possible by the eight month no cost extension, from March 2021-October 2021, in the project original time frame. Please see the table below for a summary of the project's total budget and utilizations during March 2019- Sep 2021.

Table: Total project available budget and utilization from 1 st March 2019 to 30 th Sep 2021			
Item	USAID funds	UNDP TRAC funds	Total
Donor Contribution	4,744,440	239,252	4,983,692
Expenses in 2019	882,093	39,252	921,345
Expenses in 2020	1,669,423	0	1,669,423
Expenses From 1 st Jan till 30 th Sep 2021	1,778,408	121,853	1,900,261
Commitments till 30 th Sep 2021	155,705	23696.23	179,401
NEX Advance/Prepayment Agreements 30 th Sep 2021	194,059	0	194,059
Total Utilization	4,679,688	184,802	4,864,490
Utilization %age	99%	77%	98%
Note: The budgets and expenses doesn't include in-kind contribution, as no data is available. However, it can be assumed that government, UNDP and responsible parties have contributed handsomely in the in kind of official's time and facilities and services.			

The project has signed Responsible Party Agreements with UNICEF, amounting \$ 600,000, to carry out school based preparedness interventions and drills; with WHO, amounting \$ 600,000, to carry out hospital based preparedness interventions and drills; with IRCS, amounting \$ 533,500 to carry out mass awareness campaigns and establishment of volunteer networks. It is important to mention that agreement with UNICEF and WHO were signed in April 2019, however agreement IRCS was considerably delayed and was signed in early 2020. Overall discussion with partners suggest that WHO, UNICEF and IRCS have already exhausted their allocated funds. Rest of the funds were utilized directly by UNDP as the main implementing agency. Overall funds flow from USAID to UNDP to partners was found smooth and available

financial resources and inputs were managed using UNDP's and responsible party's standard financial management and tendering/procurement mechanisms and procedures.

b) Implementation and Monitoring and Evaluation arrangements

The project has been guided and overseen by a Project Board, co-chaired by UNDP and PMNOC, and consisting members from MoWR, MoH&E, Civil Defence, PMCCC and USAID and governor's offices of target three governorates. In addition to permanent members, other organizations like responsible parties participated as observers. The PB has held two meetings, 1st meeting was held on 22nd December 2020, almost after a 20 months of project inception, the 2nd meeting was held on 11th July 2021. PB meetings were found very instrumental in reviewing project progress, revision of the results frameworks, adjustment and approval of work plans. PB also deliberated on challenges faced by the project, like COVID pandemic and provided guidance for setting of priorities and way forward etc.

The programme is implemented through the UNDP Direct Implementation Modality and PMNOC remained the main counterpart and focal point. Other project counterparts at the national level included MoWR, Civil Defence, MOH, MoE, PMCCC etc. At the subnational level project collaborated with the relevant institutions in the target governorates of Baghdad, Nineveh, and Salah ad Din. Project has actively collaborated and partnered with UN agencies including WHO, UNICEF and with IRCS through signing of partnership agreements for implementation of relevant components related to health and education sectors and awareness of communities. Discussions with stakeholders suggest that overall collaboration among stakeholders remained satisfactory, with no major issues, and greatly helped in facilitation of project implementation and promoting synergies. However most of the project partnerships pertained to governmental institutions, collaboration with civil society community groups and private sector was found a very limited and spontaneous.

The project day to day management and implementation was led by a Project Manager supported by country office's administrative and finance staff. In addition, UNDP country office also provided support in areas such as: a) recruitment of project staff; b) procurement of goods, equipment and services; c) recruitment of national and international consultants; c) coordination with national partners and development agencies and d) overall quality assurance and oversight etc. Project has hired several national and international consultants from time to time to support implementation of various components. It is important to mention that in the 1st year of the project has changed two Project Managers, while the third PM continued towards the end.

Regarding monitoring and evaluation, as mentioned, at the highest level, project progress was reviewed by the PB. Project progress has been regularly reported against the indicators and targets of Results Framework through Quarterly and Annual Progress Reports. The progress reports remained the main M&E tool, which shared with relevant quarters including donors. Similarly, UNDP's Programme Management Unit and ECC pillar provided the overall oversight and quality assurance. USAID also conducted third-party activity monitoring on regular basis to provide an independent review of progress.

The project results framework was revised in late 2020, and a number of modifications were made in the indicators and targets to make them more specific and measurable and to align them with the new CPD outputs. In this regard out of total 24 output indicators, 12 were modified partially or were replaced by new ones. These changes in the results framework were

duly approved by the Project Board meeting, held in December 2020. These changes can be deemed as good example of adoptive management towards measurability of outputs, however, the tendency of the new indicators was more on the quantitative side, which makes it little difficult to assess the qualitative aspects. Furthermore, the results framework also didn't provide specific disaggregated indicators and targets related to participation of women and disadvantaged groups, which also makes it slightly difficult to assess the issues of gender equality and benefits for the marginalized groups.

The project document outlined a monitoring and evaluation plan for the project, however the project didn't employ/engage any dedicated M&E expertise, which has somehow hampered the development and implementation of a systematic M&E plan for the project, and the project mostly relied on the progress reporting for monitoring purpose. There is always a greater need for engaging specialized monitoring and evaluation expertise, with dedicated resource allocations, at the project level, which should plan, facilitate and implement all M&E related activities, including collection and processing of timely data on results framework indicators and provide timely feedback for corrective actions etc. Similarly, due to the original shorter life span of (2.5 years) of the project, no Mid-term evaluation was planned, however a final project evaluation had been envisaged towards the end of the project.

Implementation timelines and delays

Overall analysis suggest that project mobilization was considerably delayed in 2019, due to time consumed by establishment of programme management structures, selection of partners and preparation and signing of agreements with partners –agreement with IRCS was signed in early 2020-, and establishment of CMDCs etc. UNICEF and WHO also took considerable time in consultations with governmental institutions to identify target schools and hospital and to develop awareness material etc. In October 2019, mass protests started in many cities in Iraq and continued till March 2020, the unrest resulted in halting of normal life and especially closures of schools. During this time project intervention were implemented on a slow pace due to the unstable security situation.

While the protests were still ongoing, in March 2020, with the advent of COVID pandemic, Iraq have imposed severe mobility restrictions, aimed at curbing the spread of the virus. These measures included restrictions on travel and limitations on freedom of movement, such as the closure of airports and points of entry, as well as domestic movement restrictions. This has created further challenges for implementation of project interventions related to capacity building like trainings and workshops for stakeholders. All schools were also closed and hospital were on put on alert to deal with the pandemic. Similarly, direct access to communities for awareness was also considerably reduced. Though project tried to carry on with some of the interventions remotely, like consultation meetings with stakeholders and media awareness campaign.

However, many of activities related to capacity building, school and hospital preparedness and direct community outreach were considerably lagging behind. In view of these delays, the project asked for a no cost extension of eight months. It is important to mention that project original timeframe was from March 2019 to Feb 2021, however given the mentioned circumstances, PB extended the project timeframe by eight months till 31st October 2021. Analysis suggest that most of activities were implemented during the second half of the project timeframe. The biggest delays were experienced in the school preparedness programme as schools remained closed for most of the time and some of the activities were even replaced.

These delays, at times, has also resulted in some sort of strain among respective responsible parties due to their inability to meet specific deadlines and milestones of the project.

6.5 SUSTAINABILITY

As mentioned in the previous sections, the project results and benefits were duly aligned with the priorities of GoI and mandates of relevant governmental institutions at the national and sub-national levels, related to emergency preparedness and response. Similarly, project interventions are also found aligned with the various legal frameworks and policies of GOI, which govern the emergency response and mitigation at the national and sub-national levels. These include Emergency Use Law 1961, Civil Defense Law 1978, Public Health Law 1981 and Social Care Law 1980, the Governorate Law and the Law of Budget Management. Overall the availability of the institutional and legal frameworks provides sound basis for sustainability of emergency preparedness and response related interventions and benefits in times to come.

The project has considerably helped in putting in place the coordination mechanisms i.e. the establishment of Civil Defense Management Committees, in line with the Civil Defense Laws, at all levels. Discussions suggest that these committees are permanent structures and will continue their work beyond the project period in times to come. The project has significantly built the capacities of relevant officials in emergency response and preparedness, multi-hazards early warning and operationalization of local preparedness plans. Which has greatly helped in enhancing the level of understanding and ownership among various governmental institutions, at the national, sub-national and district levels. Discussions, also suggest that, despite resource constraints, government officials are confident to continue the emergency preparedness related work and benefits will continue to flow in times to come.

The project has also implemented a multi-pronged approach for mass awareness of at-risk communities in the Tigris flood path, these included media campaigns and direct outreach. A good deal of awareness has been raised among the local communities related to flood emergency preparedness. It is expected that communities will somehow retain the knowledge gained during these campaigns and will benefit from it in case of any emergency. However, awareness related work was done mostly with the technical and financial support of the project, therefore it is not very clear, how the mass awareness will continue in times to come. Discussions with IRCS suggest that they will keep perusing the mass awareness in some shape through using its own media expertise and volunteers, however they have very limited resources to continue on full scale mass awareness campaign. Therefore, they will need external financial assistance to keep the awareness activities going on in times to come.

The project also implemented a range of hospital preparedness interventions through WHO. Discussions with a group of doctors, suggest that the trainings were found very helpful in preparing them to deal with health issues arising from a flood emergency and they will continue to benefit from the knowledge gained in times to come. However, they also highlighted that there is a very serious lack of infrastructure, equipment and financial resources to meet even the routine needs of respective population for medical services. Therefore, there is a long road ahead to fully rehabilitate the health infrastructure in the war torn areas to enable them to cater the needs of local population, especially in case of any such flood emergency. To give way to sustainability, there is also a greater need for integrating the emergency preparedness interventions in the upcoming projects of WHO to cover more and more hospitals and health personal.

Regarding school emergency preparedness, implemented through UNICEF, a number of schools were prepared to act as evacuation centers and teacher trainings were conducted. Discussion with a group of teachers suggest that the training was helpful in enhancing their knowledge and they will continue to spread the information and will utilize it in case of emergency. However, the school preparedness activities were implemented in very limited number of schools as compared to the large number of schools in the target governorates. Therefore, there is still a greater need to continue these interventions to cover more and more schools in the flood prone areas. In this case too, to give way to sustainability, there is a greater need for integrating the emergency preparedness interventions in the upcoming projects of UNICEF to cover more and more schools, teachers and students.

Project has conducted several simulation drills at the national and subnational levels and in selected hospitals and schools. Overall these drill were found quite useful in testing the communication and coordination mechanisms and preparedness level of involved authorities. Since these drills need to be conducted at regular intervals, in times to come, to keep testing and reviewing the readiness of the equipment and communication and coordination mechanisms. Since these drills were conducted with the technical support of the project, therefore, presently it is not very clear how these drills will be organized in future without external support.

Project has built the capacities of MoWR on dam safety, transboundary water resources management and in dam's emergency alert and communication systems. Discussions suggest that overall the project capacity building support was found quite instrumental and they will continue to benefit from the knowledge gained in times to come. Since the main focus of project was on Mosul dam therefore other dams have received little support in terms of emergency planning, early warning systems and especially emergency preparedness. Therefore, there is a greater need, in times to come, for detailed inspection studies of other major dams and development of comprehensive emergency plans, capacity building, strengthening of monitoring and early warning systems and flood emergency preparedness for these remaining dams. MoWR is resource constrained and will need external financial support to implement these interventions in times to come.

Project has also helped in development of contingency plans and building capacities for protecting critical infrastructure during the floods emergency. Similarly, it supported MoE in reviewing the environmental risks of chemical and toxic pollution along the Tigris floodplain and formulated a mitigation plan to reduce risks to life and environment. However overall analysis suggests that, protecting critical infrastructure and addressing the issues of chemical and toxic pollution, in the wake of a disaster, remains an uphill undertaking, which will require considerable efforts and external resources in times to come.

Analysis also suggest that the continuity of flood emergency preparedness and community awareness related work, especially in the Tigris flood path, will be quite challenging, as presently the risk of Mosul dam collapse has been considerably reduced, due to infrastructural reinforcements through grouting, carried out form 2017-2019, therefore there no imminent threat of a devastating flood. Furthermore, in recent years Iraq has been facing severe droughts, therefore perusing flood emergency preparedness in dry spells doesn't attract much attention or resources, making the sustainability of such interventions quite challenging.

In addition, government's preoccupation in dealing with other pressing socio-political, economic, security and COVID related challenges, it can be assumed that the issue of flood preparedness will receive little attention in the absence of external support and pursuance. Having said this, due the resource intensive nature emergency preparedness interventions, wider scale replicability and scalability of good practices will also require continued technical and especially financial support from external (international) to achieve overall goals in the longer-term.

Moreover, the project has completed its implementation and has exhausted 98% of its available budget and all stakeholders are duly informed and are aware of the project closure on 31st October 2021. However, the project has not prepared a pragmatic exit strategy, which should have outlined issues, ways and means to smoothly phase out and handover interventions to partners, to ensure sustainability and continuity.

6.6 IMPACT

At this stage when the project is just ending, it seems too early, to assess the longer term impacts of the project interventions. However, in the following an effort is made to provide some indications on the expected longer term impacts.

Keeping in view the analysis and discussions on progress towards outputs in the above section on effectiveness, it can be concluded, in nutshell, that overall the project has achieved almost all of its stipulated targets for output level indicators, which contributes handsomely towards achieving project overall objectives "to safeguard the lives of vulnerable populations and major installations/facilities along the Tigris flood path through provisioning technical assistance to the Government of Iraq (GoI)".

Project support in establishment of CMDCs and capacity building of relevant officials and simulation drills were found very effective in preparing for addressing the potential risk of floods resulting from Mosul Dam collapse in particular, and from other seasonal floods in general. Overall all government officials, who participated in the capacity building interventions highlighted that now their institutions are much better prepared, with high readiness level, to effectively coordinate and deal with any such flood emergency. However, they also expressed the need for continued follow up and technical support to further strengthen capacities of all relevant stakeholders in the longer run.

Project mass awareness campaign was found instrumental in reaching out and raising awareness among target communities related to flood risks and adaption of necessary measures in case of flood emergency. The social media, SMS and TV awareness campaign was found helpful in disseminating relevant messages to around four million people in the target areas. However, at this stage, it is found quite difficult to assess the overall outcomes and expected impacts of the mass awareness campaign and the kind of benefits it has created related to flood risks and adaption of necessary measures in case of flood emergency.

Having said this, discussions with few community members, consulted during the evaluation exercise, suggest that the messages, delivered during the door to door campaign were well received and considerably helped in increasing their awareness regarding flood risks and measures to be taken in case of flood emergency. Now they know, once they receive an emergency alarm, what to take with them and how to move out quickly to the pre-designated

evacuation sites. It has to be seen, how far this knowledge is retained in the longer run, as the immediate risk of Mosul dam collapse has been considerably reduced and at the moment Iraq is passing through very dry period, with little chances for large scale flooding.

Project supported hospital emergency preparedness and capacity building interventions were also found helpful in preparation to deal with health related issues arising from a flood emergency. However, in some target governorates like Ninawa most of the hospitals infrastructure has been fully or partially destroyed due to the war. Overall there is a long road ahead to fully rehabilitate the health infrastructure in the war torn areas to enable them to cater the needs of local population, especially in case of any emergency. Similarly, project also supported school emergency preparedness, which helped in building the capacities of teachers and raising awareness among students and communities. However, the number of targeted 100 schools was found proportionately small, as compared to the large number of total schools in the at risk areas of target governorates. Therefore, there is still a greater need to continue these interventions to cover more and more schools in the flood prone areas to generate a formidable impact in the longer run.

Project support on dam safety and emergency alert and communication systems was also found instrumental in building the capacities of MoWR officials. However, since project focused on Mosul dam, therefore other major dams have received little support. To create a formidable impact in the longer run there is also a greater need to extend the emergency preparedness interventions to other major dams and their flood paths. Project has also helped in building capacities for protecting critical infrastructure and reducing environmental risks of chemical and toxic pollution along the Tigris floodplain. However, the agenda of protecting critical infrastructure and reducing risk of chemical pollution, in case of floods or other disasters, is quite complex and cumbersome, which will require further continued efforts to achieve a formidable longer term impacts.

6.7 CROSS CUTTING ISSUES OF GENDER EQUALITY AND DISABILITY

The project document outlined that the project will provide and apply gender analysis to all activities. The analysis will inform the project design, implementation, monitoring, and evaluation. It also envisaged that the project will emphasize equal participation by, and decision-making opportunities for, both men and women. The project design included a specific key result regarding risk advocacy for vulnerable communities, including women, disable persons and other marginalized groups. The project document further emphasized that an inclusive approach will be adopted to ensure that the weaker and disadvantaged sections of the population benefit from such advocacy efforts. However, despite this emphasis, the project results framework output level indicators didn't provide disaggregated targets by gender, which pose challenge in assessing the participation of especially of women in the capacity building and mass awareness campaigns.

It is important to mention that overall, the cross cutting issues of gender equality and rights of disable persons and human rights have been duly discussed, where applicable in above sections under various outputs. However, these are further elaborated in this section to further emphasize mainstreaming and addressing of cross cutting issues in the project implementation.

As a first step in planning the flood awareness campaign and designing inclusive risks messaging for vulnerable and disadvantaged groups along the flood path of Mosul dam, an analysis of the risk messages that UNDP and implementing partners have already adopted in previous Mosul Dam risk awareness campaigns in 2016-2019 was conducted.



Workshop on "Roles and issues of women and girls in disaster preparedness"

Similarly, the project organized a workshop on roles of women and girls in disaster preparedness. Which was attended by 29 women from the Prime Minister's Office, 10 federal ministries, and civil society organizations. The workshop discussed the ways to achieve the highest possible gender balance in flood-risk awareness activities, strengthening local and community flood response capacities, and awareness of environmental risks from toxic and chemical pollution due to flooding.

ICRS developed various flood emergency related awareness material including specific messages for women, children and disable persons and around 262,048 member of communities, including 32% women, were directly reached out and awareness material were delivered through organizing community gathering and door to door campaign. Similarly, social media platforms; i.e. Facebook, Twitter, and Instagram were used and risk related posts and videos were shared. These posts have generated around 3.7 Million engagements/views from general public, out of which 28.3% were from women folk. It is important to mention that these social media posts also included posts related to children and persons with disabilities. Furthermore, short risk-awareness video-clips were also produced on supporting people with disabilities, family emergency plan and children's reaction towards disasters etc., and were broadcasted over local TV networks in Nineveh, Salah Al-Din and Baghdad. Similarly, UNICEF and WHO also organized mass awareness campaigns targeting children and their families and other at risk communities.

During the evaluation exercise the target communities couldn't be reached out in person due to field travel restrictions. However, four of community members (2 men and 2 women) from Mosul area, were contacted online/zoom to receive their feedback. Discussions with women community members suggest that the awareness messages/martial considerably helped in increasing their understanding of flood risks and measures to be taken in case of flood emergency. Regarding evacuation of vulnerable people, especially disable persons they highlighted that due help will be extended to them on priority basis by the family members and neighbors and no one will be left behind.

As mentioned earlier, the results framework didn't provide specific disaggregated indicators and targets related to participation of women and disadvantaged groups, which also makes it slightly difficult to assess the issues of gender equality and benefits for the marginalized groups. However, efforts have been made during the exercise to provide gender disaggregated data, as available. Overall a number of women participated in project capacity building workshops and events, the most notable include; training of teachers for school preparedness, out of total 304 participants, 144 were women; training for hospital preparedness, 211 nurses, mostly women; training for MoWR officials, out of total 120 participants, 45 were women. Similarly,

out of 200 IRCS community volunteers, 55 were women. For training/workshops related to response and preparedness, multi-hazard early warning and operationalization of preparedness plans, doctors training for hospital preparedness and training related to risks of toxic and chemical pollutions etc., the number of women participants could not be ascertained. Discussions with project staff suggest that most of these participants were men with very few women, due to limited number of women in these positions. For details please see the Results Framework progress table in above sections.

Overall it can be concluded that project has made efforts to involve women in various capacity building and awareness related interventions, however the numbers are not very optimal. One of the main reason is that Iraq is among the male dominated conservative societies, with proportionately lower share of women, especially in government jobs. Furthermore, discussion also suggest that with the exception of few messages related to disabilities in the awareness campaign, no specific emergency preparedness interventions was directed towards catering the needs of disable persons in flood emergencies.

7. CONCLUSIONS AND LESSONS

Based upon the detailed analysis of the evaluation exercise, the following are the main conclusions and lessons:

a) Relevance

1. Overall project objectives, design (results chain), approach and interventions were found highly relevant and responded to the needs of the at risk communities and priorities of Iraqi government at the national and sub-national levels, towards minimizing the risks and vulnerabilities of the target communities and critical infrastructure along the Tigris flood path. Having said this, keeping in view the needs of the large number of at risk population (more than 6 Million people) in the Tigris flood path, the project resources couldn't be deemed sufficient enough to address all issues, however project inputs were found instrumental in addressing the core issues.

b) Coherence

2. Collaboration among relevant governmental institutions at the national and sub-national level, UN agencies and other development partners remained satisfactory. Most of project interventions were found compatible with the mandates and scope of involved institutions in the context of emergency response and preparedness. Which helped in facilitating and promoting synergies among various stakeholders and especially among participating UN agencies.

c) Effectiveness

1. Project support were found instrumental in putting in place the coordination mechanisms and building capacities of relevant officials, of the target governorates, for the operationalization and implementation of Emergency Preparedness Plans at the governorate, district and sub-district levels to effectively deal with flood emergencies.

3. Project supported awareness campaign was found successful in reaching out and raising awareness among target communities related to flood risks and adaption of necessary measures in case of flood emergency. The community direct reach out campaign was found more effective as compared to social media campaign. Overall, it was found difficult to assess the overall outcomes of the social media campaign and the benefits it has created, as the communities couldn't be reached out directly during the evaluation.

4. Project support was found very helpful in building the capacities of medical staff of selected hospitals to deal with flood emergencies. Similarly, the community awareness campaign was found useful in preparing the target communities for flood related health emergencies. However, presently, there is a very serious lack of infrastructure, equipment and financial resources to meet needs of respective population for routine medical services and especially in case of any flood emergency.

5. Project support was found helpful in improving basic infrastructure in selected schools to enable them to be used as evacuation centers. Project also helped in improving school infrastructure, building capacities of teachers, improving coordination and raising awareness among communities and children to deal with flood emergencies. However, activities under this component were severely delayed and altered due school closure in the wake of COVID-19 pandemic.

6. Project support was found instrumental in organization of emergency preparedness drills at the national level and governorate level, which greatly helped in testing and ensuring readiness and strengthening of emergency preparedness. Hospital preparedness drills were also found quite useful in testing the preparedness and readiness towards flood emergencies. However, there is still need for such drills at the level of governorates.

7. Project support was found greatly helpful in establishing volunteers network and building their capacities to raise awareness among communities and help and guide them in evacuation process during flood emergency. However, keeping in view very large population base in the Tigris flood path, the numbers of volunteers seems quite small to cover all at risk communities.

8. Project support was found instrumental in developing dam safety guidelines/standards and building the capacities of the officials of MoWR, especially of staff of major dams on dam safety and Emergency Alert & Communication Systems. However, the main focus of project was on Mosul dam and Tigris flood path therefore other major dams have received lesser support in terms of comprehensive emergency planning, early warning systems and especially emergency preparedness and community awareness.

9. Project support was found instrumental in identification and development of contingency plans for some of the Critical Infrastructure, including hospitals in the flood path of river Tigris. However, there is still a greater need to devise desired stakeholder coordination mechanisms and strengthen capacities for the implementation of plans in case of any such emergency.

10. Project has contributed in identification of potential dangerous hotspots, raising awareness and building the capacities of relevant stakeholders. A mitigation plan has been prepared to deal with risks of toxic and chemical pollution in flood emergency. However, there is still a greater need for capacity building to duly monitor, safeguard and mitigate the potential hazards of toxic and chemical pollution and especially the implementation of the mitigation plan.

11. Overall the project has achieved all of its stipulated targets for output level indicators, and have contributed handsomely towards achieving its overall objectives. Having said this, there is still a need to continue the emergency preparedness interventions to further strengthen capacities of stakeholders, especially regarding other major dams and to expand/scale-up the awareness campaigns to cover all at risk communities living in the downstream of other major dams.

d) Efficiency

12. Overall the project has utilized 98% of the total available project resources. Despite the implementation slow down resulting from security situation in 2019 and COVID pandemic in 2020-2021, the project has been quite successful in utilization all of its available financial resources. However, this is made possible due to the eight months (from March 2021 to Oct 2021) no cost extension in project original timeframe.

13. Project has experienced considerable delays during its implementation, the main reasons being the mass protests during 2019 and COVID pandemic. In view of these issues, the project was granted no cost extension for six months. Most of the activities were implemented during

the second half of the project timeframe. The biggest delays were experienced in the school preparedness programme as schools remained closed for most of the time.

14. Project implementation arrangements and collaboration and partnerships among various stakeholders remained appropriate and satisfactory. However most of the project partnerships pertained to governmental institutions, collaboration with civil society community groups and private sector was found a very limited and spontaneous.

15. The project results framework was revised and a number of modifications were made in the indicators and targets to make them more specific and measurable and to align them with the new CPD outputs. Project progress was reviewed by PB and project progress was regularly reported through progress reports on quarterly and annual basis. However, the project didn't employ dedicated M&E expert, which has somehow hampered the development and implementation of a M&E plan and activities.

e) Sustainability

16. The alignment of the project results and benefits with the priorities and legal frameworks of GoI and mandates of relevant governmental institutions and the high level of ownership among various institutions for project interventions, provides sound basis for continuity of emergency preparedness and response related interventions and benefits in times to come.

17. A good deal of awareness has been raised among the local communities related to flood emergency preparedness, with the support of the project. However, it is not clear, how the mass awareness will continue in times to come. IRCS has expressed that they will keep perusing the mass awareness in some shape, however they will need external financial assistance.

18. The continuity of flood emergency preparedness and community awareness related work, will be quite challenging as, on one hand, the risk of Mosul dam collapse has been considerably reduced and, on the other, hand Iraq has been facing severe droughts, therefore perusing flood emergency preparedness in dry spells will not attract much attention or resources, making the sustainability of such interventions quite challenging.

19. Due the resource intensive nature emergency preparedness interventions, wider scale replicability and scalability of good practices in other areas will also require continued technical and especially financial support from external (international) institutions, to achieve overall goals in the longer-term.

f) Impacts

20. At this stage it seems too early, to assess the long term impacts of the project interventions. However, in view of the progress made it can be deduced that achievements of projects outputs have contributed towards achieving project overall objectives "to safeguard the lives of vulnerable populations and major installations/facilities along the Tigris flood path through provisioning technical assistance to the Government of Iraq (GoI)".

21. Overall all government officials, who participated in the capacity building interventions, highlighted that now their institutions are in much better position to effectively coordinate and deal with any such flood emergency. However, they also expressed the need for continued technical support to further strengthen capacities in the longer run.

22. Project mass flood risk awareness campaign was found instrumental in reaching out to around four million people in the target areas. However, at this stage, it is found quite difficult to assess the extent of overall outcomes and expected impacts of the media campaign and the kind of benefits it has created.

23. Project supported hospital and school emergency preparedness and capacity building interventions were also found helpful in preparation to deal with emergencies arising from floods. However, the scale of interventions remained limited as compared to the large geographical area and population.

g) Cross cutting issues of gender equality and disabilities

24. Project has conducted an analysis of the risk messages to make them inclusive for vulnerable and disadvantaged groups. Similarly, the project organized a workshop on roles of women and girls in disaster preparedness, which discussed the ways to achieve the highest possible gender balance in flood-risk awareness activities etc.

25. ICRS developed various flood emergency related awareness material including specific messages for women, children and disable persons and around 262,048 member of communities, including 32% women, were directly reached out. Similarly, the social media campaign has generated around 3.7 Million engagements/views from general public, out of which 28.3% were from women folk. These social media also included posts related to children and persons with disabilities.

26. The results framework didn't provide specific disaggregated indicators and targets related to participation of women and disadvantaged groups, which also makes it slightly difficult to assess the issues of gender equality and benefits for the marginalized groups. Overall a number of women participated in project capacity building workshops and events. However, the numbers are not very optimal. One of the main reason is that Iraq is among one the male dominated conservative societies, with proportionately lower share for women, especially in government jobs.

27. Overall with the exception of few messages related to disable persons in the awareness campaigns, no other specific emergency preparedness interventions were directed towards catering the needs of disable persons in flood emergencies.

8. RECOMMENDATIONS

Based on the detailed findings and conclusions of the evaluation exercise, following are the main recommendations to improve design and implementation of future emergency preparedness initiatives:

Recommendation-1:

Presently there is a greater need to replicate and scale-up the flood emergency preparedness practices through extending the financial and technical support to cover at least 4-5 major remaining dams and their flood paths, in terms of comprehensive emergency planning, early warning systems and especially emergency preparedness and community awareness. It was found during the discussions that UNDP is already working on a similar proposal, therefore it is recommended to speed up the proposal development process and also develop a robust resource mobilization strategy to generate future financial resources to implement such projects.

Recommendation-2:

It was also highlighted by a number of government officials, including PMNOC, that floods are only one of the multiple disasters the country is facing, there are several other types of natural and manmade disasters, which also require due emergency preparedness, these include droughts, desertification, earthquakes, pandemics, heat waves and dust storms etc. Therefore, if resources allow, UNDP in collaboration with partners should develop and implement individual or umbrella projects to promote emergency preparedness covering all kind of disasters.

Furthermore, chemical and nuclear contamination –due to severe floods or any other accident– also poses greater threats to life and environment. Therefore, it is recommended that future projects should also duly incorporate the needs for capacity building of relevant stakeholders and strengthening mechanisms to duly monitor, safeguard and mitigate the potential hazards resulting from toxic chemicals and nuclear contaminations.

Recommendation-3:

Ministry of Environment highlighted that there is a greater need for developing a robust and comprehensive strategy, at the national level, to address climate change and disaster risks related issues. The strategy should define various national priorities and provide guidelines and mechanism for effective coordination and implementation. Therefore, it is recommended that UNDP should support the MoE and relevant stakeholders in the development of required strategy and necessary implementation plans and mechanisms.

Recommendation-4:

The next generation of projects need to be designed based on good practices from the Mosul dam project and keeping in view the specific needs of the beneficiaries at the government and community level, especially vulnerable and disadvantaged segments. It is recommended that during the project's design process detailed mapping exercise of key actors/stakeholders should be carried out to determine what contribution they may bring, including risks and threats, which will form the basis for developing a strategy, and defining roles.

Similarly, all relevant stakeholders should be actively involved in the design and formulation of future projects and the result framework should be developed in a 2-3 days' workshop set-up,

attended by all stakeholders. The project results and resource framework should include clear roles and responsibilities for all partners along with allocated budgets at the output level. The Results Frameworks should also incorporate specific indicators to measure the involvement and benefits for women and disadvantaged groups. Future projects should also develop comprehensive M&E plans and employ dedicated M&E expertise at the project level to implement the M&E Plans.

Recommendation-5:

Keeping in view the importance of the role of civil society, especially in awareness raising, at the grassroots, it is recommended that future projects should involve more and more local CSOs and community based groups and strengthen their capacities to raise mass awareness regarding emergency preparedness. In this regard it is recommended to duly involve local CSOs as equal partners on longer term basis, not only as recipient of small grants. It is recommended that future programmes should include representatives of CSOs in the programme structures like project board.

Recommendation-6:

Unfortunately, it is expected that COVID pandemic will continue to hamper and disrupt normal working conditions, at least for the near future. Which pose greater challenges for implementation of future such projects. Therefore, it is recommended that upcoming projects should duly incorporate specific measures in their designs to mitigate impacts of Covid on project implementation. This may require designing specific activities which can be implemented remotely, using telecommunication tools and technologies. Soft and hardware capacities of relevant partners, especially at the sub-national and community level also need to be built to enable them to effectively participate and benefit from the remotely implemented activities.

Recommendation-7:

In recent times, social media has emerged as a far-reaching mass awareness medium/tool. There is a strong need to continue using the power of this medium to spread the awareness related to emergency preparedness to wider population. However, due to high influx of information, the retention capacities of the viewers has been considerably reduced, therefore it is recommended that future awareness messages should be designed in a more innovative and interactive way to catch the attention of the viewers. Furthermore, there is also a greater need to utilize various (paid) content promotion and dissemination tools and services to reach out to the larger audience.

Recommendation-8:

WHO, UNICEF and IRCS have implemented a wide range of interventions related to emergency preparedness at the hospitals, schools and community level with the support of the Mosul dam project. To give way to sustainability it is recommended that these organizations should duly incorporate the emergency preparedness related good practices in their upcoming programmes, projects and plans to replicate and scale up these interventions in their respective areas. Furthermore, ICRC should also take measures to keep the volunteers network, established by the project, active and should train more volunteers to extend the coverage to other flood prone areas in Iraq. However, ICRC resources are found to be very limited and therefore continued external financial assistance will be required in times to come.

Annex-1: List of Key Persons consulted during the Evaluation through Key Informant Interviews and Focus Group Discussions

NAME	POSITION	ORGANIZATION
Baghdad		
Dr. Jasim Falahi	Deputy Minister	MoENV
Ghimar Deeb Dr. Nadheer Fazza Mr. Zubair Murshed Ms. Amanti Wickramasinghe Dr. Sameer Roauf Dr. Latif Karim Dr. Amir Naoum	Deputy Resident Rep ECC Pillar Lead Project Manager MDEP Head PMSU Consultant Consultant Consultant	UNDP
Ms. Natalie Coleman Jason Meisner	Programme Officer Planning Coordinator (online meeting)	USAID
Ms. Aarunima Bhatnagar Ms. Hadeer Albo Haea Ms. Israa Mansoor Ms. Iman Abdullah Ms. Roz Agha Ms. Shang Musa	Chief C4D C4D Officer C4D Officer Educations Officer Educations Officer C4D Officer	UNICEF
Marwan Al Ani	Programme Manager	WHO
Louay Abdul Muhsen Ms. Tamara Ameen	Focal person Advisor	PMNOC
Kadum Sahar Waleed Alhadidi	DG of Dams and Reservoirs Chief Engineer	MoWR
Muslih Al-Khawam Akram Salman	Director CD Karkh Director CD Risafa	Civil Defense
Mohammed Al-Khuzai Manhal Jaber	-General Sec. -Social Media Campaign	IRCS
Ali Jawad Dr. Chaseb Lateef Raid Abed Ali Talal Ameen Dr. Yousif Mohamed Baqir Maad Khalil Ali Kamil Mohye	-Follow up of Baghdad CD Committees -DG Dept Health/Karkh -Baghdad Mayoralty /Risafa -Baghdad Mayoralty /Karkh Qaimmaqam Kadhmiya Qaimmaqam Risafa Qaimmaqam Shaab	Baghdad Governorate
Firas Tamween Abdul Jabbar Abdul Hussein Jamal Jaleel	Operations /MoH Mo Interior/ CIP Protection Mo Industry	Federal Ministries
10 Teachers (including 6 women) from Baghdad	Online focus group discussion	

Erbil		
<ul style="list-style-type: none"> -Ridhab Anwar Ali -Dr. Majeed Hamid -Brig. Husam Khalil -Khalida Saleh -Tahrir Hashim -Ali Mohammed Salih -Ahmed Ubaid Isa -Mohammed Abdulla -Khalid Mahmood -Salih Hasan -Ajam Hider Abdul Wahid 	<ul style="list-style-type: none"> -Governor office -Dept of Health -CD Director -Dept. Environment -Ninewa WR -Wana subdistrict -Nimrud subdistrict -Shora subdistrict -Hamam Alil subdistrict -Qayyara subdistrict -Governor's Office 	Nineveh Governorate
-Mowaffaq Hassan Hadi	-Managers and Contingency planning experts	Mishraq Sulfur
<ul style="list-style-type: none"> -Brig. Hasan Jadaan -Dr. Khalid Burhan -Mohammed Majeed -Mahmood Khalaf Ahmed -Bassam Abdul Wahid -Ali Dodah Khalaf -Saad Khazaal -Magsoud Shahab -Hamza Riyadh -Brig. Lateef Jassem 	<ul style="list-style-type: none"> -Governor office -Dept Health -Dept Env. -Dept. WR -Qaimmaqam Samarra -Qaimmaqam Sherqat - Qaimmaqam Baiji - Qaimmaqam Al-dor - Qaimmaqam Dhuluiya -Civil Defense 	Salah Al Din Governorate
<ul style="list-style-type: none"> -Adnan Yunis -Sadam Husein Shamil -Mustafa Ahmed -Bashar Ghanm Mohamed -Mohammed Nashat -Rafal Khalid -Lukman Abdul Rahman -Hisham Talal -Umar Saib 	<ul style="list-style-type: none"> -IRCS/ Salah AIDin -Volunteer Salah AIDin -Volunteer Salah AIDin -IRCS/ Nineveh -Volunteer/ Nineveh -Volunteer/ Nineveh -Volunteer/ Nineveh -Volunteer/ Nineveh -Volunteer/ Nineveh 	IRCS & volunteers
Ninawa <ul style="list-style-type: none"> -Zakaryia Yehya -Mahir Ahmed -Nashwan Abdulrazak Salah Al-Din <ul style="list-style-type: none"> -Dr. Ahmad Ganim, -Adil Hamad -Dr Abbas Mehdi Abbas 		Dept. of health Nineveh and Salah Al-Din
<ul style="list-style-type: none"> -Riyadh Izzildeen -Jamal Mahmoud <ul style="list-style-type: none"> -Salam Najim -Azad Maaruf -Rivan Burhan <ul style="list-style-type: none"> -Hayman Ahmed 	Managers and trainees	Mosul Dam, Dokan Dam Derbandikhan

-Saman Ismail -Salar Karim Hama -Hussain Saleh Ali -Barez Ali Ahmed		
-Tariq Battal -Umar Abdul Kerim -Thuban Jari -Hasan Shawkat -Ahmed Imad -Abla Fahmi	Managers and trainees	Hadhitha Dam, Hemrin Dam Samarra Barrage
Ms. Ruqayya Ms. Rabab Bashar Adnan	Community members from Mosul area (online meeting)	

Annex-2: Evaluation Matrix

Evaluation criteria	Key questions	Data Sources/Methods	Indicators	Methods for Data Analysis
Relevance	<ul style="list-style-type: none"> Which target groups and individuals were reached by the interventions? How effective was the targeting approach in achieving the activity goal? Is the Project approach and inputs, realistic, appropriate, and adequate to the needs of target groups and for achieving the results? How has management adapted the activity design or implementation based on monitoring information and feedback from the target population? Is the partnership approach appropriate and effective? Relevance of the Project to national disaster risk management priorities? 	<ul style="list-style-type: none"> Review of project documents including secondary sources Key informant interviews Focus group discussions 	<ul style="list-style-type: none"> - Alignment with National policies and priorities - Alignment with needs of the target groups and beneficiaries -Alignment with gender-sensitive, human rights-based approaches. -Alignment with SDGs, UNDP priorities 	Qualitative methods - Triangulation - Validations - Interpretations - Abstractions
Coherence	<ul style="list-style-type: none"> To what extent did the project complement work among different entities, especially with other UN actors? If the project was part of a broader package of support, to what degree were the project's design, implementation, monitoring and reporting aligned with that of other projects'? How were stakeholders involved in the project's design and implementation? Was project implementation among the three fund recipients done in a coherent and joint manner? 	<ul style="list-style-type: none"> Review of project documents including secondary sources Key informant interviews Focus group discussions 	<ul style="list-style-type: none"> - Complementarity with the work of other entities - Synergies and interlinkages with other interventions by UNDP or Govt. 	Qualitative methods - Triangulation - Validations - Interpretations - Abstractions
Effectiveness	<ul style="list-style-type: none"> To what extent are the project's objectives and outputs achieved? To what extent have the achieved results contributed to SDG 13, the UNDP- Iraq CPD (2020-2024) for Iraq? What factors (internal and external) have contributed to achieving or limiting the intended project outcome and outputs? Is the project management strategy effective in delivering desired/planned results? Is there a suitable M&E framework to monitor and support the implementation of the targeted results both at project level and CO? 	<ul style="list-style-type: none"> Review of project documents including secondary sources Key informant interviews Focus group discussions 	<ul style="list-style-type: none"> - Progress towards output indicators and targets of project results framework -level of contribution to national goals, SDGs and CPD outputs and outcomes - Number and kind of beneficiaries involved or benefited - availability of M&E mechanisms 	Qualitative methods - Triangulation - Validations - Interpretations - Abstractions Quantitative methods - Progress and trend analysis

	<ul style="list-style-type: none"> • Are the implementation tools used in project implementation effective? • Is the project effective in responding to the needs of the direct beneficiaries and targeted institutions, and what results can be shown? • To what extent the project was impacted by effect by any crises, including COVID-19? 			
Efficiency	<ul style="list-style-type: none"> • How efficient is the functioning of the project management, technical support, administrative, procurement and financial management procedures? • To what extent have the project management structure and allocated resources been efficient in achieving the expected results? • To what extent have the project funds and activities been delivered in a timely manner? • What is the visibility and communications strategy adopted by the project? Has it been cost-effective in terms of promoting the project and its achievements? • How is the project keeping track of progress on expected outputs and outcomes? 	<ul style="list-style-type: none"> • Review of project documents (financial statements) • Key informant interviews • Focus group discussions 	<ul style="list-style-type: none"> - Project output and activity level allocations per budgetary framework - Project output and activity level spending, so far - Project planned and actual implementation timelines for interventions - Cost effectiveness and value for money of project interventions 	<ul style="list-style-type: none"> Qualitative methods - Triangulation - Validations Quantitative methods - Progress and trend analysis
Impact	<ul style="list-style-type: none"> • What difference does the intervention make? • What changes—expected and unexpected, positive and negative—were experienced by the targeted beneficiaries and other stakeholders? • What factors appear to facilitate or inhibit these changes? • Which interventions appeared to be more or less important to achieving activity outcomes? • Does the overall project intervention contribute to longer-term outcomes/results? 	<ul style="list-style-type: none"> • Review of project documents including secondary sources • Key informant interviews • Focus group discussions 	<ul style="list-style-type: none"> - No and kind of beneficiaries involved and benefited - Type and kind of long term changes brought by the project - Level of contribution to gender equality and needs of the disadvantaged groups. 	<ul style="list-style-type: none"> Qualitative methods - Triangulation - Validations Quantitative methods - Progress and trend analysis
Sustainability	<ul style="list-style-type: none"> • To what extent are the benefits of the project likely to be sustained after the completion of the overall project cycle? • What is the likelihood of continuation and sustainability of the project outcome and benefits after completing the project? 	<ul style="list-style-type: none"> • Review of project documents including secondary sources 	<ul style="list-style-type: none"> - Financial, Social, Institutional and Environmental risks to sustainability of benefits - level of ownership of 	<ul style="list-style-type: none"> Qualitative methods - Triangulation - Validations - Interpretations - Abstractions

	<ul style="list-style-type: none"> How effective are the exit strategies, and approaches to phase out of the project, including contributing factors and constraints? What are the key factors that will require attention to improve prospects of sustainability of the project outcome and the potential for replication of the approach? How are capacities strengthened and sustained at the individual and institutional level (including contributing factors and constraints)? To what extent are lessons learned being documented by the project team and shared with appropriate parties who could learn from the project? 	<ul style="list-style-type: none"> Key informant interviews Focus group discussions 	<p>project interventions and availability of mechanisms to carry forward the results attained</p> <ul style="list-style-type: none"> - Availability or plans of an exit strategy to ensure sustainability 	
Cross cutting issues	<ul style="list-style-type: none"> To what extent have gender equality and the empowerment of women been addressed in the design, implementation and monitoring of the project? Is the gender marker assigned to this project representative of reality? To what extent has the project promoted positive changes in gender equality and the empowerment of women? Did any unintended effects emerge for women, men or vulnerable groups? Were persons with disabilities consulted and meaningfully involved in programme planning and implementation? What proportion of the beneficiaries of a programme were persons with disabilities? What barriers did persons with disabilities face? Was a twin-track approach adopted? How Cross-cutting issues such as gender, human rights, civil society engagement and government - non-government partnerships, Do-No Harm and, conflict sensitivity principles are taken into consideration during project design and implementation. 	<ul style="list-style-type: none"> Review of project documents including secondary sources Key informant interviews Focus group discussions 	<ul style="list-style-type: none"> - No and ratio of women involved and benefited from project - Availability of gender sensitive indicators in the RF Interventions -No of people from disadvantaged (disable) groups involved and benefited 	<p>Qualitative methods</p> <ul style="list-style-type: none"> - Triangulation - Validations - Interpretations - Abstractions <p>Quantitative methods</p> <ul style="list-style-type: none"> - Progress and trend analysis

Annex-3: List of questions for Key Informants Interviews and

Focus Group Discussions

For UNDP, Project Team and Responsible Parties (UNICEF, WHO, ICRS)

1. How was the project conceptualized and who was involved in the design process? Is the project theory of change and the design adequate and technically feasible to address the problems that had been identified?
2. To what extent were the objectives and design of the project appropriate and relevant to national priorities and priorities of UNDP and SDGs? Are these objectives still relevant in the current context?
3. To what extent are the programme interventions aligned with the needs of project partners and local communities especially women, disable and vulnerable segments of the society? Were they consulted and meaningfully involved in project planning and implementation?
4. What has changed in the context, since project inception, and how have changes been managed?
5. How were the UN programming principles of gender equality, human rights and capacity building mainstreamed/incorporated in the design and implementation of the project?
6. Is the project results chain from outputs, outcomes to impact clear, logical and achievable, and whether the respective indicators and targets are SMART and gender disaggregated? Is there specific gender, disadvantaged and marginalized groups related indicators provided in the Results Frameworks?
7. Are there any changes/revisions made to the results framework indicators and targets during implementation, if yes why?
8. How is the project progress and performance being monitored and evaluated? What kind of M&E mechanisms are in place for collection, analysis and reporting of data related to results framework indicators?
9. How was the information provided through the M&E system used to improve the project's performance and to adapt to respond to the changing needs?
10. How is the project being implemented including geographical coverage and what is the organizational and governing/steering structures of the project?
11. Who are the main responsible parties and are roles and responsibilities clear and mutually agreed upon? Did each partner fulfil its role and responsibilities?
12. Was project implementation among the three fund recipients done in a coherent and joint manner?
13. To what extent the intervention addressed the synergies and interlinkages with other interventions carried out by UNDP, Government of Iraq and development partners?
14. To what extent has the Project achieved its outputs and objectives? What were the major factors influencing the achievement or non-achievement of the outputs?
15. What are the main contributions of the project towards UNDP Iraq CPD outputs 4.1 and 4.2?
16. What are the financial resources and main donors of the project? To what extent have resources (financial, human, institutional and technical) been allocated and utilized strategically, keeping the best value for money?
17. To what extent have the project funds and activities been delivered in a timely manner?
18. What are the main impacts of the project so far?

19. What is the likelihood of continuation and sustainability of the project outcome and benefits after completing the project?
20. What are the comparative advantages of UNDP in the context of MDEP project?
21. Which interventions appeared to be more or less important to achieving activity outcomes?
22. What are the main lessons that have emerged?
23. What are the main challenges you have been facing during project implementation?
24. What are the effects of Covid-19 pandemic and security situation on project progress and performance especially implementation timelines? How was it mitigated?
25. What will you suggest to overcome the challenges and to improve performance of future interventions.

For main governmental partners at the national and sub-national levels.

1. How was the project idea conceptualized and by whom? Was your organization involved in the project conception and design process?
2. What kind of issues the Iraq is facing regarding disaster risk management, that remains to be challenging?
3. Are the project objectives and interventions consistent with the overall Government of Iraq priorities and especially the mandate of your institution?
4. What was the role of your institution in overall project implementation?
5. Did your organization received any material/technical inputs from the project, if yes, of what kind?
6. What are the main contributions of your institution in the project implementation?
7. Is the project design, approach and inputs appropriate in addressing the needs of your institution and especially the needs of the targets groups?
8. What was the level of cooperation and coordination between your institution and other project partners and were there any coordination/collaboration issues?
9. Have you participated in the Project Board meetings, if yes how often were the meetings held and what kind of decisions were made?
10. Was the support and inputs from UNDP and the project team up to your expectations and what is the comparative advantage of UNDP?
11. What are the main achievements of the project so far? Do these meet your expectations and are you satisfied with the overall project performance?
12. What would have been the implications if this project was not implemented at all?
13. Have you or someone from your organization benefited from project capacity building interventions, if yes, kindly elaborate.
14. Who are the main beneficiaries of the project interventions? To what extent have women, marginalized and disadvantaged groups, benefited from the Project 's activities?
15. What is the level of ownership of the project interventions at your institution and how will the project benefits be sustained after the project?
16. What changes—expected and unexpected, positive and negative—were experienced by the targeted beneficiaries and other stakeholders.
17. What are the main lessons that have emerged?
18. What is the current likelihood of the risk of Mosul dam collapse, has it increased or decreased from the level during 2019, please elaborate?
19. What are the main challenges your organization is still facing in promoting disaster risk reduction measure and how are you planning to deal with them in times to come?

20. What will you recommend to overcome challenges and improve performance of future such initiatives.

For Focus Group Discussions with CSOs, beneficiaries and communities.

1. Have you participated in the project interventions, including capacity building, if yes please elaborate?
2. How were you contacted and why did you choose to participate in the project activities?
3. What kind of benefits have you received from the project? Do these meet your expectations and satisfaction?
4. Have you participated in the project awareness raising campaign/activities, if yes please elaborate? Kindly also reflect how effective were these campaigns in spreading the messages to all concerned.
5. To what extent have women and disadvantaged groups benefited from the Project activities?
6. What changes—expected and unexpected, positive and negative—were experienced by the targeted beneficiaries.
7. What are the main lessons that have emerged?
8. Have you received any support from other similar government and donor funded programmes, if yes, please give some details?
9. Are there any community based or civil society organizations working in your area for disaster risk reduction, if yes please elaborate?
10. What are the main challenges you are still facing in your areas related to disaster risk mitigation, which were not addressed by the project?
11. How to increase the engagement of women, youth and persons with disabilities in initiatives such as these to ensure there is 'no one left behind'?
12. In your view what more needs to be done in times to come to mitigate disaster risks in your areas?

Annex-4: ToR for the Final Project Evaluation

Project/Outcome Information		
Project title and Outcome title	<p>Mosul Dam Emergency Preparedness in Iraq (MDEP)</p> <p>UNSDCF OUTCOME INVOLVING UNDP: 4.1. Strengthened and resourced policies and frameworks are implemented for managing natural resources (including transboundary issues), developing renewable resources, and increasing resilience to climate change, environmental stress and natural hazards, and human-induced and natural disasters.</p> <p>SDG: 13</p>	
Atlas ID	00118833	
Country	Iraq	
Geographical coverage	Nationwide with particular focus on the provinces of Baghdad, Ninewa and Salah Al Din.	
Date Project document signed	1 March 2019; Revised (no additional funds extension): 25 February 2021	
Project dates	Start	Planned end
	1 March 2019	31 October 2021
Project budget (USD)	4,744,440.00	
Resources mobilized (as of 30 May 2021)	4,983,692.00	
Programme delivery at the time of evaluation (as of 30 August 2021)	4,085,867.14	
Funding source	United States Agency for International Development (USAID)/Bureau of Humanitarian Affairs (BHA)	
Implementing party	United Nations Development Programme	
Assignment Start Date	1 st September 2021	

1. Project Background

Since January 2016, UNDP has support the Government of Iraq and mobilized emergency preparedness actions for safeguarding the vulnerable population along the Tigris floodplain. In doing so, the emergency alert and communication protocols have been instituted to warn populations along the flood-path in the event of dam failure. Targeted messages were developed and delivered through multiple platforms to raise risk awareness of the vulnerable communities. Iraqi officials were trained on dam safety operations, supported by drills/simulations that took account of risks of the vulnerable population inhabiting the downstream.

Whilst work on structural reinforcement has made considerable progress and the likelihood of an eminent Dam collapse has lessened, experts continue to express concerns about the likelihood of collapse and have called for sustained actions on emergency response and preparedness for the vulnerable communities in the downstream. Building on the lessons learned over the past years, the proposed project 'Mosul dam Emergency Preparedness' aims to build comprehensive preparedness capacities for safeguarding lives, livelihoods and assets in the vulnerable communities along the Tigris

flood path. In achieving this objective, the project has been designed to undertake targeted interventions toward achieving two major outputs during over the next two years. These include - (a) National capacities including the high-risks governorates (Nineveh, Salahuddin, Baghdad} strengthened on disaster preparedness, early warning and risk reduction, and (b) Local and community capacities enhanced in the high-risk municipalities on flood preparedness and risks awareness. The project reflects the updated context and builds on the existing results as well as prioritizes the essentially urgent activities as determined in close coordination and consultation with the counterparts and the partners on the ground. To ensure continuity and to avoid losing any momentum, the project is planned to commence from first of April 2019 on the expiry of the earlier phase within the scope of Disaster Risk Reduction (DRR} capacity building project in Iraq. The project will seek the opportunity to expand its engagement and deepen partnerships with a diverse set of stakeholders during the period of its implementation.

Soon after the launch of the Project, Iraq faced a series of unprecedented crises, including the country wide public protests that broke out across the country from the third quarter of 2019, and the outbreak of the COVID-19 pandemic from early 2020. The public protests resulted in bringing the federal and provincial government operations to a standstill, and led to changes in government at various levels, including the Prime Minister, Cabinet of Ministers and Provincial Governors. Furthermore, associated events triggered regional tensions between Iraq, Iran and the United States. The protests were still in progress when the COVID-19 broke-out forcing the government to shut down its non-essential operations, schools, businesses, and suspend inter-city and inter-provincial travel for several months as part of overall lockdown and containment measures to prevent the spread of the virus. The developments significantly affected the implementation of project activities, either due to the unavailability of the target beneficiaries and officials, or due to the travel restrictions and safeguarding measures that required avoiding in-person gatherings in compliance with the decisions of the Iraq Crisis Cell for COVID-19.

Since 1 March 2019, the Project has focused on following two major outputs and seven results areas;

Output 1: National capacities including the high-risks governorates (Nineveh, Salahuddin, Baghdad) strengthened on disaster preparedness, early warning, and risk reduction.

- KR -1 Training and tools for the Gov. preparedness plans
- KR - 2 Risks advocacy for the vulnerable communities (IRCS, WHO, UNICEF)
- KR- 3 Simulations /drills conducted (WHO, UNICEF)
- KR-4 Volunteers network for community EW and evacuation (IRCS)
- KR-5 Emergency preparedness of major Dams strengthened

Output 2: Local and community capacities enhanced in the high-risk municipalities on flood preparedness and risks awareness.

- KR-6 Major facilities protected along the Tigris flood plain
- KR-7 Environmental risks of toxic and chemical pollution mitigated

Overall, MDEP contributes to:

UNDP Strategic Plan 2018-2022	Outcome 3: Building resilience to shocks and crises
Programme Outcome / UNDP Country Programme Document (2020-2024)	UNSDCF OUTCOME INVOLVING UNDP: 4.1. Strengthened and resourced policies and frameworks are implemented for managing natural resources (including transboundary issues), developing renewable resources, and increasing resilience to climate change, environmental stress and natural hazards, and human-induced and natural disasters.
National Priority or Goal: Framework of Government Programme	

Sustainable Development Goals (SDGs)	Goal 13: Take urgent action to combat climate change and its impacts. TARGET_13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.
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2. Evaluation purpose, scope, and objectives

2.1. Evaluation purpose

This evaluation will be undertaken as part of the UNDP Programme Management requirements to:

- To promote accountability and transparency, assess whether the project has achieved its output level results, synthesize lessons to help guide future design and implementation of UNDP Projects, and contribute to the overall assessment of results in achieving strategic objectives.
- Evaluation is an integral part of the UNDP project cycle¹⁴. Its purpose is to provide a comprehensive and systematic account of the performance of the project by assessing its design, process of implementation, achievements (outputs, outcomes, impacts and their sustainability) against project objectives endorsed by the UNDP and government (including any agreed changes in the objectives during project implementation) and any other results.
- The Evaluation is undertaken with the aim of gaining a deep understanding of project development impact. This will involve assessing project progress toward its stated objectives as well as contribution to relevant Country Programme Document (CPD) outcome.

2.2. Scope of evaluation

The evaluation will be conducted from 1st September 2021, covering the whole project period (1 March 2019 – 31st August 2021) of the Project implementation cycle. Given that the project is nationwide with a particular focus on the provinces of Ninewa, Diyala, Salah Al Din, and Baghdad, the evaluation will have a national scope. The evaluation will be carried out using a combined methodology of desk review and direct beneficiary and stakeholder interviews including GoI counterparts, donors, MDEP international partners (UNICEF and WHO), civil society partners and UNDP Project Staff.

Disasters affect women, men, girls, and boys differently. Members of these groups experience different levels of vulnerability and have different levels of capacity and skills to respond to the effects of a disaster. Therefore, the risk posed by hazards is also impacted by one's gender. This programme emphasized equal participation by both men and women (and youth, where appropriate).

2.3 Evaluation Objectives

1. The main objective of this final evaluation is to assess whether the project has achieved or is likely to achieve the project objectives. The evaluation assesses the project performance against the five evaluation criteria: relevance, efficiency, effectiveness, sustainability and impact.
2. Take stock of the overall Project progress, achieved against the Project's expected results, and contribution towards Outcome 4.1 of the UNDP Country Programme Document (CPD).
3. The objectives of the evaluation are also to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

¹⁴ UNDP Programme and Operations Policies and Procedures (POPPs)

4. The evaluation assesses the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluation include whether the project has contributed to, or enabled progress toward, building comprehensive preparedness capacities for safeguarding lives, livelihoods, and assets in the vulnerable communities along the Tigris flood path.
5. The Final Evaluation is also expected to draw lessons and develop recommendations that may help in improving the selection, enhancing the design and implementation of similar future projects and activities in the country, improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

3. Evaluation Criteria and Key Questions

Evaluation is an evidence-based assessment of a project's concept and design, its implementation and its outputs, outcomes and impacts as documented in the project document. Evidence will be gathered by reviewing documents, interviewing key, selected stakeholders and from other ad hoc observations.

The standard evaluation criteria according to UNDP evaluation policy are Relevance, Impact, Effectiveness, Efficiency and Sustainability.

The Project Evaluation will generate evidence of progress and challenges faced, helping to ensure accountability for the implementation the project, as well as identifying and sharing knowledge and good practices through following standard Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) evaluation criteria¹⁵:

Relevance: The extent to which the project strategy, proposed activities and expected outputs and outcome are justified and remain relevant to the Government of Iraq (GoI) in its efforts to safeguard the vulnerable population in the Mosul Dam flood path by provisioning time-critical coordinated actions for alert/warning notification and clear and communicable massaging across the Government and the target population. More specifically, the relevance of the project should be assessed through the following guiding questions:

- Which target groups and individuals were reached by the interventions?
- How effective was the targeting approach in achieving the activity goal?
- Is the Project approach and inputs, realistic, appropriate, and adequate to the needs of target groups and for achieving the results?
- How has management adapted the activity design or implementation based on monitoring information and feedback from the target population?
- To what extent are the project's outcome and outputs achieved?
- To what extent have the achieved results contributed to SDG 13, the UNDP- Iraq CPD (2020-2024) for Iraq?
- What factors (internal and external) have contributed to achieving or limiting the intended project outcome and outputs?
- Is the partnership approach appropriate and effective?
- Relevance of the Project to national disaster risk management priorities?

Coherence

- To what extent did the project complement work among different entities, especially with other UN actors?

¹⁵<https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.html>
<https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

- If the project was part of a broader package of support, to what degree were the project's design, implementation, monitoring and reporting aligned with that of other projects'?
- How were stakeholders involved in the project's design and implementation?
- Was project implementation among the three fund recipients done in a coherent and joint manner?

Efficiency: The extent to which the project resources (funds, expertise/human resources, time, etc.) are optimally used and converted into intended outputs. More specifically, the efficiency of the project should be assessed through the following guiding questions:

- How efficient is the functioning of the project management, technical support, administrative, procurement and financial management procedures? To what extent have the project management structure and allocated resources been efficient in achieving the expected results?
- To what extent have the project funds and activities been delivered in a timely manner?
- What is the visibility and communications strategy adopted by the project? Has it been cost-effective in terms of promoting the project and its achievements?
- How is the project keeping track of progress on expected outputs and outcomes? Does the monitoring and evaluation system put in place allow for continuous collection and analysis of quality and segregated data on expected outputs and outcomes?

Effectiveness: The extent to which the project's expected outputs and outcomes are being achieved or are expected to be achieved. Factors contributing to or detracting from the achievement of the project desired results and objectives should also be included in the assessment. More specifically, the effectiveness of the project should be assessed through the following guiding questions:

- Is the intervention achieving its objectives?
- Is the project management strategy effective in delivering desired/planned results?
- Is there a suitable M&E framework to monitor and support the implementation of the targeted results both at project level and CO?
- Are the implementation tools used in project implementation effective?
- Is the project effective in responding to the needs of the direct beneficiaries and targeted institutions, and what results can be shown?
- To what extent the project was impacted by effect by any crises, including COVID-19?

Impact: The extent to which the project's is expected to contribute to longer term outcomes/results. The impact or effect of the intervention in proportion to the overall situation of the target institutions or direct beneficiaries.

- What difference does the intervention make?
- What changes—expected and unexpected, positive and negative—were experienced by the targeted beneficiaries and other stakeholders?
- What factors appear to facilitate or inhibit these changes?
- Which interventions appeared to be more or less important to achieving activity outcomes?
- Does the overall project intervention contribute to longer-term outcomes/results?

Sustainability: Analyzing whether benefits of the project are likely to continue after the project cycle.

- To what extent are the benefits of the project likely to be sustained after the completion of the overall project cycle?
- What is the likelihood of continuation and sustainability of the project outcome and benefits after completing the project?
- How effective are the exit strategies, and approaches to phase out of the project, including contributing factors and constraints?

- What are the key factors that will require attention to improve prospects of sustainability of the project outcome and the potential for replication of the approach?
- How are capacities strengthened and sustained at the individual and institutional level (including contributing factors and constraints)?
- Describe the main lessons that have emerged
- To what extent are lessons learned being documented by the project team and shared with appropriate parties who could learn from the project?
- To what extent did the activity align and integrate with host government social protection strategy/policy/service delivery? ○ Was the activity able to end operations at the close of the award without causing significant disruptions in the targeted communities?

Gender equality: All evaluation criteria and evaluation questions applied need to be checked to see if there are any further gender dimensions attached to them, in addition to the stated gender equality questions.

- To what extent have gender equality and the empowerment of women been addressed in the design, implementation and monitoring of the project?
- To what extent has the project promoted positive changes in gender equality and the empowerment of women?

Disability

- Were persons with disabilities consulted and meaningfully involved in programme planning and implementation?
- What proportion of the beneficiaries of a programme were persons with disabilities?

NOTE: Guiding evaluation questions will be further refined by the evaluation team and agreed with UNDP evaluation stakeholders.

4. Methodology

The evaluation methodology used here is:

The evaluation will be carried out in accordance with UNDP and USAID evaluation guidelines and policies including Evaluation guidelines during COVID-19, United Nations Group Evaluation Norms and Ethical Standards; OECD/DAC evaluation principles and guidelines and DAC Evaluation Quality Standards.

Project evaluations encompass a broad range of evaluation methods. They often incorporate before-after comparisons, but generally lack a rigorously defined counterfactual. Project evaluations may address descriptive, normative, and/or cause-and-effect questions. As project evaluations do not contain a rigorously defined counterfactual, they should not answer questions about the amount of change attributable to an intervention, where other factors are likely to have influenced the variable in question. The evaluation shall provide analysis of the output level change in the target institutions; i.e. the change in knowledge and skills of the beneficiary officials, and the new planning and management tools that have been made available to the target entities, and how they are contributing to improve the performance of these entities. The evaluation shall also provide analysis of the change in knowledge of civil society and community level beneficiaries and how the newly acquired knowledge or skills are being exploited by the beneficiaries for emergency preparedness.

The Project Evaluation methodology¹⁶ will include the following data collection tools:

- Desk review of relevant project documents
- One- to-one interviews with Government and civil society partner institutions, volunteers, and beneficiary population, who are directly engaged in the project implementation
- Discussions with UNDP CO senior management and relevant project staff
- Consultations with the donor (USAID)
- Consultations with international partners who implemented certain outputs of the project (UNICEF, WHO and others)
- Consultations with relevant government representatives/implementing partners involved in the implementation of project both at national and provincial levels.
- Review of the social media content produced by the Project (Facebook, Instagram, Twitter) and the electronic media content; i.e. videos, tv broadcasts, if possible;

The project evaluation will use a mixed method to collect data, which includes the following: desk reviews of key documents (such as: annual report and strategic review), project data, and other relevant research, reference materials, interviews, and meetings with relevant stakeholders.

Data and information are to be collected via various methods, including semi-structured interviews covering participants in development project, project members, as well as data review and analysis of monitoring and other data sources and methods. Information to be analyzed and consulted with project, and then an evaluation report draft will be developed. Triangulation of data in this evaluation to be done through discussing multi-perspective when investigating the project effectiveness, data to be triangulated to increase the level of knowledge about the project and to strengthen the evaluation findings on standpoint from various aspects, and to facilitate validation of data through cross verification from different data sources.

If COVID-19 health pandemic related international travel restrictions and related containment measures are relaxed field visits to selected project sites and institutions will be carried out. All field-related work and relevant logistical arrangements should be made by the Consultant and are under its his/her responsibility. Assistance will be provided by the UNDP MDEP project Team in identifying key stakeholders and in facilitating the schedule of interviews, focus groups and site visits, when and where required. Alternatively, If COVID-19 health pandemic related international travel restrictions and related containment measures are not relaxed, the field mission will only be limited to Baghdad and Erbil based interviews with rest of the interviews conducted using virtual modalities.

All analysis must be based on observed facts, evidence, and data. Findings should be specific and concise and supported by information that is reliable and valid. Cross-cutting issues and the SDGs should be integrated into the final evaluation report. The final methodological approach including interview schedule, field visits and data to be used in the evaluation should be clearly outlined in the inception report and fully discussed and agreed between UNDP, key stakeholders and the evaluators.

5. Evaluation Products (Key deliverables)

The consultant is expected to deliver the following outputs/ deliverables.

- **Inception Report and presentation:** Based on the terms of reference (TOR) and initial debriefing with the UNDP team, as well as the desk review outcomes, the consultant is expected to develop an inception report. This report should detail out the *evaluator's understanding of what is being evaluated and why*, the *evaluation methodology* that describes data collection methods and sampling plan, together with the rationale for their selection and limitations. The report should

¹⁶Please refer to the guidance: https://www.usaid.gov/sites/default/files/documents/USAID-BHA_DRAFT_Emergency_ME_Guidance_April_2021.pdf

also include an *evaluation matrix* identifying the key evaluation questions and how they will be answered by the selected methods. Annexed *workplan* should include detailed schedule and resource requirements tied to evaluation activities and milestone deliverables.

- **Debriefing** after completion of the field work
- **Draft Evaluation Report** to be submitted to UNDP for review; UNDP will provide a combined set of comments, **using Evaluation Report Audit Trail**, to the evaluator to address the content required (as agreed in the inception report) and quality criteria as outlined in the UNDP evaluation guidelines.
- **A presentation** will be delivered to the UNDP Team on the draft report outlining the key following aspects: (i) overall evaluation findings of MDEP project, and (ii) overall evaluation findings and in-depth analysis relating to each Outputs. Feedback received from the presentation of this draft Evaluation Report should be considered when preparing the final report. The evaluator should produce an audit trail indicating whether and how each comment received was addressed in revisions to the final Report.
- **Final Evaluation Report** (guided by the minimum requirements for a UNDP Evaluation Report /UNDP Outline of the evaluation report format (see annex 6) should be submitted to UNDP
- **Brief summary report** (within 5 pages) linking the final evaluation findings to the country programme outcome 4.1 focusing on Environment and Disaster Risk Reduction - DRR, to be submitted before expiry of the contract.

It should be noted that the above list of deliverables, together with the implementation time-frame (see section 8) might be subject to review and revision by UNDP in discussion with the Consultant in the event of unexpected changes to the context/ working environment in Iraq during the consultancy period.

Standard templates that need to be followed are provided in the Annexes section. It is expected that the Consultant will follow the UNDP evaluation guidelines and UNEG quality check list and ensure all the quality criteria are met in the evaluation report.

In line with the UNDP's financial regulations, when determined by the Country Office and/or the consultant that a deliverable or service cannot be satisfactorily completed due to the impact of COVID-19 and limitations to the evaluation, that deliverable or service will not be paid.

Due to the current COVID-19 situation and its implications, a partial payment may be considered if the consultant invested time towards the deliverable but was unable to complete it, due to circumstances beyond his/her control.

6. Evaluation ethics

Evaluations in the UN are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'¹⁷. The consultant must safeguard the rights and confidentiality of information providers, interviewees, and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The consultant must also ensure security of collected information before and after the evaluation and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information knowledge and data gathered in the evaluation process must also be solely used for the evaluation and not for other uses with the express authorization of UNDP and partners."

¹⁷ UNEG, 'Ethical Guidelines for Evaluation', June 2008. Available at <http://www.unevaluation.org/document/download/547> UNEG, 'Ethical Guidelines for Evaluation, updated June 2020: <http://www.unevaluation.org/document/detail/2866>

7. Management and implementation arrangements

The Project Evaluation is commissioned by UNDP Iraq's Energy, Environment and Climate Change Pillar (EECC). The main UNDP Focal Point will be the Programme Specialist (PS) of EECC pillar, who will be supported by the Programme Management Support Unit (PMSU). Together the MDEP project team and the PS will serve as the focal points for providing both substantive and logistical support to the Consultant. Assistance will be provided by the PS and MDEP project team to make any refinements to the work plan of the selected Consultant (i.e. key interview partners; organize meetings; and conduct field visits (if necessary and if the security situation permits).

This TOR shall be the basis upon which compliance with assignment requirements and overall quality of services provided by the Consultant will be assessed by UNDP.

As part of the assignment:

- UNDP will provide office space with access to the internet and printer when in-country in Baghdad/Erbil and in the event of visits to Erbil/Erbil, she/he will be provided office space.
- UNDP will provide the following list of additional documents to the selected Consultant
 - Donor Reports
 - Relevant Financial Information
 - Contact Details of Stakeholders and Partners
 - Programme Beneficiary Details
 - Risk Analyses and Lessons Learned Logs
 - Other relevant documents (including training manuals, awareness materials and technical guidelines, documents produced under the Project)
- The Evaluation Consultant is expected to
 - Have/bring their laptops, and other relevant software/equipment.
 - use their own mobile and personal email address during the consultancy period, including when in-country.
 - make their own travel arrangements to fly to Baghdad and transportation arrangements outside work hours. UNDP will make arrangements for in-country travel from Baghdad to Erbil and any other locations, as required.
 - UNDP will make arrangements for interpretation services locally, as required.
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8. Locations and timeframe for the evaluation process

The detailed evaluation workplan will be agreed upon between the UNDP and the selected Consultant. The Project Evaluation will take place between 1st September – 10th October 2021, including a combination of home-based work and one (1) in-country visit, which includes travel to Project implementation locations. The security situation in each location will be reviewed prior to roll out of the final field visit plan. The assignment and final deliverable are expected to be completed no later than 15th October 2021, with the detail as described in the below table.

Indicative work plan—timeframe for evaluation deliverables

ACTIVITY	ESTIMATED # OF DAYS	DATE OF COMPLETION	PLACE	RESPONSIBLE PARTY
Sharing of the relevant documentation with the consultant	0.5 days	At the time of contract signing 1 September 2021	Via email	UNDP Team
Desk review, evaluation design, methodology and updated workplan including the list of stakeholders to be interviewed	4 days	Within 4 days of contract signing- 4 September 2021	Home- based	Consultant
Meeting briefing with UNDP (programme manager and staff)	0.5 days -	At the time of contract signing - 5 September 2021	Home-based & UNDP CO (online)	Consultant UNDP Team

Submission of the inception report and deliverables (15 pages maximum)	1 Day	Within five days of contract signing - 6 September 2021		Consultant
<i>Deliverable 1:</i> Comments on inception report	UNDP review time	Within three days of submission of the inception report- 9 September 2021	UNDP Country Office	Consultant UNDP Team
Consultations and field visits, in-depth interviews and focus groups	10 days	Within four weeks of contract signing- 19 September 2021	In country (field visits)	Consultant
Preparation of draft evaluation report (50 pages maximum excluding annexes), executive summary (5 pages)	5 days	Within two weeks of the completion of the field mission- 24 September 2021	Home- based	Consultant
<i>Deliverable 2:</i> Draft evaluation report submission	-	24 September 2021	Home-based	Consultant
Consolidated UNDP and stakeholder comments to the draft report	2 days	Within one week of submission of the draft evaluation report- 28 September 2021	UNDP Country Office	UNDP Team
Final debriefing with UNDP (including Senior Management)	0.5	Within one week of receipt of comments- 30 September 2021	Home-based & UNDP CO (online)	Consultant UNDP Team
Final evaluation report incorporating additions and comments provided by project staff and UNDP Iraq country office	3 days	Within one weeks of final debriefing- 5 October 2021	Home-based	Consultant
Submission of the brief summary report linking MDEP project evaluation to the EECC outcome (5 pages maximum excluding annexes)	2.5 days	Within one weeks of final debriefing- 8 October 2021	Home-based	Consultant
<i>Deliverable 5:</i> Approval of the brief summary report		By the time of contract ending- 10 October 2021	Home-based & UNDP CO (online)	
Estimated total workdays for the evaluation	27 days			

9. Deliverables and Payment Schedule

The consultant is expected to deliver the following outputs / deliverables. It should be noted that the following list of outputs/ deliverables might be subject to review and revision by UNDP in discussion with the consultant in the event of unexpected changes to the context / working environment in Baghdad/ Iraq during the consultancy period. Payments will be made upon acceptance and approval by UNDP of the planned deliverables, based on the following tentative payment schedule:

Terms of Payment		Percentage (%)
(i)	Upon the satisfactory completion and acceptance of Inception Report and Presentation, including:- <ul style="list-style-type: none"> ○ Updated evaluation methodology and work plan ○ Final Evaluation Report template ○ Questionnaires for Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) ○ Sampling methodology, as applicable ○ List of interviewees and desk review documents 	20%
(ii)	Upon the satisfactory (a) completion of the field work in keeping with the agreed work plan;	40%

	(b) Debriefing presentation on the findings that will feature in the Draft report, and © submission of the draft Evaluation Report	
(iii)	Upon the satisfactory: (a) Final debriefing addressing comments received on the draft Evaluation Report, and (b) submission and acceptance of the final Evaluation Report duly approved by UNDP's Programme Management Specialist / Programme Management Support Unit. © submission and acceptance of the brief summary report (recommendation for CPD Outcome 4.1.) duly approved by UNDP's Programme Management Specialist/Programme Management Support Unit	40%
Total		100 %

Annex-5: UNEG Code of Conduct for Evaluators

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Nisar Ahmad Khan

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at Islamabad _____ (Place) on 17 August 2021
(Date)

Signature: _____

