CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

CTCN Technical Assistance

Request Submission Form

Guidelines:

- This Request Submission Form should be completed by the organisation requesting technical assistance from the Climate Technology Centre & Network (CTCN) in collaboration with the National Designated Entity (NDE) of the country in question
- The Form must be signed by the NDE. Please see updated contact list of NDEs here: http://unfccc.int/ttclear/support/national-designated-entity.html
- The Form can be submitted as a Word file containing a digital signature or as a signed and scanned PDF file in combination with an un-signed Word file
- For requests submitted by multiple countries, all the NDEs of the respective countries shall sign identical Forms before official submission to the CTCN
- NDEs have the opportunity to submit CTCN requests in collaboration with National Designated Authorities (NDAs) for the Green Climate Fund (GCF) if targeting the GCF Readiness Programme.

Requesting country or countries:	Iraq
Request title:	Please reflect the objective of the technical assistance in the title (maximum 200 characters). **TECHNICAL GUIDANCE AND SUPPORT FOR CONDUCTING THE TECHNOLOGY NEEDS ASSESSMENT/ ENGAGEMENT OF INTERNATIONAL CONSULTANT AND SOURCING OF FUNDS/GRANTS FOR IRAQ**
NDE	Please add name of organisation, name of individual, position, email and address. **SUSAN SAMI AL-BANAA** MINISTRY OF HEALTH AND ENVIRONMENT **: suzan_banna@yahoo.com**
Request Applicant:	Please add name of organisation, contact person, position, email and address of the organisation requesting assistance from the CTCN. **ORGANISATION**: Climate Change Center **CONTACT PERSON**: ,: Susan Sami Jameel AL- Banaa Iraqi National Focal point to the UNFCCC and CTCN Ministry of Health and Environment- Ir aq **EMAIL ADDRESS** **: suzan_banna@yahoo.com**

Climate objective:

☐ Adaptation to climate change

☐ Mitigation of climate change

☒ Combination of adaptation and mitigation of climate change

Geographical scope:

☐ Community level

☐ Sub-national

☒ National

☐ Multi-country

If the request is at a sub-national or multi-country level, please describe specific geographical areas (provinces, states, countries, regions, etc.).

Problem statement related to climate change (up to one page):

This section should answer the question "what is the problem?" Please summarise the problem related to climate change and/or the negative impacts of climate change in the country that the request aims to address.

According to GEF6-regional report for West Asia, the climate change global index study classified Iraq as the fifth most vulnerable country in the world to decreased water and food availability, extreme temperatures and associated health problems due to the growing impacts of climate change and this has started causing significant adverse effects to the people and to the Iraqi society. Iraq has been facing real and unique challenges stemming from the markedly rising temperature and declining precipitation, as well as other extreme phenomena caused by climate change. Studies have confirmed that climate change will have catastrophic impact on water, agriculture, health and biodiversity because of their structural fragility, as well as a lack of institutional and technical capacities and other actions needed to mitigate these impacts and reduce climate change risks.

In Iraq 97 per cent of its total area is arid, about 50 per cent of which is desert. Desertification affects 39 per cent of the country's surface area with an additional 54 per cent under threat. Arable land degradation is ongoing, caused by various factors including mismanagement, climate change and water scarcity, and has accelerated the rise of soil salinity, increased the rate of soil erosion and converted wetland to dry land.

It is estimated that Iraq loses around 250 square kilometres of arable land annually, as it suffers the most from soil salinity and wind erosion. In Mesopotamia, where the majority of the fertile land exists, the near-surface water table associated with a very high evaporation rate has created ideal conditions for soil salinization.

The continual decline in water flows in the lower Tigris and Euphrates has led to infiltration of saltwater from the Arabian Gulf into the Shatt Al-Arab River in southern Iraq. The salinity level in this river was recorded at up to 40 000 parts per million in 2009 at the peak of a severe drought, and 12000 parts per million since then. In 2009 the saltwater reached beyond Basra and further north, about 150 kilometres inland. This has decimated agriculture that relies on the river water, as well as freshwater fisheries, crops, livestock and the famous groves of date palms, which have been abandoned.

On the other side, national economic sectors suffer from a slow growth which has become deeper with the unprecedented increase of temperatures leading to further losses in electric power. This has in turn caused a sharp decline in the kWh per capita. The highest power generation levels in Iraq throughout the past four decades have never ensured 24-hour coverage for the Iraqis. The total production of electricity at the moment is 11,000 MW, while the country's actual need is 23,000 MW, without Kurdistan Region, and this is expected to increase to 42,000 MW in 2030. The net kWh per capita in Iraq in 2013 and 2014 was nearly 1,375 KW.h/year, compared to 8,000 KW.h/year in the neighbouring countries. Moreover, given climate circumstances, declining water levels and military

operations, hydroelectric generation plants have been affected and their capacity dropped from 1,846 MW to only 400 MW. Furthermore, in 2014, the economy and businesses collapsed and were almost totally disrupted in around one third of Iraq's area, including large towns in western and northern Iraq because of refuges and internally displaced peoples (IDPs) when ISIS invaded the area. The International Organization for Migration has, since January 2014, recorded approximately 528,601 IDP families or 3,171,606 persons.

The public transport sector in Iraq witnessed acute deterioration after 1991. The number of planes decreased from 63 in 1980 to 2 planes in 2003. The number of train travels decreased significantly after 2003, and the number of double-decker buses inside Baghdad decreased from 300 in 2002 to 84 in 2014. The reduction in public transport sector is estimated at 90%. As a result, the private transport sector grew by 80%, leading to changed transport mode – one-passenger cars – because of the security circumstances, as well as security and social considerations.

Despite the fact that Iraq has a very short coastal areas (only 80 Km), Climate change scenarios expected Iraq to face threats on coastlines due to Sea level rise. Flooding of coastal areas will reduce agricultural land and destroy economic and population centres. Many studies suggest significant adverse impacts of sea level rise on the southern part of Iraq with increased salinity and degradation of the agricultural lands, palm groves, oil and other industrial facilities. Besides, there is the impact of rising temperature and increased acidity of sea water on the eco-systems of the marine environment and their possible migration to other areas away from Iraq's territorial waters. It may be noted that climate change has started impacting the precious coral reefs in the Gulf region and the Red Sea, which attract large numbers of tourists in this region. International support has become critically important to protect the Iraqi coastal resources from the adverse impact of climate change, particularly in agriculture, industry, tourism and oil sectors.

In Iraq, military conflicts and three decades of continuous wars have led to the greatest level of environmental deterioration and infrastructures destruction. The last war against ISIS imposed Iraq to allocate the majority of its budget to the related military operations. It is important to mention that the country's economic, scientific and human resources have been depleted by these successive wars.

The main environmental targets of Iraq now is to reconstruct the liberated regions and to rebuild its capacity to treat the environmental problems using new technologies to achieve its future goals.

Technology is an important aspect to be taken into consideration in climate change both in adaptation and mitigation. In Iraq, the absence of comprehensive Technology Needs Assessment (TNA) will increase the difficulties of determining the nature and size of support needed for the implementation of Nationally Determined Contributions (NDCs), national development priorities and Sustainable Development Goals.

The Iraqi First TNA project will require additional fund, skills, capacities and the participation of recognised international experts. It is therefore in this way that CTCN is being requested for technical assistance including technical assessments, training and implementation plans to guide Iraq conduct Technology Needs Assessment for Climate change in the most critical sectors of the economy.

Past and on-going efforts to address the problem (up to half a page):

This section should answer the question "what has been done or is currently being done to address the problem?" Please describe past and on-going processes, projects or initiatives implemented in the country or region to tackle the climate problem as described above.

Iraq is a Party to the United Nations Framework Convention on Climate Change (UNFCCC) and it's Kyoto Protocol from 2009.

Iraq and through the Ministry of the environment as a National Focal Point to the United Nations Framework Convention on Climate Change is working on a project to promote the uses of PV solar

energy within the country, which is being implemented with joint funding between the Iraqi government including private sector and the Global Environment Facility (GEF) in cooperation with the United Nations Development Program (UNDP) as an implementing entity to. This project includes the processing of 1,300 houses in the complex home solar energy systems for electric power generating capacity of 5 KW per residential unit to generate approximately 5 MW of solar energy for the whole compound. The project is now in its final stages and through it Iraq is cooperating with the Regional Center for renewable energies and energy efficiency (RCREEE) to prepare a national renewable energy law and establish a code link for the on-grid connection.

In 2015, Iraq has submitted its Intended Nationally Determined Contributions (INDC) towards addressing climate change which envisages reduction of emission by 1% below BAU by 2035 using its, rising to 13% with support from the international community. In addition to its INDC which is under reviewing process, Iraq in cooperation with UNDP is working on submitting its final draft of (NAMAs-Road Map). Moreover, Iraq is currently in the process of implementing the project on GCF- readiness to be able to access the GCF resources and it is hoped that this project will assist the country in building its national capacity to identify national priorities in its project pipeline to mitigate greenhouse gases emissions and to adapt to the impact of climate change. In its Initial National Communication, Iraq showed an indicative list for mitigation technology to help the national sectors to move towards more efficient and effective technologies to address climate change.

Since 2016, Iraq has worked with UN-Environment to prepare a project which has been submitted to GCF to start the preparation of the National Adaptation Plan to enable the implementation of adaptation activities for most vulnerable sectors to climate change.

In22 March 2018, the Adaptation Fund agreed to support Iraq in implementing project on Building Resilience of the Agriculture Sector to Climate Change, through International Fund of Agriculture Development IFAD as an implementing entity. the project objective is to strengthen the agro-ecological and social resilience to climate change in four target governorates (Muthanna, Qadisiya, Missan, and Thi Qar), by enhancing water availability and use efficiency, and promoting adaptive agriculture production systems and technologies for improved livelihoods and food security of rural households. The project is designed to deal with one of the major constraints in the country that centres around the growing scarcity of irrigation water and to assist the country with strengthening its capacity at the national level for monitoring climate change patterns and providing relevant information to key stakeholders and farmers to enable them to undertake adaptation and risk mitigation measures through an early warning system.

In all that has been mentioned, the appropriate technologies are an important and essential solution to be able to implement these project correctly and to combat the impacts of climate change.

Specific technology[1] barriers (up to one page):

This section should answer the questions "what are the technology barriers that hinder national efforts described above" and "how will the CTCN technical assistance complement these efforts?" Building upon the problem statement and taking into consideration the existing efforts described above, please

[1] ***"any equipment, techniques, practical knowledge and skills** needed for reducing greenhouse gas emissions and adapting to climate change" (Special Report on Technology Transfer, IPCC, 2000)*

describe the specific technology barriers encountered by the requesting applicant to identify, assess or deploy climate technology(ies) in an effort to address the problem statement. The described barriers should be within the scope of the requested CTCN technical assistance (described in the section below). **Specific Technology Barriers encountered in Iraq can be categorized into economic, financial and security; market conditions; legal and regulatory; network (weak connectivity between actors); institutional and organisational capacity; human skills; social, cultural and behavioural; information and awareness; technical and physical infrastructure deficit. Other barriers include: Inadequate funds for climate change response including acquisition of appropriate technologies; elite apathy to Research and Development of green technologies, inadequate incentives and enabling environment for productive research; inadequate pool of requisite skills in climate technologies arising from ineffective and poorly developed curricula at the primary, secondary and tertiary institutions of learning in the country etc. According to 5th Assessment report of IPCC (2014), which identified the following economic barriers to adaptation decision-making namely transaction costs, market failures and missing markets, ethics and distributional issues, coordination/government failures/political economy and uncertainty. Coincidentally, these economic barriers affect the development and transfer of climate technologies in Iraq.**

Sectors:

Please indicate the main sectors related to the request:

☒ Coastal zones	☒ Early Warning and Environmental Assessment	☒ Human Health	☒ Infrastructure and Urban planning
☒ Marine and Fisheries	☒ Water	☒ Agriculture	☒ Carbon fixation
☒ Energy Efficiency	☒ Forestry	☒ Industry	☒ Renewable energy
☒ Transport	☒ Waste management		

Please add other relevant sectors:

Cross-sectoral enablers and approaches:

Please indicate the main cross-sectoral enablers and approaches

☒ Communication and awareness	☒ Economics and financial decision-making	☒ Governance and planning	☒ Community based
☒ Disaster risk reduction	☒ Ecosystems and biodiversity	☒ Gender	

Technical assistance requested (up to one page):

Founded on the problem statement, past/on-going efforts and technology barriers, please describe the requested technical assistance. The technical assistance should clearly contribute to mitigation or

adaptation to climate change as described in the problem statement and contribute to overcome the specific technology barriers.

Within a clearly defined scope, the description of technical assistance should be structured into the following:

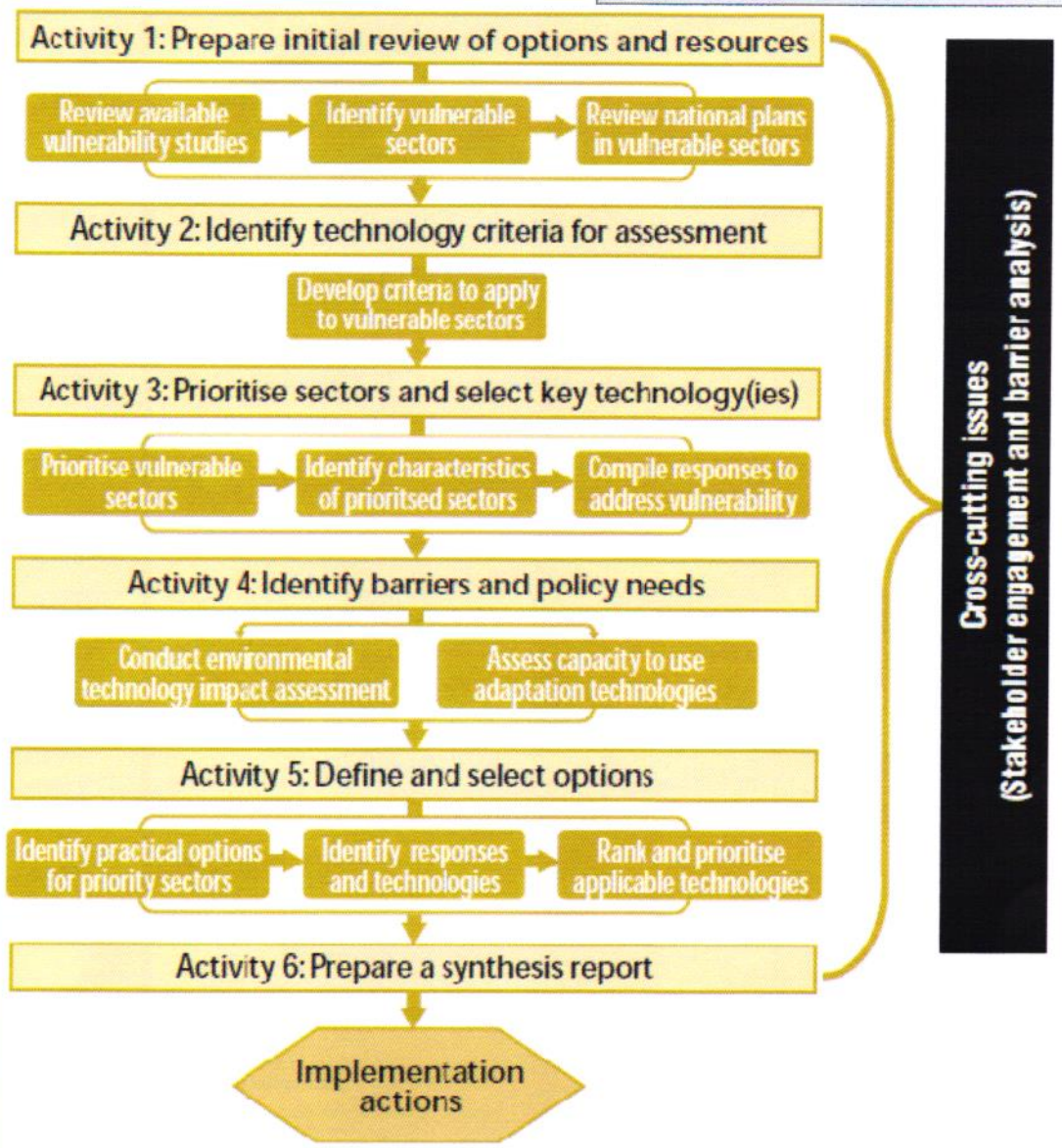
- Overall objective
- Anticipated groups of activities to be performed by the technical assistance
- Anticipated products to be delivered by the technical assistance.

Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.

The overall objective is to conduct Technology Needs Assessment for Climate Change Mitigation and Adaptation in Iraq in most vulnerable economic sectors as identified in both Iraq's INC and INDC Documents namely Agriculture, Energy, Industry etc. Also, to seek technical guidance for the different activities required to conduct the TNA process, including training on the TNA process, methodologies and quality control, together with the engagement of Consultant.

Scope of work includes:

- **Organizes all process of technological needs assessment process;**
- **Conducts desk study on previously conducted similar assessments;**
- **Liaises with relevant state, non-state and private stakeholders and organizes individual interviews or group discussions, site visits, etc. in order to conduct the study of current technological needs;**
- **Assess the constraints of institutions responsible for activities related to climate change in terms of technology issues through the collection, synthesis and analysis of existing information;**
- **Conduct desk study on existing state programs and plans on technology transfer and capacity building for activities related to climate change, as well information on national resources allocated for climate change upon ratification of the UNFCCC;**
- **Organizes the process of data collection on financial resources, technology transfer, and**
- **technical support received from bilateral and multilateral donors, etc. for activities related to climate change, as well information on national resources allocated for climate change upon ratification of the UNFCCC;**
- **Provides periodic progress report to the Project Manager on the activities implemented in regards to needs assessment process;**
- **Ensure the timely and effective management of the activities as scheduled;**
- **Drafts the national Technology Needs Assessment report for various sectors**



Anticipated Products to be delivered by the Technical Assistance:

The output of the support will be the TNA synthesis report, which contain the following elements:

i. **Objectives for the TNA in the context of national development priorities**
ii. **A description of the stakeholder process adopted**
iii. **An evaluation of sectoral needs and opportunities**
iv. **A statement of data gaps**
v. **The criteria and process for technology assessment**
vi. **Identification and assessment of technology options (including adaptation, if appropriate)**
vii. **A list of priority sectors and key technologies for preliminary action and TAPs for various sectors.**
viii. **A review of key barriers related to existing plans and programmes and steps to overcome them**
ix. **Capacity building measures, if applicable**
x. **Potential sources of funding**
xi. **A discussion of implementation plans, if relevant**

Expected timeframe:

Please indicate the expected duration period for the requested technical assistance. Please note CTCN technical assistance is limited to a maximum duration of 12 months.
12 Months

Anticipated gender and other co-benefits from the technical assistance:

Please describe the activities with gender linkages as well as the anticipated gender and other co-benefits (e.g. biodiversity, economic, social, cultural, etc.) that are likely to be generated as a result of the technical assistance.

For more information you can find guidelines on the CTCN's website here:
https://www.ctc-n.org/technologies/ctcn-gender-mainstreaming-tool-response-plan-development

Further reading on gender can be found on the CTCN website here:
https://www.ctc-n.org/technology-sectors/gender

The anticipated activities with gender linkages as well as gender and other co-benefits from the technical assistance will include:

1. Decision Making:
Equal participation of men and women in decision-making related to climate technology implementation or use. This will include their involvement in planning and consultation meetings, project planning process, including in climate technology user groups and cooperatives.

2. Capacity Building
Women and men benefit equitably from technical assistance and project-related training

3. Awareness Raising and Advocacy
Involvement of climate technology user groups, cooperatives and committees in awareness rising and advocacy in gender responsive manner.

Other anticipated co-benefits that will improve general quality of life include:

- **Technology improvement and adoption of technological change,**
- **Capacity and Skills enhancement**
- **Increased productivity**
- **Contributions to energy security**
- **Business creation**
- **Reduced vulnerability**
- **Increased productivity**
- **Increased resilience**

Key stakeholders:

Please list the stakeholders who will be involved in the implementation of the requested CTCN technical assistance and describe their role during the implementation (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.).

Stakeholders	Role to support the implementation of the technical assistance

National Designated Entity	Ensure alignment with national priorities on climate change, synergy with applicant's organisation; ensuring adequacy of application and provides endorsement. Monitor and evaluate the technical assistance provided by the CTCN.
Request Applicant	Coordinates implementation of project and ensure synergy and reporting to the UNFCCC Focal Point.
Please add as many stakeholders and lines as required.	**Ministry of Science and Technology, Ministry of Electricity, Ministry of Industry, Ministry of Transportation, Ministry of Oil, Ministry of Agricultural, Ministry of Water Resources, Ministry of Municipality, Amanat Baghdad, and Private sector.** **every national entity will be responsible for informing the international experts about the current using technologies and provide sufficient information to enable the experts to determine the best modern techniques which can be used in every national sectore.**

Alignment with national priorities (up to 2000 characters including spaces):

Please describe how the technical assistance is consistent with national climate priorities such as: Nationally Determined Contribution, national development plans, poverty reduction plans, technology needs assessments, Low Emission Development Strategies, Nationally Appropriate Mitigation Actions, Technology Action Plans, National Adaptation Plans, sectorial strategies and plans, etc.

Reference document (please include date of document)	**Extract** (please include chapter, page number, etc.).
Nationally Determined Contribution (NDC)	Direct alignment and contribution to NDC implementation is required for all CTCN technical assistances. Please include a direct reference to the INDC/NDC document (chapter, page number, etc.). **This project will contribute to Iraq's Nationally Determined Contribution (NDC) emission reduction target which is under reviewing now** **International finance and investment, technology and capacity-building will be needed to achieve the ambitious intended contribution (Page 5)**
Technology Needs Assessment	
National Adaptation Plans	**We still on the process of getting the support to start our National Adaptation Plan.**
Nationally Appropriate Mitigation Actions	**Despite that the Iraqi NAMA-road Map project is still under submitting process, the existing of TNA will be very helpful to achieve the objectives of the NAMA-road Map.**
Add others here as relevant	

Development of the request (up to 2000 characters including spaces):

Please describe how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles?) and describe any consultations or other meetings that took place to develop and select this request, etc.

The process was initiated by the National Climate Change Center, Ministry of Health and Environment. The stakeholders were engaged through the Permanent National Climate Change Committee, which involves relevant Ministries, Departments and Agencies. Several stakeholders meeting were held and the need for the project was identified and subsequently developed. It was approved by the Director of Climate Change Center and H.E. the Technical Deputy Minister for the environmental issues in the Ministry of Health and Environment in Iraq.

Background documents and other information relevant for the request:

- Please list all relevant documents that will help the CTCN analyse the context of the request and national priorities. Please note that all documents listed/provided should be mentioned in this request in the relevant section(s), and that their linkages with the request should be clearly indicated. For each document, please provide web-links (if available) or attach to the submission form. Please add any other relevant information as required.
- Please indicate if this request has been developed with the support of the CTCN Request Incubator.

Initial National Communication (INC) to UNFCCC 12 August 2017
https://unfccc.int/documents/79714

Intended National Determined Contribution (INDC)
http://www4.unfccc.int/Submissions/INDC/Published%20Documents/Iraq/1/INDC-Iraq.pdf

Building Resilience of the Agriculture Sector to Climate Change in Iraq (BRAC) Project
https://www.adaptation-fund.org/wp-content/uploads/2018/01/6535ProjectproposalIRAQIFAD3Sept2017Clean-4.pdf

OPTIONAL: Linkages to Green Climate Fund Readiness and Preparatory Support

The CTCN is collaborating with the GCF in order to facilitate access to environmentally sound technologies that address climate change and its effects, including through the provision of readiness and preparatory support delivered directly to countries through their GCF NDA. These actions are in line with the guidance of the GCF Board (Decision B.14/02) and the UNFCCC, particularly paragraphs 4 and 7 of 14/CP.22 that addresses Linkages between the Technology and the Financial Mechanisms[2].

The CTCN is therefore implementing some of its technical assistance using GCF readiness funds accessed via the country's NDA. Any application for GCF support, including the amount of support provided, is subject to the terms and conditions of the GCF and should be developed in conjunction with the NDA.

[2] Please see:
https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/auv_cop22_i8b_tm_fm.pdf

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Please indicate whether this request has been identified as preliminarily eligible by the NDA to be considered for readiness support from the GCF.

☒ Initial engagement: The GCF NDA of the requesting country has been engaged in the design of this request and the NDA will be involved in the further process leading to an official agreement for accessing GCF readiness support.

☒ Advanced engagement (preferred): The GCF NDA of the requesting country has been directly involved in the design of this request and is a co-signer of this request, the signature indicating provisional agreement to use readiness national funds to support the implementation of the technical assistance.

NDA name: **Dr. Jasim Abdulazeez Hammadi,**
Technical Deputy Minister
MINISTRY OF HEALTH AND ENVIRONMENT
AL-WAZERIYA, BAGHDAD, IRAQ
moen.iraq@gmail.com

Date: 4-12-2018
Signature:

Monitoring and impact of the assistance:

By signing this request, I affirm that processes are in place in the country to monitor and evaluate the technical assistance provided by the CTCN. I understand that these processes will be explicitly identified in the CTCN Response Plan and that they will be used in the country to monitor the implementation of the technical assistance following standard CTCN procedures.
I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name: **Susan Sami Jameel AL- Banaa**

Date: 29-11-2018

Signature:

THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG

The CTCN is available to answer all questions and provide guidance on the application process.