PROJECT IDENTIFICATION FORM (PIF)
PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Sustainable Land Management for Improved Livelihoods in Degraded Areas of Iraq		
Country(ies):	Iraq	GEF Project ID:	9745
GEF Agency(ies):	FAO	GEF Agency Project ID:	637880
Other Executing Partner:	Ministry of Health and Environment	Submission Date:	17/03/2017
GEF Focal Area (s):	Land Degradation	Project Duration(Months)	48
Integrated Approach Pilot: IAP Cities: IAP Commodities: IAP Food Security: Corporate Program:			
Name of parent program	n/a	**Agency Fee (US$) (including PPG fee):**	337,185

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAMME STRATEGIES

Objectives/Programs	Trust Fund	GEF Project Financing ($)	Co-financing ($)
LD-1 Program 1: Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods	GEFTF	3,549,321	21,483,000
Total project costs	GEFTF	3,549,321	21,483,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: ***Reverse land degradation processes, conserve and sustainably manage land and water resources in degraded marshland ecosystems in Southern Iraq for greater access to services from resilient ecosystems and improved livelihoods***

Project Component	Financing Type	Project outcomes	Project Outputs	Trust Fund	GEF Project Financing ($)	Confirmed Co-financing ($)
1. Strengthen the enabling environment to support sustainable land management (SLM) and conservation agriculture (CA) in degraded marshland ecosystems in Iraq	TA	Outcome 1.1Enhanced policy, legal and institutional frameworks in support of SLM and CA *Indicators and targets*: - *Strengthened capacity of Conservation Agriculture Directorate (CAD)* - *Number of sector policies and regulations integrating SLM and CA practices (Baseline & target will be developed during the PPG)*	Output 1.1.1 Training and awareness raising toolkits on the potential benefits from SLM and CA technologies are prepared and disseminated at all levels (particularly targetting CAD at MoA). Output 1.1.2 A digital land use mapping system (including information on SLM and CA practices) is established at CAD at MoA. Output 1.1.3 Marshland ecosystem value, status, and services are assessed, evaluated and documented using an integrated spatial information system hosted at MoH&E. Output 1.1.4 A National cross-sector and multi-level SLM and CA strategy and action plan is developed, including i) suggested modifications to the existing agriculture sector policies and legislation, and ii) integration of	GEFTF	500,000	2,280,000

			marshland rehabilitation and sustainable management measures.			
2. Develop a range of technical options to identify, assess and adapt sustainable land management and conservation agriculture practices	Inv	Outcome 2.1 SLM and CA best practices promoted to increase vegetation cover, improve soil fertility, productivity and reduce soil salinity in pilot production systems *Indicators and targets:* - *Number of ha under SLM and CA practice (target: 6,000 ha).* - *# of CA products commercialized successfully by local producer groups(target: 5)*	Output 2.1.1 Locally adapted SLM and CA best practices for cropping and farming systems are defined for a selection of pilot sites (identified during PPG). Output 2.1.2 500 employees from selected producer organisations and extension services are trained on integrated gender sensitive SLM and CA practices. Output 2.1.3 In pilot production systems, the technical and managerial capacities of at least 500 smallholders/farmers on SLM and CA practices and project monitoring is enhanced. Output 2.1.4 500 demonstration projects (5-10 ha each) of SLM and CA practices (reduced tillage, crop rotation, crop residue management and vegetation cover) are implemented on 3,000 ha of government owned land. Output 2.1.5 3,000 ha of small farms (5-10 ha each, 500 farms in total) in drylands/ degraded agricultural lands are rehabilitated using innovative SLM and CA technologies/practices (sites selected during the PPG). Output 2.1.6 Business plans of at least 5 regional agricultural producer (farmer) groups are developed to strengthen the marketing of CA products.	GEFTF	2,070,321	13,350,000
3. Restoration and sustainable management of marshland ecosystems through SLM, CA and development of local communities' livelihoods	TA/Inv	Outcome 3.1 Measures to restore and sustainably manage marshland ecosystems are adopted. *Indicators and targets:* - *# of ha of marshland ecosystems restored and sustainably managed (target: 4,000ha)*	Output 3.1.1 Awareness and capacity of local institutions and local communities on sustainable marshland management and its importance to food security and nutrition is strengthened. Output 3.1.2 A marshland restoration and management plan taking into account SLM and CA is established with participation of women and men from local communities for a selection of pilot sites. Output 3.1.3 Marshland	GEFTF	700,000	4,380,000

			ecosystems and their services are restored and sustainably managed through SLM and CA practices increasing productivity in 5 pilot sites (4,000 ha in total) selected in consultation with national and local counterparts.			
	TA/Inv	Outcome 3.2 Promotion of alternative income generating activities for local communities depending on marshland ecosystem services *Indicators and targets:* - *# of households benefitting from diversified sources of income (target TBD)*	Output 3.2.1 A participatory, gender-sensitive and integrated strategy and action plan for marshland sustainable development designed (including for instance eco-tourism, labeling, and more). Output 3.2.2 Capacity of local communities and involved local/ national institutions on local business development, product eco-labeling and marketing, access to finance and market access promotion is enhanced in order to successfully implement the strategy and action plan (3.2.1). Output 3.2.3 Feasibility studies conducted, in collaboration with national authorities, on the conversion of conservation activities into marketable incomes in the selected marshlands. Output 3.2.4 At least 1 market plan to link traditional products from marshland ecosystems to the national market and the private sector agreed upon and implemented with the national agencies and selected number of local communities.			
4. Knowledge management, dissemination of lessons learned, monitoring and evaluation	TA	Outcome 4.1 Enhanced awareness on the importance of the conservation agriculture and marshland rehabiliattion for SLM, and food security. *Indicators and targets:* - *Public awareness and knowledge management systems established (Targets: 1 Project website developed, 1 Toolkit developed for Marshland rehabilitation and CA)* - *M&E system established*	Output 4.1.1 Promotional material of conservation agriculture and marshland management, innovations and practices, product information and labeling, elaborated and disseminated. Output 4.1.2 Best practices and knowledge analyzed, documented, published and shared. Output 4.1.3 Project M&E system established and provided timely information on project's outcomes and outputs progress including mid-term and final evaluation.	GEFTF	110,000	450,000

Subtotal		3380,321	20,460,000
Project Management Costs (PMC)	GEFTF	169,000	1,023,000
Total Costs		3,549,321	21,483,000

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE IF AVAILABLE ($)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Ministry of Health and Environment	Unknown	5,000,000
Recipient Government	Ministry of Agriculture	Unknown	5,000,000
Local Governments	Anbar, ThiQar, Basra, Missan and Wasit	Unknown	5,000,000
GEF Agency	FAO, UNDP, UNEP	In-kind	5,000,000
Private Sector	Private sectors in Anbar, ThiQar, Basra, Missan and Wasit	In-kind	1,000,000
Beneficiaries	Local communities in Anbar, ThiQar, Basra, Missan and Wasit	In-kind	483,000
Total Co-financing			21,483,000

D. INDICATIVE TRUST FUND RESOURCES ($) REQUESTED BY AGENCY, COUNTRY, AND THE PROGRAMMING OF FUNDS

GEF Agency	Trust Fund	Country Name/Global	Focal area	Programming of Funds	GEF Project Financing ($) (a)	Agency Fee ($) (b)	Total ($) (a + b)
FAO	GEFTF	Iraq	Land Degradation	n/a	3,549,321	337,185	3,886,506
Total Grant Resources					3,549,321	337,185	3,886,506

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes, PPG Grant is requested

PPG AMOUNT REQUESTED BY AGENCY (IES), TRUST FUND, COUNTRY (IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: $ 150,000 **Agency Fee:** $14,250							
GEF Agency	Trust Fund	Country Name/Global	Focal area	Programming of Funds	(in $)		
					PPG (a)	Agency Fee (b)	Total c = a + b
FAO	GEFTF	Iraq	LD	n/a	150,000	14,250	164,250
Total PPG Amount					150,000	14,250	164,250

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Corporate Results	Replenishment Targets	Project targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	n/a
2. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	120 million hectares under sustainable land management.	10,000 Hectares
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	- Water-Food-Energy-Ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins; - 20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	n/a
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO_2 equivalent mitigated (include both direct and indirect)	n/a
5. Increase in Phase-out, disposal, and reduction of releases of POPs, ODS, mercury and other chemicals of global concern.	- Disposal of 80,000 tons of POPs (PCB, obsolete pesticides) - Reduction of 1000 tons of Mercury - Phase-out of 303.44 tons of ODP (HCFC)	n/a

6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks.	- Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries - Functional environmental information systems are established to support decision-making in at least 10 countries	n/a

PART II: PROJECT JUSTIFICATION

1. PROJECT DESCRIPTION

1.1Global Environment problems, root causes, and barriers

The Iraqi land covers approximately 438,000 km^2, of which around 54% is desert. Iraq once called Mesopotamia, which means land between the two rivers, is located at 33°00′ N, 44°00′E. Iraq mainly consists of desert, but near the two major rivers, Tigris and Euphrates there used to be fertile alluvial plains. The North of the country is mostly composed of mountains. Iraq has a small coastline measuring 58 km along the Arabian Gulf. In the Southeast of Iraq, there used to be marshlands, but many were drained in the 1990s. The Government is now trying to restore these marshlands to their original state and extent.

The local climate is mostly desert, with mild to cool winters and dry, hot, cloudless summers. The northern mountain has cold winters with occasional heavy snows, sometimes causing extensive flooding. Most of Iraq has a hot, arid climate. Summer temperatures average above 40°C for most of the country frequently exceeding 48°C. Winter temperatures infrequently exceed 21°C with maximums roughly 15 to 16 °C and nighttime lows occasionally below 0°C. Typically, precipitation is low; most places receive less than 250 mm annually, except for the north and northeast where annual rainfall exceeds 1000 mm. The maximum rainfall falls during the period of November to April and rainfall during the summer is an extremely rare except in the very North of the country.

Iraq can be divided into five physiographic units as follows: i) Zagros Mountain Region: consists of high mountain ranges and valleys. The mountains are 1,000 to about 4,000 meters high. The annual precipitation in this zone goes, as high as 1000 mm and the daily average temperature in summer ranged between 25-30°C, agriculture and livestock management is the main source of income. ii) Foothills Region: comprises hills at the foot of the Zagros Mountains, 500 to 1000 meters high. It is an area of rolling hilly landscape with low parallel hill ridges and extensive valleys and plains. In summer, the vegetation dries up and the climate is hot and dry. The area is suitable for cereals and fruit trees. iii) Jazeera Region: includes the remnant of an old inland sea. It is a steppe and desert plateau. The natural vegetation is of desert type in the southwest. This region has been traditionally a grazing area, but recently some parts in the north have been broken and ploughed to grow wheat and barley. iv) Desert Region: this region is 200 to about 600 meters above sea level. The vegetation is of desert shrub type. Wind erosion is important as strong winds are very common. A layer of gravel or pebble called desert pavement is commonly present on the surface protecting the soil from being blown away, and v) Mesopotamian Plain Region: is a geological depression filled with river sediments, which covers the central and southern parts of Iraq. It is a plain of the Tigris and Euphrates rivers. This is a highly-irrigated zone and it is characterized in most areas with high saline soil.

Iraq has a relatively large population, approximately 36 million as of 2015, which is growing at a rate of 2.5% annually. Population density is about 85 people per sq. km in 2015. More than 70% of the population is urban and mostly concentrated along the central part, in the largest cities, Baghdad, Al Mousel and Al Basrah.

Iraq is experiencing serious land degradation and desertification problems (affected around 92.5% of the country) because of a combination of factors, including the country's geographic position, overgrazing, unsustainable agricultural practices, limited precipitation, years of war and civil unrest and overexploitation of water resources and natural vegetation.

Because of the unfavorable climatic conditions, nearly all agriculture in the country relies on irrigation. Approximately 27.5% of Iraq's land are arable, and only 22% of land in Iraq is currently used for agricultural purposes. The total area of cultivated lands in Iraq is 51.6 million dunum excluding Kurdistan region as of 2013. Almost 70% of the country's cultivated area is under irrigation while the remaining 30% are under rain fed cultivation. Supplementary irrigation is used, in a few locations, to complement rainfall; the entire natural rangeland relies solely on rainfall. Of the areas under irrigation, 62.8% receives water through gravity irrigation projects, 36% pumped from rivers and major channels and 1.2% from ground water aquifers and springs.

Less than 20% of Iraq's labor force worked in agriculture in 2012. Around 50% of employed women were working in the agriculture sector per figures from 2000. The agriculture sector is one of the major contributors to GDP after the oil and services sectors with (3.6%). The smallholders' total area in Iraq is estimated to be 31.5 million dunum in 2001 (726,102 smallholders); around 10 million dunum belongs to private owners (296,804 smallholders), and 21 million dunum belongs to

the Ministry of Agriculture (429,298 smallholders). Around 80% of the holdings fall into the category of holdings sizing 10 hectares or less.

Crop production dominates the agricultural production in Iraq and is considered as the major source of income (75%) for farmers in Iraq. The agriculture production is depending mainly on the private sector. Plant production is considered as the most important and largest agricultural activity as it absorbs many workers, provides food for the people and forages for animals, and supports most of the food processing plants, which depend on it either directly or indirectly. Cereals are Iraq's most important crop (approximately 80% of cultivated land). Annual animal production reached 52% of the actual need, while Iraq has achieved full self-sufficiency in the production of vegetables, and 60% of the production of fruits in the last few years. The main agricultural productions of main crops in the Country are wheat, barley, rice, maize, dates, tomatoes, watermelons, eggplants, and potatoes.

Agriculture practices in Iraq consist mainly of two types; i) larger state-owned commercial farming enterprises, and ii) the smallholder farms in between the two rivers and scattered close to marshlands.

Water resources are mainly surface water in Iraq. The country is heavily dependent on surface water from the Tigris and its tributaries and Euphrates. The total amount of water reached 56.02 billion cubic meters per year in October 2012/ September 2013, compared with the year before, which only reached 40.11 billion cubic meters, with an increase of 14.1%. The average annual flow of the Euphrates is estimated at 30 cubic kilometers as it enters Iraq, and 21.2 cubic kilometers of the Tigris. More than 90% of Euphrates water comes from outside Iraq, while 50% of the Tigris water comes from within the Country. The total length of the running rivers is about 4,773 km, with the Tigris and Euphrates accounting for 1,290 km and 1,015 km, respectively.

Agriculture surface water resources are estimated at 75 billion cubic meters per year, are usually supplied from the Euphrates and Tigris rivers and their tributaries. An artificial river was constructed, the Saddam River (Third River), with a water course of 565 km and a total discharge of 210 cubic meters per second, to increase the water transport efficiency, minimize losses and water logging, and improve water quality. The river functions as a main out-fall drains collecting drainage waters between the two main rivers the Euphrates and the Tigris serving more than 1.5 million ha of agricultural land from north of Baghdad to the Gulf. Other drainage canals were constructed and new ones are being constructed to reduce water logging or reclaim new lands.

The Ministry of Water Resources, previously known as the Ministry of Irrigation, manages water resources in Iraq. It is responsible for the assessment, monitoring, and supply of water resources in Iraq. It is also responsible for providing the needed water allocation per sector. It supervises irrigation and drainage projects, including conducting the needed studies aimed at improving irrigation. While the responsibility for the development of irrigation infrastructure is with the Ministry of Agriculture. The Ministry has several general directorates, many field offices, and centers (National centers for Water Resources Management, Studies, and Engineering Design, and Al Ahwar Rehabilitation Centers) in addition to three national companies.

The use of groundwater for agriculture is limited in Iraq. As of 2014, groundwater resources provided an estimated amount 0.9 billion cubic meters annually, covering the needs of 64,000 ha of agricultural lands, mainly in those areas where surface water is not available or limited, and need to be supplemented by groundwater. The State Commission for Groundwater, a public sector attached to the MOWR drilled thousands of deep wells for Water Wells Drilling, at different sites mainly in the Governorates of Al-Anbaar, Ninewa, Tameem, Salah El-Din, Kerbela'a, Najaf, Samawa, and Basrah.

The Iraqi Water Law, Law No. 50 of 2008, an Iraqi's main piece of legislation concerning water management and use, declares water a publicly owned good that can only be exploited after procurement of a license, defining the amount and duration of use rights, from the Water Authority. The law sets the order of priority for water exploitation and defines the pathways to define, develop, grow, and utilize water resources in Iraq. The law also details several other aspects of water regulation in Iraq, including ownership, management responsibilities, licensing, resource preservation through pollution control, and trans-boundary water resources management.

Currently, there are no laws addressing marshlands restoration or conservation of wetlands in Iraq. However, to protect the land, and preserve the nature, and agriculture, the Government has established several laws since 1965. The most important ones are law No. 64, of 1965, for cities land use; law No. 25, of 1967, for rivers systems and other water resources protection; law No. 2, of 1983, for the rangeland management and desertification control; law No. 79, of 1986, for protection and improvement of environment; law No. 30, of 1997, for protection and improvement of the environment; law No. 2, of 2001, for environment conservation, and law No. 44, of 2003, creating the Ministry of Health and Environment.

Agriculture can contribute to the restoration and sustainable use of ecosystem services. A hectare of agricultural land in semi-arid zones is estimated to gain between 0.1 to 0.2 tons of Carbon (a mean of 0.15 tons of Carbon is used for calculations); a

limited level of variability can be found depending on the degradation stage of a given formation, with a lack of precise information at landscape level. The sustainability of Iraq marshland ecosystem services, its biodiversity, and its economic productivity requires an approach that provides the opportunities, the means, and the motivation to communities for them to rehabilitate, develop, acquire, and/or exercise the financing, knowledge, and capacities needed to develop and manage their resources for global environmental and local development benefits. The switch to the Conservation Agriculture system in Iraq could add to the amount of carbon sequestrated and help in conserving and rehabilitating the degraded land.

There are several factors that lead to agro-ecosystems degradation in Iraq, including the loss of soil fertility through wind and water erosion, improper agriculture practices like tillage or overgrazing; the reduction in species because of a production focus on monoculture prioritizing commercial varieties; and salinization due to unsustainable irrigation practices. Though exact numbers are difficult to find, there is a consensus among policy makers that unsustainable use of agro-ecosystems is the primary cause of land degradation in Iraq's marshlands. This degradation is a major cause of carbon emissions and the loss or diminishment of critical ecosystem services related to water provision, the maintenance of crop genetic diversity, etc. These degraded areas nevertheless represent a major opportunity for the restoration of ecosystem functions through improved land use management.

During the eighties and nineties, over 90% of the original marshland areas were drained or destroyed due to systematic overexploitation, political conflict, and a lack of coordinated management. Thus, some 175,000 local communities were forced to flee and relocate in Iraq and abroad. Those who have stayed are disproportionately poorer or living in more marginal socioeconomic conditions than urban populations. A typical rural inhabitant of the marshland areas receives a portion of his/her income from the unregulated market of non-agricultural products. These activities include very limited production and trading of local handcrafts with low value-added. The remaining percentage of a typical rural smallholder's income comes from traditional agriculture, mainly planting palm trees and extensive livestock raising - which leads to overgrazing - for local and subregional markets (low-value-added activities due to scale and absence of proper marketing). Despite this, their actual capacity to act is effectively limited by significant social, cultural, and economic constraints, as well as by organizational weaknesses and a generalized shortage of access to knowledge, technical assistance, and financial resources. Their marginal condition impedes their adequate access to financing and markets for specialized goods and technology critical to sustainable production and landscape management.

Farm animals have contributed to the degradation of the rangelands in Iraq and this occurred because of the decreased rangeland carrying capacity, early grazing, overgrazing, lacking the government capacity to implement the programs for organizing grazing, and lack of alternative feeds, which can help in satisfying part of the animals' needs.

Population in rural areas are strongly dependent on farming and livestock breeding as primary sources of income, per the FAO in 2001, the production of cereals dropped from 4.27 million tons in 2011 to 3.2 million tons in 2015, vegetable production dropped from 3.7 million tons in 2011 to 1.2 million tons in 2015. This applies to all agricultural products with a decreasing rate range between 20-66.7%. Rural and poorer households are strongly dependent on firewood for energy, a significant driver of land degradation. However, no data is available on the annual land use changes, and thus it is difficult with the limited data available to estimate the CO_2e lost annually due to land use change, and land degradation in Iraq.

Animal production plays an important role in the agricultural development process in Iraq, though it faces many challenges. As per the Ministry of Agriculture animal census in 2009, there was a great decrease in the number of animals. The number of sheep was 18.6 million in 2006 and dropped to 13.025 million. Goats were 1.897 million, dropped to 1.614 million, and cattle were 1.4 million, dropped to 1.16 million, with 30%, 15%, and 25% decrease, respectively. Desertification, overgrazing of natural lands, deforestation, and uprooting of combustible species have directly affected the rangeland productivity and led consequently to a marked decrease in the productivity of the farm animals in Iraq.

While the trends and patterns of degradation in marshland ecosystems are serious, only refraining from practices that promote degradation would be insufficient to conserve biodiversity and optimize ecosystem services for sustainability, productivity, and climate resilience across the production marsh systems. A pro-active effort to restore ecosystem functions at scale in degraded landscapes is critical to achieving these goals. To date, no systematic programme is in place to study the biological value of the marsh ecosystems in Iraq. There is currently limited and outdated data available on the total area of marshlands, location (exact geographic distribution), types of ecosystems presented, kind of species, and biological value, and finally the exact number of people depending on such ecosystems. Marshland in Iraq has significant potential in terms of intensive development leading to job creation; support for biodiversity, diversification through innovative and green activities.

Nevertheless, Iraqi marshlands faced and still face several threats. The overall area of marshland shrunk by around 84% to 87% and the area of open water shrunk by 90%, while seasonal marshes increased by 48% to 66%. Some of those threats are regional in nature; however, others are local. Per IUCN, 2011, the main threats and key pressures to the marshlands are the

draining of the marshes, the large dams constructed in the upper reaches of the Euphrates and Tigris which started to change the hydrological discretion throughout the basin, flood control structures, vegetated surface (soil–vegetation–fruit-trees and palm-trees), high tree density, very fragmented and small average size of individual plantations. Marshlands are also suffering from the re-flooding initiated by local inhabitants in an uncontrolled and haphazard fashion. In addition, poor marketing opportunities, limited credit, inheritance practices that continually subdivide land holdings and result in poor land management, have increased the overuse of natural resources, especially land. This, coupled with the breakdown of land management practices, has increased the level of salinization, loss of soil fertility, eutrophication, alien and invasive plant species, destruction, or degradation of vegetation due to draining, insufficient water supply in some location, introduce herbivorous fish and pollution. Access to crop and livestock resources to cope with these conditions, and the increased pest and disease problems associated with loss of biodiversity, are affecting the survival of marshland farmers.

The IPCC fifth Assessment Report concludes for West Asia - including Iraq –that the projected major changes in relation to climate phenomena are increased rainfall extremes of landfall cyclones on the Arabian Peninsula (section 14.8.10). In recent decades, there appears to be a weak but non-significant downward trend in mean precipitation (Zhang et al., 2005; Alpert et al., 2008; AlSarmi and Washington, 2011; Tanarhte et al., 2012), although intense weather events appear to be increasing (Alpert et al., 2002; Yosef et al., 2009). In contrast, upward temperature trends are notable and robust (Alpert et al., 2008; AlSarmi and Washington, 2011; Tanarhte et al., 2012). Indeed, the country has witnessed severe prolonged drought in 2008/2009, leading to farmers abandoning their fields and moving to urban centers, which added more stress on cities in Iraq that are already struggling to provide basic services and economic opportunities. Marshlands are shrinking due to climate change, causing the loss of a globally-important habitat, traditional livelihoods, future conservation, and eco-tourism potential. Furthermore, water purification plants south of Baghdad cannot pump water due to high mud concentration at low river levels. Climate change has also lead to increasing frequency and severity of dust storms due to low soil moisture, those dust storms may cause irretrievable desertification. Because of drought, wheat production was down (in the year 2008/2009 alone to 45%) form a normal harvest.

The CMIP5 model projections for this century are for further warming in all seasons, while precipitation shows some distinct sub-regional and seasonally dependent changes, characterized by model scatter. In both winter (October to March) and summer (April to September) precipitation in general is projected to decrease. However, the various interacting dynamical influences on precipitation of the region (that models have varying success in capturing in the current climate) results in uncertainty in both the patterns and magnitude of future precipitation change.

In summary, since AR4 climate models appear to have only modestly improved fidelity in simulating aspects of large-scale climate phenomena influencing regional climates over West Asia. Model agreement, however, indicates that it is very likely that temperatures will continue to increase. But at the same time, model agreement on projected precipitation changes have reduced, resulting in medium confidence in projections showing an overall reduction in precipitation.

Another issue facing smallholders is the development of agricultural production and access to markets, which will contribute to raising the standards of living of the smallholders. Smallholders lack the skills, capacities, and financial means to develop their production. This includes; the use the appropriate techniques; improving quality standards; ensuring better fruit and vegetable selection; using modern packaging; promoting entrepreneurial capacity building; and the technology and infrastructures improvement. Therefore, improving the sustainability of agricultural product is one of the key threats smallholders are facing. The economic aspects and the importance of individual farmers within the overall production chain are not clear and therefore not seen by smallholders and decision makers.

The Project takes place within the framework of the National Strategic Plan for Combating Desertification (NSPCD), and the National Biodiversity Strategy and Action Plan, which have established a national coordination mechanism, supported by the Ministries of Health and Environment, Agriculture, and Water Resources. The Project intervention area includes smallholders and marshland areas in middle and southern Iraq that have a high number of vulnerable farmer communities. These communities are historically poor and politically marginalized. Due to the recent years of conflict, they are now amongst the poorest and most vulnerable communities in Iraq. Land degradation and climate variability and climate change challenges are to be superimposed on top of these and other challenges.

Conflicts in the late 20th century, recent civil unrest, increasing population and shortage of natural resources led to (i) farmers abandoning their lands and moving to other places looking for jobs; (ii) farmers holding higher numbers of livestock and requiring increased resources, and extending their cropping areas; and (iii) farmers increasingly adopting livestock as a risk management mechanism and extending their cropping areas. Further, within the central parts, many of the previous lands are inaccessible. Thus, farmers must concentrate their activities in a relatively small area. Further, much of the infrastructure has been damaged, including water harvesting and storage infrastructure, putting an even greater strain on resources. These actions inevitably divided the various communities, adding to the mixture of factors already contributing to conflict. Moreover, land

degradation, drought, and climate variability clearly contributed to ecosystem degradation and the shortage of resources, thereby indirectly contributing to the community's instability.

During the preparation of this PIF, a consultation workshop in Baghdad identified a complex set of inter-related challenges faced by the concerned vulnerable communities. Some of the most notable challenges are: salinization, land degradation; high variability in rainfall; climate change; insecurity; desertification and deterioration of vegetation cover; the politicization of conflicts over natural resources; restricted mobility due to security and other reasons; lack of extension services; lack of awareness; weak government institutions, weak governance of management of natural resources; and oil development activities in some areas.

Unsustainable land management practices and climate change risks bring agriculture, water resources management, and rural development and poverty reduction objectives at high stake in Iraq unless addressed urgently and systematically. At the same time, sustainable land management can revive local economies, bring new knowledge, skills, and technologies, and boost job creation. Despite the apparent opportunities to capture and risks to address, there are several barriers for the project to lift toward sustainable land management in Iraq.

Barrier 1: The regulatory and policy framework in Iraq are outdated and do not coherently mainstream sustainable land management in sectorial national policy planning

Governance weakness in Iraq is stated as the main barrier to actual implementation and policy enforcement. Often, fully transposed national laws and policies are missing operational hands through the sub-laws and subsidiary legislations which are to be elaborated by responsible Ministries. In some cases, the governance structures are not well established and undergo frequent transformations that also preclude progress in implementation in Iraq. Water management is a highly important area for sustainable land management. Nevertheless, due to several reasons, starting with previous wars, recent unrest and limited government control over the available resources, the absence of laws and regulation enforcement, the internal conflict, and ending with the adverse impact of the last drought, it becomes very difficult for the Ministry to manage the resources. Therefore, smallholders and private farms have established their own infrastructure. Unsustainable irrigation practices in Iraq cause land resources to degrade, threaten agriculture and future food security as well as the livelihoods of the poor.

A high degree of planning and governance within and between ministries based on an agreed strategic vision and supported by an appropriate policy and incentive framework is required to establish and maintain production landscapes that are productive, produce global environmental benefits and enhance climate resiliency. This requires enabling participation and regulatory compliance of community smallholders.

Barrier 2: Authorities lack the capacity to plan, manage, and coordinate farm production landscapes for optimization of ecosystem services and increasing long-term productivity

The institutional capacity and governance structures in agriculture and environment sectors are underdeveloped. Ministries of Health and Environment, Water Resources, and Agriculture suffer from limited technical and research capacity. MoH&E, the main responsible institution for developing and implementing policies and projects in the field of environmental and natural resources management, remains understaffed; moreover, the resources to implement national policies are inadequate. Inefficient and incomplete administrative procedures preclude more robust development of several projects.

Government must have the capacity to articulate this vision, set strategic objectives, define outcomes, identify trade-offs, formulate action plans, and negotiate and agree individual contributions to the fulfillment of these plans. While individual smallholders may adopt sustainable production practices and alternative income generating activities, the impact ecosystem services across the landscape depends on their coordinated response guided by a strategic vision integrating productivity, connectivity, conservation, and sustainable use goals.

Effective coordination between stakeholders can be used to leverage greater economic benefits associated with sustainable income generating activities. Marketing of agriculture products, certified agricultural products, or other sustainably produced goods will also benefit from stakeholders' coordination. To achieve economies of scale in marketing and sales of sustainable products, authorities need the ability to lead the process to empower communities to collaborate with knowledgeable and trustworthy private sector groups, NGOs, and each other to ensure a steady stream of high-quality products.

Barrier 3: Limited farmer capacities for the identification and adoption of sustainable land-use practices and systems at scale in production landscape in areas of high biodiversity value or vital to the production of Marshlands ecosystem services

Smallholder communities have practiced traditional low-input agriculture for years based on a profound knowledge of species and agro-ecosystem function, with the overall strategy of reducing risk and increasing or maintaining labor efficiency. While

this has generated a certain degree of food security and well-being, the unintended long-term environmental consequences of some of these practices in changing ecological and socio-economic circumstances require the development and incorporation of new practices and techniques to achieve sustainability while enhancing productivity to meet increasing development demands. Smallholders must develop the skills and knowledge to adapt conservation agriculture and agro-ecological principles to current farming systems with the aim of maintaining or increasing productivity while conserving habitats important for production of ecosystem services.

To achieve sustainability over the long term, communities practicing agriculture need to have substantial knowledge of conservation agriculture pillars, mechanisms, techniques, as well as planning and management skills. Lands and resources like marshlands used for agriculture and good governance of these commons are required to avoid diminishing the productivity and availability of the resource and generating conflicts. At the same time, new practices must be identified and developed and the appropriate skills acquired on a continuous basis given the nature of these living systems.

Conservation agriculture is one of the tools to conserve land and enhance climate change mitigation. To motivate communities to practice conservation agriculture, they must perceive real benefits to doing so from either direct increase of agricultural yield or avoided economic damages from weather and extremes. They need to know that deforestation and unsustainable agriculture practices may result in permanent loss of soil and land cover. In both scenarios, carbon in soil and biomass is lost, and the resiliency of the surrounding systems to the effects of climate change is weakened.

Barrier 4: Agriculture and marshland ecosystems related data is not available and research and extension capacity is weak to support agriculture and conservation policy planning

The concerned ministries suffer from lack the capacity to research and measurements. The Ministries' facilities and instruments had been destroyed during the previous wars and civil conflicts. There is no agriculture, environmental comprehensive spatial data management systems, and therefore, the work of the main ministries is limited to data collection from different stations. Thus, there is a huge data gap in these two sectors in Iraq. Data in these two sectors is also scattered and currently, there is no attempt to collect it from different resources.

Some important initiatives/data neither are monitored nor captured. This does not allow for any user-friendly availability of data for experts or decision-makers. Instrumentation for observation is very poor. Moreover, relevant, and readily available databases and GIS layers (e.g. climate, soil, vegetation, hydrology, geology, ground waters, biodiversity richness, and aquifers as well as land use) do not exist in appropriate scale and become constraints to more advanced and detailed research, analyses, and robust decision making.

Barrier 5: Weak or missing support/systemic frameworks in data, local knowledge and skill-sets to identify and implement conservation agriculture practices and marshlands ecosystem conservation initiatives as part of sustainable land management

The current approach to sustainable land management needs to be revamped, moving from relying on isolated and uncoordinated activities to a more coherent approach that will provide a basis for the transfer and up scaling of best practices. Communities depending heavily on farms in Iraq should plan and manage land use to achieve productivity objectives as well as to adopt and implement conservation agriculture and compatible production practices and systems. This will in turn, over the long-term, protect and enhance the biodiversity, carbon stocks, and ecosystem services of the Iraqi marshlands ecosystems.

There is a general lack of hands-on experience, skills, and information to identify and implement conservation agriculture projects. Moreover, the basic awareness of conservation agriculture and marshlands ecosystem rehabilitation is largely lacking. For this change to occur across the country, a critical mass of communities must be motivated to adopt these practices and systems before a tipping point can be reached, and conservation agriculture practices are adopted as the norm. Consolidating this critical mass of communities would not advance solely or quickly enough through the day-by-day addition of communities and their initiatives, but needs to be accelerated through a systematic program of knowledge dissemination and capacity building to reach both participating communities and communities that may be interested in participating in the future.

1.2 The Baseline Scenario

The Iraqi government has confronted the problem of land degradation, deforestation, marshland degradation and unsustainable use of land in Iraq by e.g. i) creating the Ministry of Agriculture in 1921, ii) creating the Environmental Protection and Improvement Board in 1975, iii) establishing the Ministry of Environment in 2003 that later became the Ministry of Health and Environment, and vi) establishing the Ministry of Water Resources which superseded the Ministry of Irrigation under which a large establishment was created in 1973 for land reclamation. Nevertheless, the Government support to marshlands restoration has been focused on developing strategies and action plans and covering portions of the total areas and has neglected the more populated and intensely utilized marshland ecosystems in many areas.

Government agricultural programmes during the last decade have concentrated on boosting management-unit productivity without a correspondingly strong focus on ecological sustainability. There have been efforts to mainstream sustainability concerns within the agricultural extension system. Different initiatives had been implemented and had great impacts on the ground. It was expected to lead to some level of increased sustainability at the level of individual farmers, it is clear now that these impacts are at individual levels, in aggregate, achieve optimization of ecosystem services at the landscape level or enhance the resilience of protected landscapes overall in the Iraqi agricultural system.

Land use planning for global environmental benefits or sustainable land management in the production landscape was not and is not currently practiced in Iraq. Technical capacities and resources to carry out these responsibilities are also still lacking.

The long-term solution to the degradation of the Iraqi agricultural land and marshlands ecosystem – and realization of the significant global environmental benefits embodied there - resides in a two-pronged approach: the first one is in achieving sustainability of the primary land and resource uses practiced by its inhabitants, principally conservation agriculture, but also including livestock management; and the second one is in pro-active conservation across the landscape with the aim to determine further habitat degradation and the loss of marshlands ecosystem services through activities that enhance the sustainability of existing biodiversity and other resources (water, soil, etc.). The latter would focus strategically on the enhancement, integrity of, and connectivity between protected and other conserved areas, as well as sustainable use in the production landscape.

To be effective, sustainable land management needs to occur across the landscape with individual actions working in cooperation with each other and with communal efforts to optimize ecosystem services, biodiversity, and economic productivity. For this, smallholders must have the capacities, knowledge, resources, and support from enabling policies to plan and manage land use for sustainability and resilience to climate change across their production landscapes.

The national authorities are coordinating with and building upon the results of several initiatives concerning the SLM and marshlands rehabilitation, including 1) the UNEP/ UNESCO work to designate the Mesopotamian Marshlands as a UNESCO World Heritage Site; 2) the UNEP-supported Iraqi Marshlands Observation System and the follow-up to the completed Marshlands Project; 3) the UNEP/ DTIE/ IETC Marshlands project; 4) the Canada-Iraq Marshlands Initiative; 5) the World Bank on the Iraq Emergency Environmental Management Project; and 6) the UNDP projects in the Iraqi Marshland areas.

Successes though relatively isolated experiences across Iraq indicate that agriculture can become an engine for growth in rural communities. Reduced poverty stems from the fact that community-based initiatives can create jobs, diversify economic activities of communities, invest in infrastructure (roads, schools, clinics, etc.), organize to use a range of resources for production and market the products as a single enterprise and not as dispersed or isolated small entrepreneurs, add value to marshlands and other products and generate vertical integration in the chains of production, share profits among members of the community - keeping the vast majority of the economic value of the company's activities in the locality as social and monetary investment - and generate human capital by employing the people of the region, and training and involving them in technical, administrative and managerial activities

Conservation agriculture in Iraq is new and limited to a few demonstration sites focusing on zero-tillage implementation and a few projects implemented by international development partners at the specific locations. One of the main initiatives is an initiative implemented by ICARDA in northern Iraq, it focused on development of conservation cropping systems in the dry lands of northern Iraq. 29 zero-tillage demonstrations were established in farmer fields in different locations, Ninevah, Kirkuk, Salahaddin, and Anbar. More than 100 farmers and 50 staff were involved in intensive training.

A key driver of adoption by communities is the economic benefit derived from successful marketing and sale of sustainably harvested product at scale. Communities must have the capacities to produce sufficient volumes of high quality, conservation-compatible products, add value, and get them to markets. This implies capacities to coordinate, plan and manage land use that is coherent with ecosystem service and climate resilience objectives of key landscapes, as well as the development of appropriate business management skills and abilities. Providing the needed skills for smallholders for proper packaging, labeling, and marketing of products is, therefore, key.

The national government has very few resources with which to implement the above plans or to enforce its Regulations and Acts. The highly decentralized nature means that most responsibility falls on the State governments and State technical ministries. In turn, the State governments are generally lacking finance and capacity, particularly in the southern part of the country, the international community plays a key role in implementing both short-term projects and strategies, long-term interventions.

Women will be particularly favored by this project as women's groups will be explicitly targeted for support, given their role in agriculture as well as the production of non-agricultural products. As stated earlier, more than 60% of employed women in rural areas are working in agriculture sector as of 2012. This project will apply a multicultural and gender equality approach

during the full-size project design and implementation. The project will monitor its interventions using disaggregated indicators to assess project results and effects on men and women.

Finally, for communities to benefit economically as an incentive to conserve marshland ecosystems, they must coordinate their production systems to avoid duplication and unconstructive competition and to achieve economies of scale across sustainable production operations throughout the country. The project will promote the development and/or adoption by community groups and organizations of a set of low input sustainable income generating practices that taken together and carried out by hundreds of smallholders across the landscape will enhance climate resilience, productivity, resource use efficiency, and niche marketability. The project will facilitate access to certification of local agricultural products, access to credit, and contribute to marshlands ecosystems sustainability and resilience. Engagement and discussion with certifying entities and the access to credit will be carried out during the PPG phase of the project.

To summarize, there is the necessary framework at the national and regional level, including plans, policies, and legislation, as explained under the coordination section. Moreover, there is a series of planned and ongoing projects in many places in Iraq. However, none of these focuses specifically on sustainable land management in degraded areas and rehabilitation and conservation of marshland ecosystems in a comprehensive way. Consequently, unsustainable land practices are a common feature in this baseline. Examples of frequently adopted miss management practices include: expanding cropping into unsuitable soils; allowing livestock to graze on cropping land before crops are harvested; unstudied flooding marshland and water supply cut due to dams and small channel construction upstream.

This proposed Project focuses on introducing sustainable land management practices to the most marginalized and vulnerable communities in Iraq.

1.3 The Alternative Scenario

As mentioned above, the Project intervention sites consist of selected marshland areas and small farmers to overcome existing barriers by adopting practices that enhance ecosystem services while simultaneously implementing sustainable land management practices to increase and sustain production within the selected project areas. With financial support from the GEF, the Project will introduce and develop conservation agriculture practices, fostering a virtuous cycle of decreased risk, increased production, improved livelihoods, and ultimately improved natural resource base.

The alternative will especially build on one of the innovative tools for rural and agricultural development that FAO and its partners in the region have implemented extensively in recent years, namely: Conservation Agriculture (CA), land management good practices. Based on experience in the region, this tool can be adapted to ensure local communities are well served, and they can be adapted to ensure the most vulnerable sections of community benefit.

The **Project Objective** is to *sustainably manage globally significant ecosystems, combat land degradation and conserve marshland ecosystems in Iraq for improved livelihoods and ecosystem resilience, services, and access*. The target is to reach 500 smallholder vulnerable households (20,000-30,000 inhabitants) in five locations, and 4,000 hectares of marshlands, and 6,000 hectares of degraded land close to marshlands (3000 ha owned by the Government, and 3000 ha owned by smallholder farmers).

The first step will be to select the actual villages and vulnerable communities. The criteria to select villages will include vulnerability to land degradation and drought, accessibility and security, community's willingness to participate, and vulnerability to climate change. Within the villages, vulnerable farms will be selected; the selection process will include focus on women and youth, on women-headed households, on the ranked poor, and on those most dependent on the natural resource base. To reach the project's Objective there are four components:

Component 1: Strengthen the enabling environment to support sustainable land management (SLM) and conservation agriculture (CA) in degraded marshland ecosystems in Iraq

This component will directly address barrier number 1. Under this component, the project aims at achieving the following: i) enhancing policy, legal and institutional frameworks in support of sustainable land management and conversation agriculture, and ii) mainstreaming measures to conserve and sustainably manage marshland ecosystems in central and southern Iraq in institutions, policies, and regulatory frameworks. It will focus on increasing the advantages farmers can get from the use of conservation agriculture techniques in their production systems, mainly in the marshlands. The project will pilot (in components 2 and 3) a selection of SLM and CA practices that integrate the communities' cultural, scientific, technical, socio-economic and institutional contexts, and that provide evidence for informed decision making (component 1).

This component will support the national Government by building the needed capacity to introduce SLM and CA at the national level; this includes building the capacity of the newly established Conservation Agriculture Directorate (CAD) at the Ministry

of Agriculture. To this end, the project will support the authorities to undertake a capacity needs assessment of the unit based on its mandate, structure, and governance structure and then building the capacity of the unit's staff. It will procure training and awareness raising events and equip the MoA with a digital land use mapping system. Likewise, the MoH&E will be equipped with a marshland monitoring platform, accessible to all interested stakeholders. All the above are believed to build the institutional and technical capacity of key institutions on SLM and CA and marshland ecosystem management in Iraq, and therefore support the informed decision making leading into further replication and upscaling of good practices and lessons.

The marshland monitoring platform hosted by MoH&E will support the establishment of a new documentation system of conservation and traditional agriculture biodiversity in marshland system, marshland ecosystems, and physical factors and human uses. This will permit the development of marshlands spatial plan to be used for land use planning purposes, and provide long-term support for biodiversity-based activities in South and central areas of Iraq (GIS-based system, this will be further developed during the PPG).

Through this component, the project will develop a national sustainable land management and conservation agriculture strategy and action plan to support governments (and consequently framer communities) to sustainably manage lands and vulnerable ecosystems. This entails the development of a package of modifications in agriculture policy and legislations. The capacity of national partners in local and national government agencies will be strengthened in order to conduct sound institutions and policy analysis within the agricultural and environmental sectors to propose sound policies based on evidence and data. Also, and in particular, the national policy and legal framework concerning the marshland ecosystem management will be analyzed and modifications proposed after broad consultations with stakeholders and local communities in the pilot locations.

Component 2: Develop a range of technical options to identify, assess, and adapt sustainable land management and conservation agriculture practices

This component will support the government in removing barriers No. 2 and 3. It includes building leadership and technical capacity for local authorities, farmers, and their institutions to have a voice in decision-making by first reviewing and increasing provisions for participation and achievements, and then supplying the facilities with appropriate training, and support to build leadership capacity that will enable farmers to participate in decision-making. The component will focus on improving agricultural management and rehabilitation practices and techniques in (irrigated arable lands) by demonstrating and promoting SLM and CA best practices that increase vegetation cover and improve soil fertility; productivity; water retention, and reduce soil degradation and salinity. The project will support local communities and smallholders to introduce a selection of locally suited SLM and CA practices in pilot production systems. National partners will focus part of their efforts on developing and testing several model agreements with smallholders that regulate the implementation of the SLM and CA practices in their farms. Training programmes for various audiences will be designed, using the local languages, highlighting the potential benefits from SLM and CA practices. The involvement of farmers and local communities from the targeted areas will ensure the sustainability of implementation of SLM and CA after project's closure, in addition to ensure successful SLM and CA practices being applied on a total of 6,000ha of pilot crop lands. The training programme foresees to be build the capacity of at least 500 representatives from producer organizations and extension services and 500 farmers and smallholders on SLM and CA, and developing in consultation with farmers and local communities at least 5 regional agriculture business plans to strengthen marketing of high value CA products.

Agriculture is the predominant smallholder land use in Iraq, however, current practices and systems are leading to accelerated land degradation. Sustainable land management will be a primary outcome in the project's landscape management plans. SLM practices, to be adopted and implemented, must increase, and/or stabilize production while conserving or enhancing key ecosystem services such as soil fertility, water, pollination, and crop genetic diversity. This project will assist smallholders and authorities in selected landscapes to introduce and adopt a suite of specific sustainable land management practices on 6,000 hectares of productive landscape (of the government irrigated land and of the smallholders' initiatives) that may include conservation agriculture measures.

Component 3: Restoration and sustainable management of marshland ecosystems through SLM, CA and development of local communities' livelihoods

The project aims at achieving two main outcomes under this component; identify and adopt sustainable management measures to restore and sustainably use marshland ecosystems, and assess and promote alternative income generation activities, for and with the participation of local communities living in the marshland landscapes and depending on its ecosystem services and products.

Under this component, the project will focus on the design and implementation of locally adapted sustainable land and water management practices (introduction of conservation agriculture, improving of crop productivity, soil and water management practices that include soil fertility improvement, managing of soil salinity, among others) in 5 selected areas associated with marshlands in order to reduce the degradation of natural resources. Furthermore, it will promote the conservation of marshland ecosystem services and enhance the community's institutional arrangement.

The component foresees to establish a restoration and management plan of marshlands with the participation of women and men from local communities that have been sensitized to the multiple environmental, social and economic benefits of marshland ecosystem restoration and sustainable use. The marshland systems will be supported through integrated water and land management practices for productivity enhancement. The project will also strengthen the capacity of national/ local institutions, NGOs, and local communities in the sustainable marshland management and its importance to food security and nutrition.

The project will focus on assessing and promoting alternate income generating activities from marshland ecosystem services and products, with the participation of local communities living in the marshland landscapes, for local communities, and enhancing capacity of local communities and involved local/national institutions on local business development, product eco-labeling and marketing, and market access promotion. Feasibility studies will be conducted in collaboration with national and local authorities, on the conversion of conservation activities into marketable incomes in the selected marshlands. It will also develop a participatory, gender-sensitive and integrated strategy and action plan for marshland sustainable development. To be able to promote income-generating activities, at least one market plan will be developed to link traditional and sustainable produced products from marshland ecosystems to the national market and to help in engaging the private sector with the national agencies and local communities. Furthermore, the capacity of local communities on business development, product eco-labeling, marketing, access to credit and market access will be enhanced. This component will help lifting barriers 3 and 4.

Component 4: Knowledge management, dissemination of lessons learned and best practices, monitoring, and evaluation

This component will help in achieving two outcomes; enhanced awareness of the importance of agriculture for sustainable land management and food security, and project implementation based on results-based management and application of project findings and lessons learned.

It will help in reviewing national progress in conservation agriculture, update the agriculture national report, and produce several brochures, leaflets, posters, websites, and reports that cover oases management and agriculture conservation issues. A comprehensive monitoring plan will be developed, building on existing monitoring activities, and strengthening activities that relate to conservation agriculture and marshland protection and rehabilitation.

The project will build leadership capacity, and put in place information systems that are applicable for local communities to access and share data on locally adapted materials. Thus, this component will help the authorities to tackle barriers No. 4 and 5. The capacity to support these systems with local and national institutions will be built and information on issues of conservation agriculture will be packaged and presented to national and international governmental forum in a simple language that local communities can benefit from.

1.4 Incremental cost reasoning and co-financing

The vulnerable communities in the Project intervention areas face a series of challenges, including land degradation and desertification. Climate change has considerably added to land degradation and has increased uncertainty and risk. Those are not, however, the only challenges facing those communities. The complex nature of the environment and the socio-eco-political situation means it is not possible to separate out the land degradation challenges from the other challenges. Accordingly, the GEF funds are to contribute to a mosaic of rehabilitation, resilience, and development efforts in central and southern Iraq.

In the absence of GEF funding, negative land use trends present in the Iraqi agricultural land and marshland systems will remain essentially unchanged or experience an inadequate rate of change for the better. Despite important isolated initiatives to address these trends, under the business-as-usual scenario, land degradation, biodiversity losses, and ecosystem degradation can be expected to continue, along with increasing GHG emissions, and vulnerability to climate change. Without GEF funding, smallholders, farmers, and local communities, as well as certain governmental agricultural programs in Iraq especially in the marshlands, will not possess the resources to develop their capacities to plan and manage their production landscapes for multiple, integrated production, sustainability, and global environmental benefits.

In the absence of this project, there would be no specific dedicated effort to enable the concerned authorities in Iraq with the sufficient opportunities, means and motivation to identify, develop and implement conservation agriculture and sustainable livelihood practices and systems which, when appropriately coordinated within a landscape planning and management framework, will produce global environmental benefits and local and sub-regional climate resiliency. In the absence of this project,

hundreds of framers will remain unaware of the benefits of conservation agriculture, and the link between landscape management, farm management, and the sustainability of ecosystem services and the generation of global environmental benefits.

This project will provide capacity development and knowledge transfer to authority and community to carry out coordinated initiatives within a landscape management framework to maintain and/or enhance biodiversity, carbon storage, and ecosystem services in the agricultural and marshland systems in Iraq. Smallholders, to meet short-term livelihood needs, may feel forced to choose to production practices that degrade biologically diverse habitat and ecosystem services. Smallholders need to develop or adopt livelihoods that increase productivity while enhancing the long-term sustainability and resiliency of production landscapes and their global environmental values. It will strengthen the capacities, increase the knowledge, and enhance the motivation of authority, farmers, and communities to enhance and optimize ecosystem services and mitigate climate change using different approaches.

GEF funds at $3,549,321 represent approximately 14% of the entire budget, which is estimated to be $25,032,321. The sources of baseline and co-financing are central government agencies, local government, Ministries, FAO and FAO managed funds, the UN, and national and international NGOs.

1.5 Global Environmental Benefits

The project will enhance food production and improve the livelihood of the farmers and local communities in rural areas and surrounding marshlands in Iraq. The project will deliver the following global environmental benefits: i) improvement of soil health and fertility, enhancement of soil resilience, and increasing organic matter in 10,000 hectares; ii) rehabilitation of targeted marshland areas and, iii) adoption of sustainable land management and sustainable production intensification practices by at least 500 smallholders.

Without the components proposed in this project, Iraq risks losing an opportunity for a globally relevant, systematic mainstreaming of sustainable land management. In the absence of this project, conservation agriculture and agro-biodiversity conservation will remain absent from development goals and receive less support from public policy and these ecosystems, particularly rich in a unique diversity in marshland system, will continue to face the threat of genetic deterioration and the loss of valuable genetic resources. In addition to this global consequence, the implementation of the project will also help to meet national priorities and will provide means for the country to benefit through shared best practices and experiences in the sustainable land management. Without this project, an opportunity to enhance the conservation and sustainable use of valuable resources to meet environmental and development goals will be lost in the agricultural and marshlands of Iraq.

1.6 Innovation, sustainability and potential for scaling up

The Project's innovative nature lies in introducing locally adopted conservation agriculture practices for the integration of agro-biodiversity in the local economic development, based on the communities' traditional knowledge and experiences, in arid and semi-arid areas in Iraq with a focus on irrigated lands and marshland rehabilitation. It also stems from the unique and complex situation in Iraq. The post-war situation, civil unrest, the high population levels, the number of locally displaced people and returnees, and the growing land degradation challenges combined to create a unique challenge for the GEF portfolio.

Nevertheless, FAO has significant experience it can bring to this Project. Over the past decade – in partnership with government agencies and institutions and civil society organizations – FAO has implemented a series of national and regional humanitarian relief, livelihood protection/recovery and agricultural development programmes and projects in Iraq. The following lessons learnt or best practices have been documented: the importance of capacity development for government institutions; the importance of food security information systems; and the importance of community-based natural resource management; the importance of post-harvest management.

This project will draw from the above best practices to determine and pilot approaches to development in the center and southern Iraq, and this can be used as a model for other, larger development programmes.

The challenge of sustainability is found at two levels. First, at the site level, where sustainability means that the positive impacts on the lives and livelihoods of the beneficiaries should be sustained, and the revised practices and technologies continue to be used by the beneficiaries *after the Project ends*. The Project design will focus on introducing locally adopted practices that should be within the ability of local communities to sustain. The Project develops the negotiation and community decision-making capacity and approaches. This should leave in place a capacity for the communities to better drive their own development after the Project ends. Second, at national level, where the capacity – individual and institutional – developed through the Project should be sustained and should continue to support vulnerable villages to implement sustainable land management practices.

The Project will develop national capacity, focusing on organizations responsible for sustainable land management. The newly developed policy and legislative frameworks will institutionalize SLM and CA practices. Furthermore, the project is intended to strengthening the capacity of the newly established Conservation Agriculture Directorate, this will contribute to the sustainability of the project's intervention. Finally, the project will create two geographic information systems, one deals with the land use/land cover and SLM at the Ministry of Agriculture, while the second will be hosted at the MoH&E and will gather and analyze all data and information related to marshland ecosystems. Those two data gathering systems will contribute to the long-term sustainability of the interventions, as they will ensure the generation and sharing of critical data to concerned stakeholders.

Iraq's capacity to sustain project outcomes at the moment is limited owing to the prevailing security situations, infant institutions, lack or limited number of skilled manpower. However, the country has considerable potentials with emerging conditions favorable to develop its human capacity, strengthen the institutions and increasing economic levels. Iraq has the financial resources to invest in its future and develop further its human resources and the economy. Moreover, its predominantly young population is a significant human asset that can help guarantee a successful transition towards a better future and sustainable development. The various programs and projects under implementation and others upcoming place more emphasis on capacity development of institutions at national and local level.

The Project introduces practices and approaches that can be potentially up-scaled. Up scaling can take place throughout the entire marshland covered areas, which have all suffered from draining, land degradation, and desertification. FAO will help and facilitate in up scaling the project by facilitating up scaling in other locations in Iraq. Finally, elements of the Project will be relevant to other places, both in Iraq and elsewhere in the region. Through FAO offices in the Region and other regional offices, and with the support from the GEF, these successes can be replicated.

2. STAKEHOLDERS

Key stakeholders for this project include governmental organizations and farmers (smallholders), including local community, who will identify, design, implement, monitor, evaluate and coordinate their own interventions on farms and surrounding marsh systems to achieve sustainable land management in relation to global environmental benefits, economic productivity, and ecological sustainability.

Local communities and private sector's farmers will be engaged in the project, as appropriate, especially concerning conservation agriculture, certification, marketing, and commercialization of underutilized crops, sustainably harvested cereal products and other goods produced by local communities with project support.

Ministry of Health and Environment will lead the project implementation with the day-to-day management and monitoring undertaken by a dedicated management member staff. It will be chairing the Project Steering Committee, providing staff and resources, and engaging in strategic partnerships with other agencies and institutions from government and civil society, including the private sector, environment, and development NGOs, local community representatives, academic institutions, and professionals. Ministry of Health and Environment will be also responsible for the technical implementation of the agriculture conservation outputs in close cooperation with the Ministry of Agriculture. It will also be responsible for the land improvement on sustainable land management and salinity reduction with the Ministry of Water Resources. The research institutions attached to the different ministries and academia/ universities will play an important role in applying the outcomes of the project and should cooperate with the extension service to achieve this task.

A broad programme of stakeholder consulted was conducted in May 2016 in Amman, and in September 2016 in Erbil and Baghdad through a series of meetings, presentation, and interviews during the preparatory phase. A focus group discussion was conducted in September 2016 as well as a project validcation workshop was organized in Baghdad in December 2016. The stakeholder meetings included representatives from the Governmental organizations, academic sectors, non-governmental organization, and research institutes. The below table provides a preliminary description of the key stakeholders and will be updated and improved during the project preparation phase.

Stakeholder	Mandate (or activities)	Potential role in Project
Ministry of Health and Environment	Responsible for the monitoring and evaluation of the proper use of the country's environment and natural resources, including those protected areas, watershed areas and lands of the public domain, as well as the licensing and regulation of some natural resources utilization. It also represents Iraq in all the international treaties and agreements related to the environment sector.	- Responsible for the overall implementation of the project's activities, - Coordinate with other national stakeholders.

Ministry of Agriculture	Responsible for the strategic development of all aspects of the agriculture sector (including traditional and rain fed agriculture), setting up policies and providing technical support to stakeholders.	- Ensure the involvement of the relevant stakeholders. - Provide technical support concerning conservation agriculture and sustainable land mangment - Support in the selection of the piloting areas for marshlands rehabilitation
State Board for Combating Desertification	Responsible for establishment of oases and maintaining their operation as well as fixation of sand dunes all over the country and acting as the first state agency to combat desertification	Implemntaing the project related elements in the oases and participate in other aspects of CA, SLM and capacity building
State Board for Agriculture Research	Responsible for carrying out research on all agricultural development and environmental related research as well as the application of new technologies such as conservation agriculture and sustainable land management, triasl of new species etc.c	Verify and apply the outcomes of the project on pilot areas
State Board for Agriculture Extension Service	Transfer of applied research and results to the farmers. It acts as tool between the research institutions and the farmers in terms of applied research and extension.	Assist private sector in transfer of the projects finding and application
Ministry of Water Resources	Responsible for mangment of water resources, land reclamation and efficient water use for agriculture and over puroses in the country	Coordinating the implemntaion of the project's workplan in the field of SLM within the ministry field offices
Center for Rehabilitaion of Marshlands	Responsible for Rehabilitaion and restoring the marshland to its original state	Assist in implementation and coordination of the project in the Marshlands
Ministry of Science and Technology	Responsible for carrying applied research on the ground in order to insure the applicability of the project outcomes	Coordinate with other ministries in the technology and science matters related to the project.
Office of Agriculture Research/M oS&T	Responsible for carrying applied research on the ground in order to insure the applicability of the project outcomes	Assist the State Board of Agriculture Research of the MoA in applying research and transfer of technology findings
Iraqi Farmer's Association	Responsible for coordination and assisting state boards in transfer of technology, distribution of inputs, application of laws and regulations among farmers in the private sector.	Coordinate the project management with the private sector
Private Sector Farmers	Running their own farms and, as much as it is applicable, attempting to improve their production and use of new technologies in crop production, irrigation, varieties, etc. Increasing food security through investments and enchanicng commercial components of the proposed project.	Applying findings and absorbing knowledge gained through the project.
Civil Society Organizations in the selected demonstration sites	Support local communities to access basic services. Coordinate the work of international organizations. Responsible for implementation of different initatives that aim at environmental protection, poverty reduction and enhance access to services.	Supporting the project design team during PPG, and the project management in coordinating and implementing the project's interventions including the identifcation and selection of relevant income-generation activities for different interest groups, including Marsh Dwellers and women..

3. GENDER EQUALITY AND WOMEN'S EMPOWERMENT

The long-term conflicts have had a particular damaging impact on women overall in Iraq . One notable impact has been the creation of a large number of women-headed households in vulnerable communities, as the men have migrated in search of work or to protect their land. Moreover, women in the marshland communities are traditionally reserved, and it is highly complex to target them through international partnerships such as this Project.

Still, gender considerations are important to the Project. This Project will acknowledge gender differences, it will assess and comprehensively understand them, and it will then design and implement activities that promote women's empowerment and gender equality.

In one of the UN offical events on strenghening role of rural women in managing natural resources, the former environment minister in Iraq said "*the role of rural women was an under-appreicated factor in achieving sustainable peace. The impact of women's participation in natural resources managmeent on generating and maintaing social equality and stabiity needs to be*

better understood so greater efforts can go into anchoring peacebuilding in gender equality and the sound management of natural resouces". He further indicated the rural women have few legally recognaized rights. The project will help in discussing how this situation tends to worsen in conflict setting due to insecuirty, violence, and migraiton. The project will come up with specific interventions that would help in defining how and where women's engagment in SLM and finances increase, for example, to better manage land and natural resources mainly during and post-conflict periods.

A recent paper on the *Effects of Mesopotamian Marsh (Iraq) desiccation on the cultural knowledge and livelihood of Marsh Arab women*, published in March 2016, indicates that local women are essential to marshland management in Iraq, land desiccation is destroying traditional lifestyles and depleting water resources, and that government is out of funds to fix the problem. This research focuses on analyzing the impacts of decades of exterem variations in the Marshes' extent, availability of culturally signficat natural resources and the ability of Marsh inhabitants to sustaina a livelihood from ecosystem serives throug the Marsh Arab women. Unfortunaltey, due to lack of water, people had to flee their homes primairly and became environmental refuguees. For example, women walk their water buffalo approximately 2 km to reach the neasest water resoruces. According to another study by UNESCO, published in 2014, around 81%, 33%, and 12% of internally displaced people in Marsh land areas in Thi-Qar, Missan, and Basrah provinces were displaced due to water insufficency near the Marsh areas, the majority of those are women.

The Project will also seek to lessen the impact of land degradation on women and other particularly vulnerable groups, and it will contribute to women's empowerment and gender equality. The project will look at at how the aridity of the Marshes adversely impacts Marsh women's traditional ecological knowledge. Furthermore, it will define the impact on women's income, as women have six major activities in the Marshes: (1) Gathering Reeds/Handicrafts, (2) Animal Husbandry, (3) Fishing, (4) Agriculture, (5) Selling goods at the market, and (6) Utilization of locally available medicinal herbs. Those activities are highly impacted by land degradation. During Project preparation and implementation a full gender analysis and gender segregated assessment will be undertaken to determine: the number of female resource users; the number of women headed households; the differentiated impacts of land degradation, climate change and drought on women and girls; the different knowledge base of men and women; strategies for mainstreaming gender into natural resource management; strategies for optimizing the participation of women in natural resource management and optimizing their economic benefit. This will be done at the household and regional level.

4. RISKS

The initial risk assessment has tentatively identified the risks and tentative management strategies. These are set out in the Table below. These will be validated during Project preparation. If required, the risk management strategies will be elaborated. Further, additional assessments will be undertaken to identify any additional risks.

Risk	Level	Management Strategy
Political instability and civil unrest in addition to internal conflict	High	The political instability may lead many difficulties in the project implementation; it can also limit the access to some areas and/or access to data as well as limit the potential for some income generating activities. It is, therefore, vital to undertaken the following mitigation measures: • Continuous consultation with the Governments to identify possible interventions to solve any new risk faces the project • Work closely with local community to provide them with the needed skills and tools to be used once the political situation enhanced
Inter and intra government cooperation	Low	The proposed mitigation measures include: • Intra-governmental agency liaison by the Project Management Unit • Inspection of coordinated activities by the Project Board • Overview of coordinated activities by the Project Steering Committee • The project will ensure that there is close coordination between the relevant agencies within Iraq.
Vulnerability of community to extreme weather events and other climate-related risks	Medium	• During PPG, climate vulnerability assessments of project beneficiaries will be carried out, and proposed SLM and CA practices will be selected based on their potential contribution to more resilient production systems and marshland ecosystems. Steps will be taken to build resilience measures into project design to minimize the risk and/or adapt to new conditions when possible. • The proposed project will build on the GCF project if approved (see section 5 Coordination). • Introduction of ecosystem-based management building on local knowledge.
Weak institutional capacity in conservation agriculture and sustainable land management	Medium	Gaps identified at project preparation phase • Capacity needs assessment conducted at outset of Project • Project outcome focused on developing the needed technical capability and sound institutional capacity

5. COORDINATION

The project will coordinate with a range of ongoing initiatives in Iraq related to agriculture, sustainable land management, and marshlands rehabilitation. Most initiatives focus on one or other and this proposed project will coordinate with all to ensure that best practices are incorporated into the project projected integrated approach.

1. **GEF-financed initiatives:** the project will build on the work and coordinate and establish linkages with the following projects:
   - Existing GEF initiative: *National Capacity Needs Self-Assessment for Global Environment Management Project:* the project aims to determine the priority needs and a plan of action for developing Iraq's capacity to meet its commitments to global environmental management. The UNEP is managing this initiative. It will identify the needed capacity building programs for the Government and relevant stakeholders under the Biodiversity, climate change and land degradation areas, which will be considered in components 2 and 3 of the proposed project.
   - Existing GEF initiative: *Initial steps for the establishment of the national protected areas network Project*: is a new initiative implemented by UNEP and aims at developing and implementing the plan for the establishment of a National Network of Protected Areas. It also aims at establishing two protected areas as pilot sites with a focus on provision of essential infrastructure and support to the selected Protected Areas. The proposed project will support the Iraqi biodiversity efforts by rehabilitating critical marsh ecosystems, including the Dalmaj marshland. A partnership will be promoted with this existing GEF-UNEP project during the PPG phase to build on its lesson learnt and findings, informing selection for demonstration sites and selection of target communities. Indeed, to the extent possible, the FAO-GEF project will aim at working in the production areas and degraded marshlands buffering Protected Areas in order to further lift pressures on Protected Areas..

2. **Non-GEF financed initiatives:** the following development partners are implementing, or planning to implement, the following related Projects:
   - The UNDP manages "*developing disaster risk management capacities in Iraq*" related to enabling Iraqi government and communities to reduce losses and damages from natural and human-induced disasters by adopting effective mitigation and preparedness approaches, using the priorities of the Hyogo Framework of Action. The proposed project is going to coordinate with this project to benefit from the assessment of the affected areas.
   - The "Strengthen Iraq's Capacity for Sustainable Water Resources Management" Project, managed by UNDP, and funded by the USDS) aims at assisting in the successful launch and the functioning of the National Water Council by supporting its establishment through an interim secretariat hosted by the Prime Minister Advisory Commission and establishing connections between the future council and international experts and institutions. A partnership will be promoted with this project during the full project preparation to share lessons learnt and projects' findings.
   - The FAO is implementing a comprehensive programme, at the national level, based on its "Country Programme Framework 2013-2017." Among the implemented projects: Technical assistance for the introduction of Quinoa and appropriation/ institutionalization of its production in Iraq (among other countries in the region), and policy prospective for the water use of the Shatt Al-Arab in fisheries and aquaculture for the sustaining food security. The proposed project will build on the existing FAO portfolio to implement the SLM in the selected areas not included in the FAO-ongoing projects. The proposed project will also adopt methodologies and include data produced by the FAO-ongoing project's portfolios in Iraq.
   - At the regional level, FAO regional office is supporting the following related initiatives and technical support in Iraq and it is available through three Regional Initiatives: Water Scarcity; Small-Scale Agriculture for inclusive development; and Building Resilience for food security and nutrition. The proposed project will build on the FAO-regional initiatives to benefit from the capacity building components, and consider the knowledge sharing platforms provided by the regional initiatives.
   - FAO is supporting countries in the Near East and Northern Africa Region to adapt agriculture and natural resources management to climate change. A CCA project is under development to be presented to the Green Climate Fund (GCF) for financing. This GCF project aims at more efficient and effective drought and water management via e.g. drought assessments, development of strategies and policies that enable effective and efficient use of water resources and sustainable management of land and water resources under irrigated and rain fed agriculture.

It is envisaged that the project will enhance the creation of SLM and CA platforms that coordinate collaboration among stakeholders, aligning efforts, facilitating discussions on good lessons, creating strong institutions and identifying good practices for scaling up. The platform coordination shall be the responsibility of the organization that oversees the implementation of the project (Ministry of

Agriculture and the members of the platform will constitute other stakeholders. Since the CA coordinating department is in the ministry it is expected that it will have budget for coordinating the platform and financing the platform activities and meetings

The concerned national level ministries all have small ongoing national programmes with some activities in central and southern Iraq. During the PPG phase, the activities of other partners will be explored and linkages developed.

6. CONSISTENCY WITH NATIONAL PRIORITIES

At the national level, a series of policies and plans have been established which create a basis for mainstreaming sustainable land management and biodiversity conservation practices by empowering and helping vulnerable communities. With respect to national strategy and development programmes, the proposed project is in direct conformity with the following national programmes and plans:

- The *National Strategy for Poverty Reduction in Iraq* 2009. This Strategy gives importance to the development of the agriculture sector since poverty is largely a rural phenomenon. It also emphasizes on agricultural extension services and rural infrastructure for production and marketing. The project will contribute to the following objectives of the strategy: 1) a better living environment for the poor, and 2) higher income for the poor from work.
- The *Iraq National Development Plan* (2013-2017). This Plan emphasizes on the role of Agriculture and water Resources in development. It aims to give a strong investment impetus to selected sectoral growth poles, including agriculture, to raise its share of GDP generation. In the Plan, agriculture is one of the key sectors identified in accelerating non-oil growth, raising incomes, and improving income distribution and gender equality. The project will contribute directly to the achievement of the Plan's objectives.
- *Agriculture for Development in Iraq*. It estimated the impacts of achieving the agricultural targets of the National Development Plan 2013-2017 on economic growth, incomes, and gender equality. It is widely believed that the country's agricultural potential is great, and might help accelerate economy wide growth, raise household incomes, and affect the household income distribution in Iraq. The proposed project is perfectly aligned with the Plan and supports its implementation. Components 2 and 3 will contribute to the implementation of the proposed programmes in the plan.
- For Marshlands, the "*Iraq's National Biodiversity Strategy and Action Plan 2015-2020*" (NBSAP) constitutes the main vehicle for coordinating and mobilizing investment, including to marshlands and wetlands rehabilitation and development activities. The project will help in implementing some of the measures listed in the action plan.
- For Marshlands, the "*National Environmental Strategy and Action Plan for Iraq 2013-2017*" emphasizes on the environmental values of wetlands, oases, and marshlands in Iraq. It includes specific actions proposed to restore and rehabilitate the destroyed marshlands and describes the Ministry's efforts to register the marshlands, as environmental sites of global importance, which is believed, would help in convincing neighboring countries to provide sufficient water to re-flood the marshlands. The project is contributing directly to the implementation of some of the proposed actions. Component 2 will help achieving the outcome of the proposed project 2.7.2. Using remote sensing techniques and GIS for marshlands.

With respect to the environmental conventions, the proposed project is fully consistent with and will contribute significantly to the implementation of the following strategies, programs, and action plans in Iraq:

- **Iraq's Initial National Communication** submitted to the UNFCCC in 5 December 2015. The Report explained the two main pathways that Iraq could undertake to mitigate and adapt to the changing climate. It recorded that Iraq will work to decrease 1% of its total emissions by 2035 as part of its commitment to mitigate climate change. It also confirmed that Iraq is planning to decrease up to 13% of its emission in case the international community provides financial and technical supports. It also included the measures proposed by the Government to adapt to climate change mainly on the water, agriculture, and health sectors. The report highlighted the negative impacts of climate change. It highlighted the importance of adaptation measures for rain-fed farming and pastoral systems.
- It contributes to **UNDAF 2015-2019** Outcome A. 2, Outcome B.1, and Outcome B.2. i.e.: "Government capacity at national and sub national levels, enhanced for evidence-based decision making", "Strengthened resilience through enhanced government and community disaster risk management capacities" and "Economic and livelihood opportunities increase for women and youth in both public and private sectors" respectively.
- The **National Action Plan to Combat Desertification** identified habitat fragmentation, degradation, and conversion as primary drivers of desertification and biodiversity loss, with a special emphasis on the positive feedback loop existing between rural poverty and land degradation. The strategy identified several projects to be implemented which are addressed in this project (development of irrigated and rain fed agricultural land, marshland rehabilitation, coordination, and enhanced technical capacities).

- The **Land Degradation Neutrality Targets**. In 2016, Iraq committed itself to set national LDN targets and joined the Programme that provides opportunities to foster coherence, move from pilots to scale and identify transformative projects. It is expected that this project will support Iraq in setting its LDN targets, as it will generate information and data on two of the three LDN indicators (namely, land cover and land productivity).
- The **National Biodiversity Strategy and Action Plan** (2015-2020) define the strategic directions for the conservation of the biodiversity and the adoption of the actions to preserve globally significant ecosystem (marshlands). This project will directly contribute to the implementation of a set of measures proposed by the Strategy to rehabilitate the marshlands and preserves its significant biodiversity ecosystems.

The proposed Project contributes directly to the following FAO programmes and strategies:

- Globally, it contributes to FAO Strategic Objective SO2 and (SO) 5, i.e. "Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner" and "Increase the resilience of livelihoods from disaster";
- Regionally, it contributes to FAO Regional Initiative "Sustainable small-scale agriculture for inclusive development";
- Nationally, it contributes to the three priority areas under FAO's Country Programming Framework Plan of Action (2013 -2017:(a) agricultural sector and food security policy development; (b)building up the investment projects portfolio in for agricultural development, and (c) technical assistance, normative work and guidance on subsector and crosscutting themes and issues.

7. KNOWLEDGE MANAGEMENT

Conservation agriculture remains a relatively new field and much knowledge needs to be acquired, assessed, stored and shared. This needs to happen at the local, State, national and international levels. Hence this project has activities to contribute to this process. The knowledge management activities are to be planned from the onset and will feed into existing systems for knowledge management. Component 4 includes activities to capture knowledge through the Project activities, including the generation of best practices documents and other media supports. The following section explains how that knowledge will then be stored and disseminated at appropriate levels.

At the local and State levels, the Project will build technical capacity of the technical teams, local communities and farmers. The benefited individual is to be mandated with promoting conservation agriculture into the future. Many technical agencies will be included in the project, including the NationalCenter for Marshlands Rehabilitation and Wetland Management. Hence, by building the local-level capacity, and working with farmers and community members, the Project directly contributes to knowledge management at the local level.

At the national level, the Project is implemented within the Environmental Strategy and the Agriculture Strategy framework. All concerned national natural resource ministers are to be involved in the Project. Notably, the knowledge generated by the Project will be disseminated through the Ministries of Enviornment, Water Resources, and Agriculture. Furthermore, FAO, as an active member of many national committees and network , will ensure that all knowledge is appropriate disseminated at the national level.

FAO will also facilitate the dissemination of knowledge generated through projects regionally and globally. For example, across the Near East and Northern Africa, the FAO Regional Office in Cairo is helping countries to achieve sustainable food security and helping vulnerable communities to cope with shocks and crises. It has notably been doing this through several targeted initiatives on water scarcity, building resilience, and small scale farming. The proposed Project's lessons learnt will feed into these initiatives and benefit from them as well. Finally, FAO will ensure that knowledge is circulated at the global level.

Regional SLM Network supported by the Regional FAO Office, coordinates the dissemination of SLM good practices across the Region. The Good prcatices documented at local levels in different countries are enetered in the WOCAT International database. It will be important if the lessons learnt and good parctices identified by the project are included in the database so that experiences are shared both at local, national and regional level. This will enable institutions in Iraq benefit from accessing the SLM knowledge database and have their own knowkdge included.

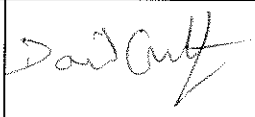
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

8. A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

NAME	POSITION	MINISTRY	DATE*(MM/dd/yyyy)*
Dr. Jasim Abdulazeez Humadi	Deputy Minister for Environmental Affairs and GEF OFP	MINISTRY OF HEALTH AND ENVIRONMENT	**01/17/2017**

9. B.GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**
Daniel Gustafson, Deputy Director-General (Programmes) and Officer-in-Charge, TCI		17/03/2017	Jeffrey Griffin	+39065705 5680	Jeffrey.griffin @fao.org