



ADAPTATION FUND

REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

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Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org



ADAPTATION FUND

PROJECT PROPOSAL TO THE ADAPTATION FUND

Project Category:	Regular
Country:	Tunisia
Title of Project:	<i>Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan</i> ("Economic, social and solidarity insertion for resilience in the Governorate of Kairouan") - IESS-Adapt
Type of Implementing Entity:	Multilateral Implementing Entity
Implementing Entity:	International Fund for Agricultural Development
Executing Entity:	Ministry for Agriculture Water Resources and Fisheries (MAWRF).
Amount of Financing Requested:	USD 9,997,190

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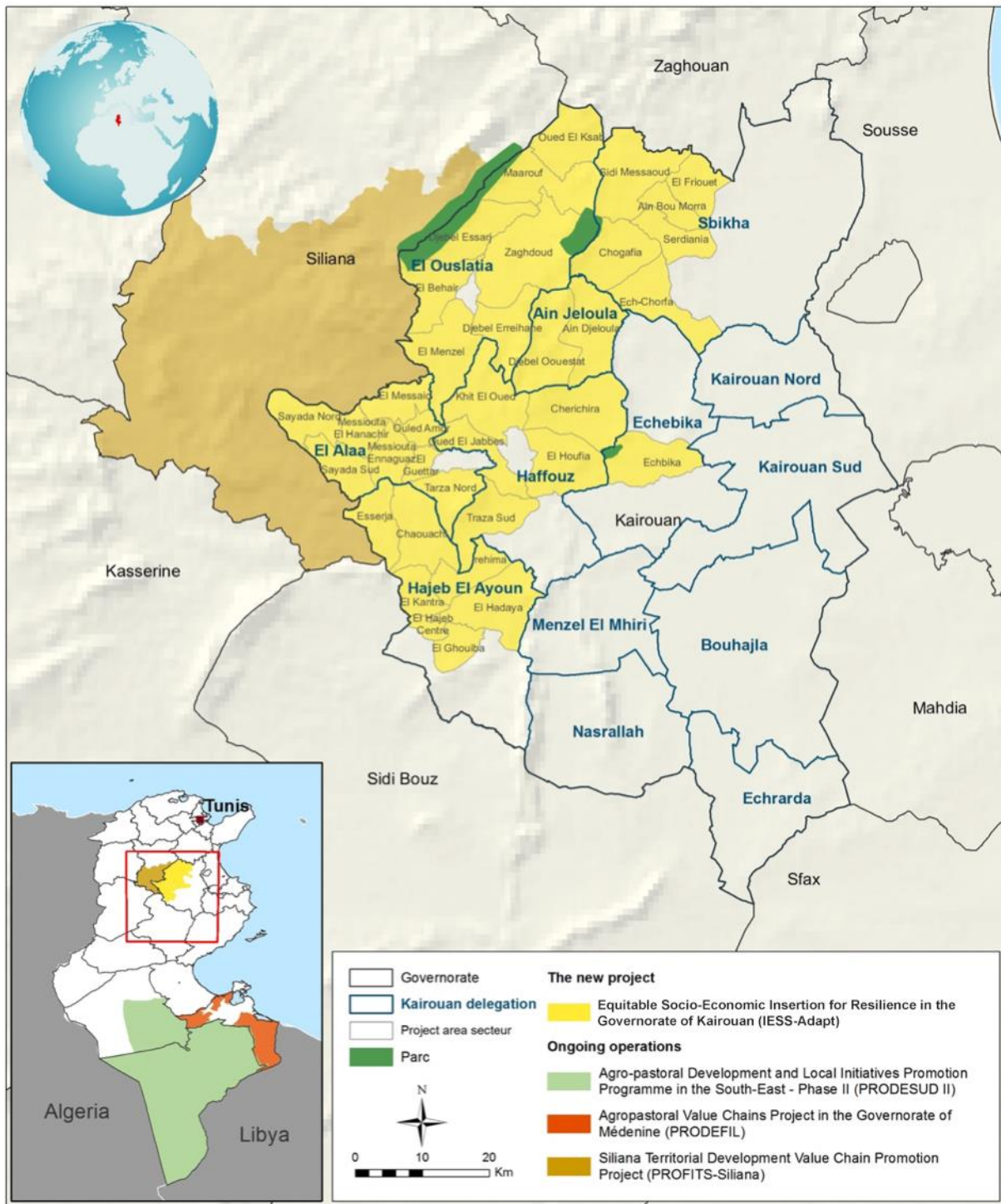
Abbreviations and Acronyms

AFA	Agricultural Land Agency (<i>'Agence Fonciere Agricole'</i>)
AfDB	African Development Bank
CCA	Climate Change Adaptation
CES	CRDA Soil and Water Conservation Department (<i>'conservation des eaux et des sols'</i>)
CHIRPS	Climate Hazards Group InfraRed Precipitation with Station data
CMIP5	Coupled Model Inter-comparison Project, Phase 5
CNEA	the National Centre for Agricultural Studies (<i>'Centre National des Etudes Agricoles'</i>)
CRDA	Regional Office of Agricultural Development (<i>"Commissariat Régional de Développement Agricole"</i>)
CTV	CRDA Extension Services (<i>Cellules Territoriales de Vulgarisation'</i>)
DGF	Directorate General of Forests
DRAS	Regional Directorate for Social Affairs
ESA	Environmental and Social Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
FAO	UN Food and Agriculture Organisation
FIN	Families in Need
GALS	Gender Action Learning System
GCF	Green Climate Fund
GDA	Agricultural Development Groups
GDP	Gross Domestic Product
GIZ	German Development Agency (<i>"Deutsche Gesellschaft für Internationale Zusammenarbeit"</i>)
IADP	Integrated Agricultural Development Project
IESS	Insertion Économique, Sociale et Solidaire dans le Gouvernorat de Kairouan
IFAD	International Fund for Agricultural Development
IGA	Income-Generating Activities
ILO	International Labour Organisation
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IRESA	Agricultural Research Institution (<i>"Institution de Recherche et de l'Enseignement Supérieur Agricoles"</i>)
KAP	Knowledge, Attitudes and Practices
LIF	Limited Income Families
MAWRF	Ministry for Agriculture Water Resources and Fisheries
M&E	Monitoring and Evaluation
MFI	Microfinance Institution
MoEH	Ministry of Equipment and Housing
MTR	Mid-term Review
PDP	Participatory Development Plans (<i>'Plans de Développement Participatifs'</i>)
PMU	Project Management Unit
NAMA	Nationally Appropriate Mitigation Actions
NASA	The National Aeronautics and Space Administration
NDVI	Normalized Difference Vegetation Index
NGO	Non-Governmental Organisation
NRM	Natural Resource Management
OECD	Organisation for Economic Co-operation and Development

OHCHR	Office of the United Nations High Commissioner for Human Rights
PET	Potential annual evapotranspiration
PMU	Project Management Unit
PPR	Project Performance & Reporting
PNAFN	National Programme for Support to the Families In Need (<i>'Programme National d'Appui aux Familles Nécessiteuses'</i>)
PO	Producer organisation
RCP	Representative Concentration Pathways
SECAP	Social, Environmental and Climate Assessment Procedures
SLM	Sustainable Land Management
SME	Small and Medium Enterprises
SMSA	Agricultural Service Companies ("Société Mutuelle de Services Agricoles")
SP	Service Provider
SWM	Sustainable Water Management
ToT	Trainer of Trainer
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
UTAP	Tunisian Farmers Union
UTSS	Tunisian Social Solidarity Union (<i>'Union Tunisienne de Solidarité Sociale'</i>)
WOCAT	World Overview of Conservation Approaches and Technologies

Project Area

Figure 1 Project Area



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 05-04-2019

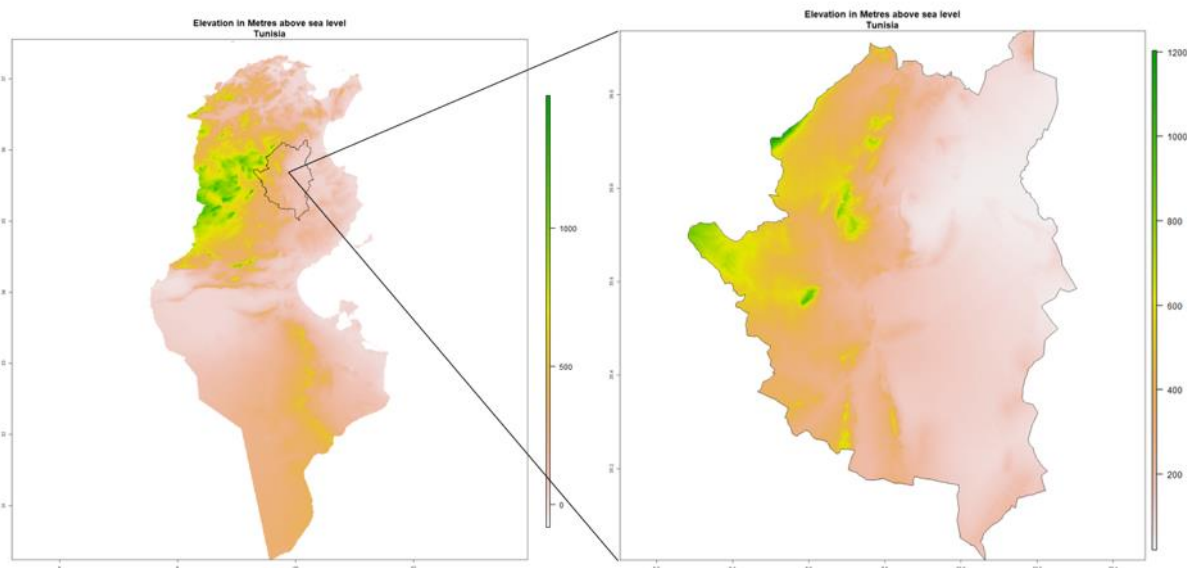
PART I: PROJECT/PROGRAMME INFORMATION

A. Project / Programme Background and Context:

Geography

2. Tunisia is a country located in the north of Africa, between Algeria in the west and Libya in the south-east. The northernmost country in Africa, Tunisia is bordered on the north and east by the Mediterranean. It covers an area of 163,610 km², 1,200 km from north to south and an average of 280 km from east to west. Northern Tunisia has a Mediterranean climate, with mild, rainy winters and hot, dry summers. Towards the south, the climate becomes progressively warmer and drier.
3. Located in the centre-west region of the country, Kairouan governorate enjoys a privileged geographical position as it represents a crossroads between the north, the south, the east and the west of the country. The governorate has no access to the sea and is divided geographically West-East with hills in the West and plains in the East. The project area is situated in the hilly region, in the West of the governorate. The Kairouan region, with a total area of 6,712 km², comprises 570,559 inhabitants (April 2014 census), of whom 50.8% are women and 67% are young people under 40 years of age. The Region is divided administratively into 11 Delegations and is located in the Centre-West of the country. The governorate is bordered by six governorates namely, Zaghouan in the north, Siliana in the northwest, Sousse and Mahdia in the east, Sfax and Sidi Bouzid in the southeast and southwest respectively.

Figure 2 Elevation in meters above sea level in Tunisia and Kairouan.



(Source: SRTM, NASA. Prepared by IFAD.)

4. The main permanent surface streams are in the north. In the south, the surface streams are ephemeral, only flowing a few days or weeks a year. Tunisia therefore depends on rainfall for agriculture and to recharge its groundwater. The Kairouan hydrographic network is composed of two exoreic and endorheic systems; the first refers to water flows that end up in the sea and is characteristic of Nebhana, Zeroude and Marguellili drained by Sabkhat Al Kalbia. The second, refers to flows that are routed to a depression other than the sea such as Chott Al Mechertate and Oued Cherita that flow into Sabkhat Sidi Al Heni.

5. Arable land represents about 19% of the Tunisian territory in 2015¹ of which only 8% is irrigated, depending largely on groundwater for irrigation. Soil quality is limited and often degraded and are sensitive to erosion and desertification in the south and centre of the country (including Kairouan).

Climate

6. A series of national studies have been carried out with the CoMon software. The software uses georeferenced information layers from terrain data such as NASA and ESA, grid aggregated weather stations and satellite images. Temperature data cover the period 1960-2017, rainfall data 1981-2018, and vegetation data 2000-2018.
7. The country is subdivided into 5 agro-ecological zones according to the climatic characteristics and the provinces are grouped as follows:
- Arid: Kebili, Tataouine, Tozeur
 - Arid lower altitude: Gabes, Gafsa, Medenine
 - Arid higher altitude: Kairouan, Kasserine, Mahdia, Sfax, Sidi Bouz
 - Semi-arid: Kef, Monastir, Siliana, Sousse, Zaghuan
 - Sub-humid: Ariana, Ben Arous, Bizerte, Beja, Jendouba, Manouba, Nabeul, Tunis

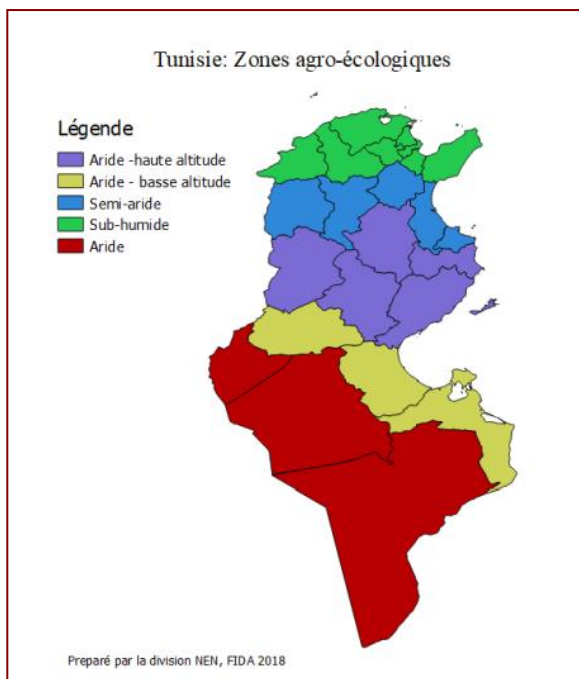
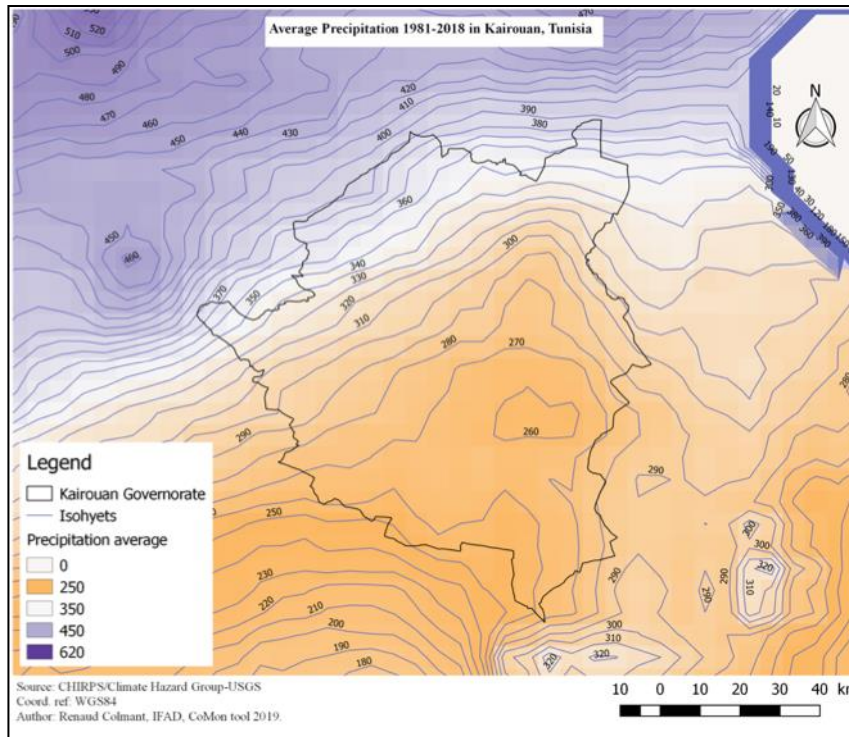


Figure 3 Agro-ecological zones of Tunisia. IFAD, 2018.

8. **Rainfall.** Precipitation in the governorate of Kairouan is predominantly characterised as irregular. The rains in Kairouan and in the low steppes are generally characterised by light rains (50 mm) with heavy rainfall associated with local storms. The latter are random in nature are often intense, discharging at a rate of 60 mm/hour. The seasonal regime is marked by the predominance of autumn and spring rains that respectively receive on average 33% and 28% of the annual rainfall.

¹ World Bank : Climate Change Knowledge Portal

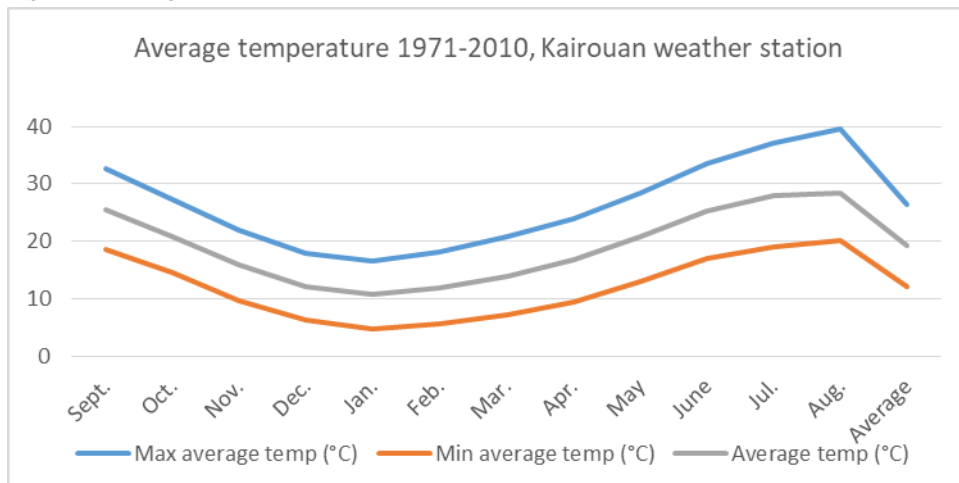
Figure 4 Average precipitation in Kairouan, 1981-2018.



Source: CHIRPS IFAD

9. The average annual precipitation is around 420 mm and 330 mm at the delegations of Oueslatia and Sbikha respectively, whereas it varies from 213 to 319 mm at other stations. This local fluctuation in rainfall from south-east to north-west of Kairouan, though not of significant importance, reveals micro-zones in the project area as presented in figure 4.

Figure 5 Average temperature in Kairouan, 1976-2010, IFAD.



Source: CRDA Kairoua

10. **Temperatures.** The average annual temperature is 19.2°C (Figure 5). The maximum average of the hottest month (August) reaches 39.6°C, that of the coldest month (January) is 4.8°C. The absolute minimum temperatures is -4°C during the month of January and around -2.2°C during the months of December and February, hereby increasing the risk of frost during the winter period.

11. **Potential evapotranspiration and water balance.** Potential annual evapotranspiration (PET), approximated by the Blaney and Criddle method at the Kairouan station, is 1381 mm². Referring to the rainfall contribution in the project area, the PET values show that there is a significant water deficit for all stations. This water deficit varies from 1029 mm / year (in Oueslatia) to 1253 mm / year (in Cherarda). Results show that there is a water balance deficiency in all months.
12. **Climatic hazards.** The region is subject to the influence of two prevailing winds: a north-easterly wind in winter and a south-westerly wind in summer. In spring winds are north and north-easterly and are followed by south-westerly winds. In summer, southwest winds dominate and are characterised by the sirocco, a hot and dry wind that originates from the Sahara. Wind speeds as a whole are not high and rarely exceed 4 m/s, although they can record gusts of up to 38 m/s. Hail does affect some areas in the north and north-western parts of the project area and has the most negative impact when cereals and certain fruits like the apricots start to mature

Socio-Economic Context

13. Tunisia ranked sixth in the Arab world and 88th out of 190 economies in the world, according to the 2018 Doing Business Report (World Bank, 2018). Tunisia has experienced strong economic and social progress in recent decades and more recently, a successful democratic transition. The convergence process has slowed down, however, due to the low level of investment since the early 2000s, while regional and labour market inequalities have persisted. Since 2011, the external and public debt-to-GDP ratios have risen sharply and Tunisia's economy registered a growth rate of 1,9 percent in 2017. In sharp contrast with the socialist policies of the 1960s, Tunisia's current economic focus is on bolstering exports, foreign investment, and tourism, all of which have become central to the country's economy.
14. Tunisia's economy faced an array of challenges exposed by the 2008 global financial crisis that helped precipitate the 2011 Arab Spring revolution. Tunisia's government remains under pressure to boost economic growth quickly to mitigate chronic socio-economic challenges, especially high levels of youth unemployment, which have persisted since 2011. According to the Organisation for Economic Co-operation and Development (OECD), encouraging women's participation in the labour market and adapting training to the needs of employers will help create quality jobs.³ Key exports now include textiles and food, petroleum products, chemicals, and phosphates, with about 80% of exports bound for Tunisia's main economic partner, the European Union (EU)⁴.
15. **Gender.** Tunisia has always been considered one of the most advanced countries in the Arab world in terms of women's rights, and in 2015, the UNDP (Global) Gender Inequality Index (IIG) placed the country in the 48th place out of 185. This favourable context is also reflected in the main indicators of health and education, as the country has a low maternal mortality rate (44.3 per 100,000 in 2013) and very high antenatal care coverage rates (98,1%). The female-to-male ratios of primary school enrolment (98.8% for girls versus 98.3% for boys in 2012) and secondary education (90.2% against 89.7%) show that girls have higher enrolment rates than boys. Moreover, and contrary to many countries, women are more present than men in higher education, with a female-to-male ratio of 159.1% in 2012, even though the general illiteracy rate is 23% for women and 12.4% for men.
16. However, despite this overall positive context, Tunisian women continue to face significant cultural, social and economic constraints that limit their economic integration and access to decent paid work. Tunisia is ranked 127th in the world (out of a total of 145 countries) according to the Global Gender Inequality Index, which is mainly attributable to the low participation of women in the formal economy (133 out of 145). In 2012, the female participation rate was estimated at only 26%, compared to 70% for men and 47% for both sexes. Among young women (25-34) only 41% are in the labour market, compared with 89% of men in the same age group. Moreover, while men's employment is diversified across several sectors, two-thirds of employed women are concentrated in three main sectors with a strong female workforce, particularly services (female contribution 49.4%), manufacturing (26.4%) and agriculture (16.7%). A study on the quantification of unpaid work carried out in 2006 showed that

² The formula used involves the following parameters:

$$PET (mm) = Kt (45.7 T_e + 813) P / 100$$

With Kt: Climatic coefficient which is a function of the average temperature

T_e: Average monthly temperature

P: Sunlight duration of the month in question (as a % of the annual total) which depends on the latitude

³ OECD (2018), OECD Economic Surveys: Tunisia 2018 : Economic Assessment, Éditions OECD, Paris, https://doi.org/10.1787/eco_surveys-tun-2018-en.

⁴ Moody's Analytic. <https://www.economy.com/tunisia/indicators#ECONOMY>. Visited on April 2019.

Tunisian women devote 77.6% of their daily time budget to unpaid domestic work, while men contribute only 9.4% of it. of their time budget.

17. **Principle Gender Constraints.** Multiple factors explain the low integration of Tunisian women into the labour market and the formal economy. On the one hand, Tunisian girls seem to be mainly oriented towards sectors with low economic opportunities (they represent 20% of the graduates of technical sciences compared to 72.9% in the literary sectors). On the other hand, employers themselves are often influenced by male and female professional stereotypes.
18. Women also have limited access to microfinance, for example to launch an income-generating activity, although several specialized institutions have been facilitating women's access to micro-credit since 2011. In 2015, the breakdown of all the projects approved by the Small and Medium-sized Enterprise Finance Bank (*'Banque de Financement des Petites et Moyennes Entreprises'* - BFPME) showed that only 17% of the projects initiated were by women promoters (compared to 83% by men), with an average cost of 568,000 Tunisian Dinars (TDN) for women against 800,000 TDN for projects of male promoters (a difference of 40.8% in favour of men). The industry breakdown shows that 65% of approved projects for women are concentrated in the textiles and clothing industries (24.8%), the services and miscellaneous sector (20.9%) and the agro-industries. -foods (19.3%). Men invest, for their part, in the first place, in the agro-food industries up to 21.6%, the service sector and various to 18.4% and in 11.1% of cases in the industries of textiles and clothing.
19. **Gender in Rural Context.** In 2012, women living in rural areas accounted for about 35% of the Tunisian female population. Women working in the agricultural sector are quite vulnerable and are, in the majority of cases, family helpers who receive no remuneration (only 19.7% of rural women have a personal income compared to 65.3% of rural men) or agricultural workers who work in very precarious conditions. It should also be noted that only 4% of female agricultural entrepreneurs hold land titles. While land laws give rural women equitable access to landed property, in practice they often agree to give their share of inheritance to their brothers for financial compensation, while in the context of marriage, the property belongs to the man in 85% of the cases.
20. **Youth.** Young people aged between 15 and 29 represent 24.5% (and those under 35 years of age 57%) of the total population in Tunisia and 38% of the population of working age (15-60 years). Seven years after the January 2011 revolution, largely driven by the aspirations of youth, the challenges that led to youth mobilization have not disappeared, and according to the Ministry of Youth and Sports Affairs, the Tunisian youth still feels the victim of a multi-faceted exclusion, aggravated, inter alia, by regional disparities in development, gender inequalities and difficulties of access to employment. Faced with a high unemployment rate (34.7% for young men and 40% for young women in 2017) or employed under precarious conditions, a majority of young people have limited prospects for personal development and career development.
21. **Youth in Rural Context.** Rural youth, especially those living in inland areas, form with women another disadvantaged group in relation to access to employment, with a rate of youth not engaged in employment, education or vocational training of 33.4% in rural areas (compared to 20% in urban areas). In the interior regions, this rate is 42% for young men and 45% for young women. With regard to young self-entrepreneurs, who represent 7.9% of young rural workers (compared to 13% of young urban workers), the majority are engaged in informal activities which deprive them of the possibility to access funding sources. Access to financing constitutes the main obstacle for the majority of young people to start an income-generating activity. For rural youth who are active and engaged in formal work, the services sector employs 52.8% of them, followed by the agricultural sector (21.9%).
22. High drop-out rates partly explain this phenomenon, especially for boys: 62% of university graduates are girls and 26% of girls complete university education compared to 16.8% of boys. In addition, the current education system is characterized by its inability to equip young people to find their place in the world of work. Moreover, their involvement in political and associative life and, in general, in public affairs, remains very low, and there is still a lack of trust in the institutions (60% of young people do not confidence in the institutions of the state), the lack of prospects for social integration pushing a non-negligible fringe of youth to emigration or radicalization.

Agriculture

23. The main national agricultural products in Tunisia are cereals (wheat and barley), olives, dates and citrus for the vegetable sector and sheep for the animal sector. The cultivation of olive trees is largely rainfall dependent and its production varies greatly from one year to the next. In the governorate of Kairouan agriculture covers 590,000 ha, of which 434,000 ha is arable land; irrigated land is 59,780 ha which is 14 percent of the national total. The value of agricultural production amounts to 576

million dinars in 2017 at current prices, of which 60 percent is from the irrigated sector. Agricultural production over the last five years came predominantly from growing cereals (1,500,000 quintals), olive oil (100,000 tonnes), arboriculture (70,000 tonnes), gardening (510,000 tonnes), meat (16,000 tonnes) and milk (50,000 tonnes). Several support structures exist in Kairouan, among others 42 cooperative Agricultural Service Companies (SMSA) and 250 Agricultural Development Groups (GDA) of which 100 are active in the irrigated sector.

Water

24. Tunisia is already experiencing a water shortage and the per capita water availability is below the water poverty threshold (<500 m³/person/year). The annual renewable water resources at the level of the Governorate of Kairouan, are estimated at 325 million m³ of which 316 million m³ (97%) is extracted. Surface water resources are estimated at 179 million m³ mainly from the large dams of Nebhana, El Houareb, and Sidi Saâd, with a total capacity of 330 million m³; 22 hill dams with a total capacity initially estimated at 36 million m³ (currently 30 million m³); and 72 catchment lakes with an initial total capacity of 8 million m³ (currently 5 million m³).
25. The total groundwater resources of the Kairouan governorate are estimated at 146 million m³, distributed as follows: 53.5 million m³ for the groundwater, or 39% of the global resources; 89.8 million m³ for water tables. There are an estimated 800 deep wells and about 16 thousand surface wells of which 9944 are equipped with pumps, that corresponds to an average exploitation rate of 187%. The governorate of Kairouan has 31 water tables that cover the entire territory of the governorate, whose northern tables are transboundary and shared with the governorate of Sidi Bouzid. The following table presents the main characteristics of the water tables of the governorate of Kairouan, according to the data available at the CRDA⁵.

Table 1 Characteristics of Kairouan's water tables

Code	Name	Resources (mm ³)	Extraction (mm ³)	Extraction rate	No. of wells			Salinity (RS) g/l
					Equipped	Non Equipped	Total	
64120	Chougafia	8	7,908	99%	659	476	1135	1,5 - 3
61410	Sisseb - El Alem	11	11,124	101%	927	609	1536	0,5 - 2
64210	Plaine de Kairouan	26	67,008	258%	5584	3229	8813	2 - 2,5
64220	Oueslatia	2,5	2,928	117%	244	143	387	1 - 3
61110	Aïn El Beidha	2,5	5,256	210%	438	259	697	1 - 2
62120	Haffouz-Bou Hafna	3	5,688	190%	474	322	796	0,5 - 2
62310	El Behira (Kairouan)	1	1,212	121%	101	151	252	1 - 2
63340	Aïn Bou Mourra	2	3,18	159%	265	165	430	2 - 2,5
63540	Serdja-Chaouchi	1	2,832	283%	236	212	448	1,5 - 5
63810	Aïn Djeloula	0,5	0,792	158%	66	49	115	5 - 7
63910	Hajeb-Jelma (Kair)	6	11,4	190%	950	460	1410	1,2 - 4
TOTAL		63,5	119,33	188%	9944	6075	16019	-

(Source : CRDA (A/RE))

26. There are 30 water tables that are renewed at an estimated rate of 89.8 mm³/year, they are extracted however at a rate of 110.44 mm³/year. The overall current exploitation rate in the governorate amounts to 123% and an increase since 2010 when it was 99.58%. All water tables are overexploited, with the exception of two: Ain Djeloula and El Behira, that have a rate of extraction of respectively 25% and 70%. The main consequences of the overexploitation of water resources are the:

⁵ Centre de Recherche de Développement Agricole (CRDA).

- Pronounced overexploitation of water table systems: piezometric decline, deterioration of quality, mainly the result of low precipitation levels in recent years and increased water extraction since the revolution of 2011 caused by unregulated drilling;
- High salinity of groundwater for the south and south-east of the governorate, and even the lack of water in some areas;
- Degradation of rangelands and negative impact on livestock; and
- Reduction in agricultural production and that of farmers' incomes.

Climate Change

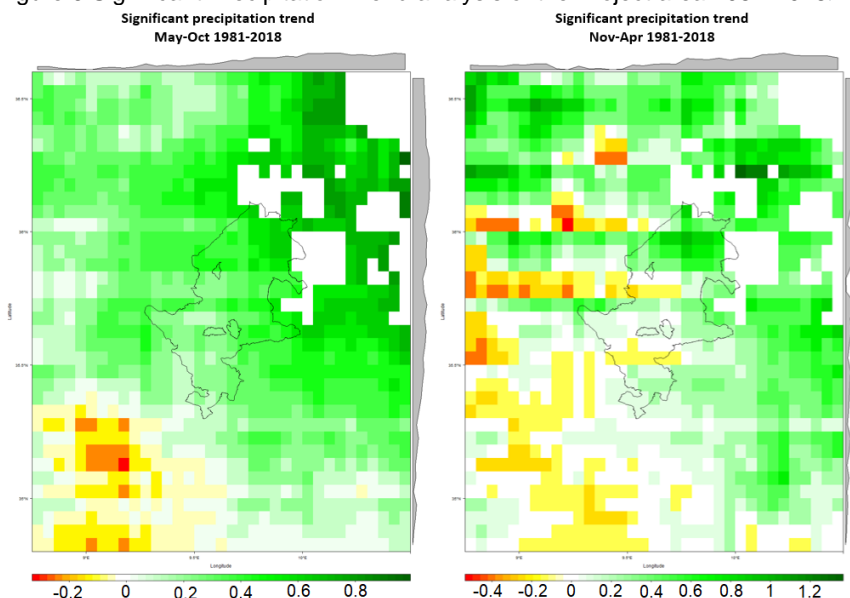
27. According to the Tunisia's Intended Nationally Determined Contribution (INDC-2015), Tunisia is considered to be one of the countries most exposed to climate change in the Mediterranean. The main risks which it is likely to confront are temperature increases, reduced precipitation, rising sea levels and escalating extreme weather phenomena (torrential rains, floods and droughts). These risks are likely to result in major environmental and socio-economic vulnerability that will particularly affect water resources, agriculture and natural ecosystems.

Historical trends

28. A series of studies at national and project level have been carried out with the CoMon software. The software uses georeferenced information layers from terrain data such as NASA and ESA satellite images and weather stations. Temperature data cover the period 1901-2017, rainfall data 1981-2018, and vegetation data 2000-2018.

29. According to the analysis, there is a significant increase in temperatures since 1901 in the project area. This increase is more important during the warm season (May-October) with 1.8% trend slope compared to 0.72% for the November-April period. There is no significant change in annual precipitation since 1981 at the level of the project area, but decrease is seen during the months of December and January and even more pronounced during May. At the end of the summer in September, there is a positive trend in precipitation. When analysing the significant precipitation trend seasonally at grid level (5kmx5km) in the figure 6 below, it appears that some areas suffer from a significant negative trend during the November-April season in the centre and south of the project area. May-October season presents a significant positive trend that is largely related to short and intense rain events happening more often during that period (see figure 7).

Figure 6 Significant Precipitation Trend analysis of the Project area 1981-2018.

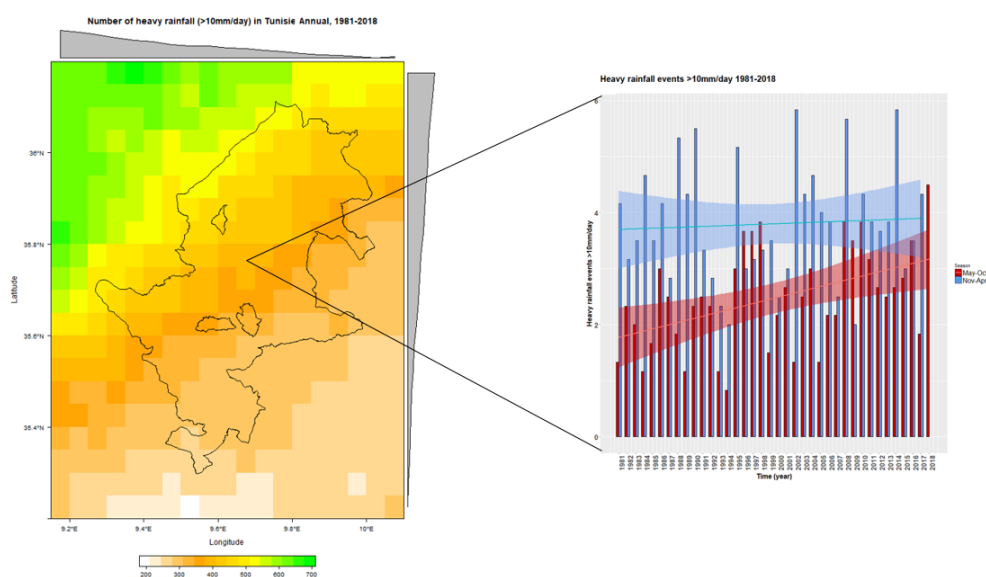


IFAD, 2019. Source: CHIRPS.

30. Geographically, there is a clear difference in rainfall between the northwest and southeast of the project area (see figure 7). The trend since 1981 is significantly positive in the north and negative in the centre and south of the project area, which means significantly more precipitation over time in the north and significantly less in the central part and south for the period November-April, hereby

exacerbating drought-related problems in arid areas. The analysis also indicates that the project area with significant negative trend of precipitation is also subject to intense rain events (> 10mm/day) and even increases during the May-October period.

Figure 7 Heavy Precipitation Events



Number of heavy precipitation events in the Project area for the period 1981-2018 (left) and disaggregated by season May-Oct (red) and Nov-Apr (Blue) (right). IFAD, 2019. Source: CHIRPS.

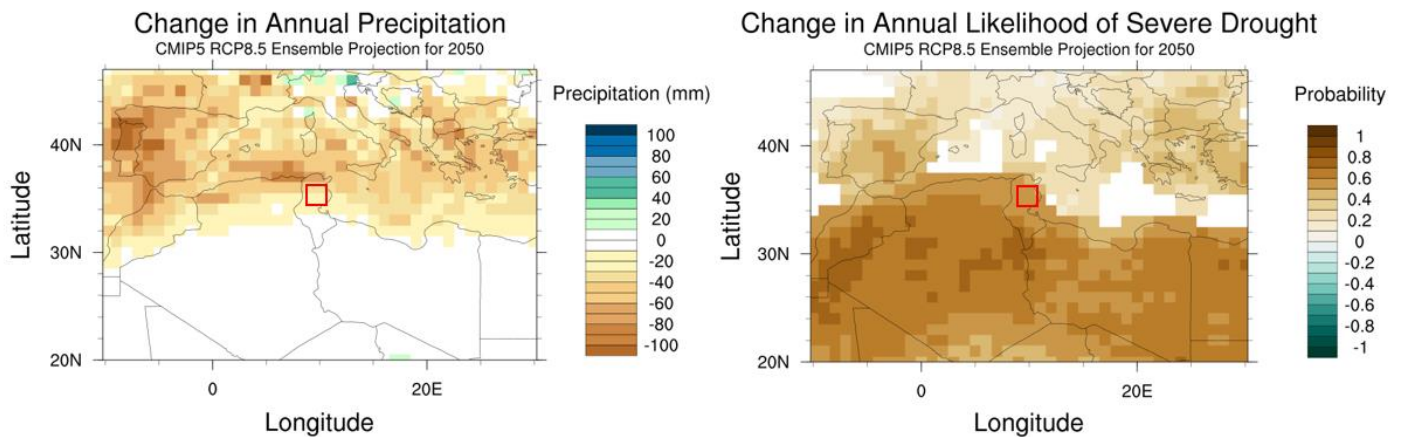
Future Projections

31. Climate projections for the project area corroborate the results of IFAD's historical trend analysis. The World Bank's analyses (figures 8) describe the projected change in monthly average, daily maximum temperatures, the change in likelihood of drought, and the annual change in precipitation by 2050 relative to the baseline period (1986-2005) for all the models used in the fifth and most recent report of the Intergovernmental Panel on Climate Change (IPCC). The climate science community sources a suite of global climate models to help decision makers understand the projections of future climate change and related impacts, among the most widely used are the Coupled Model Inter-comparison Project, Phase 5 (CMIP5) models included in the IPCC's Fifth Assessment Report (AR5)⁶. The Representative Concentration Pathways (RCP)⁷ 8.5 is taken as reference scenario because it is the most probable according to the experts.
32. Temperature is likely to increase for the whole project region. The main expected changes over historical data for 1986-2005 are as follows:
 - Annual maximum temperature is likely to increase by 1.5°C to 2.5°C by 2030 and 1.9°C to 3.8°C by 2050.
 - Annual minimum temperature is likely to rise from 0.9°C to 1.5°C by 2030 and from 1.2°C to 2.3°C by 2050.
 - The number of hot days is projected to increase by about 1.3 days per year between 2020 and 2039.
 - The duration of heatwaves is likely to increase by 4 to 9 days by 2030 and by 6 to 18 days by 2050.
 - The duration of cold spells is likely to decrease by 1 to 3 days by 2030 and by 2 to 4 days by 2050.

⁶ World Bank Climate Knowledge Portal

⁷ The RCP is a greenhouse gas concentration trajectory adopted by the IPCC for its AR5

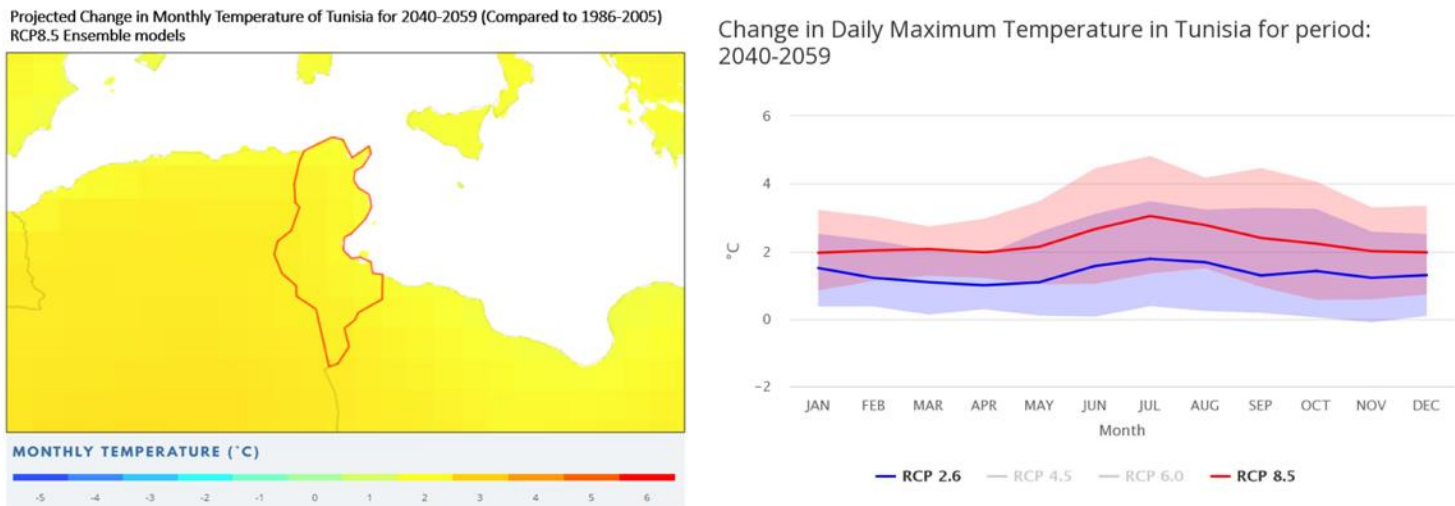
Figure 8 Change in Precipitation and Drought



Change in Annual Precipitation of Tunisia for 2050, RCP8.5 Ensemble Models (left) and Change in Annual Likelihood of Severe Drought for 2050, RCP8.5 Ensemble Models. Source: World Bank Climate Knowledge Portal

33. The temperature is expected to follow similar trend as in the past with increases especially during the summer months. All models project a likely decrease in overall precipitation by 2050, with most projecting a minimum decrease of around 4% and maximum decrease varying from 7% to as much as 22% (see figure 8). The duration of dry spells is likely to increase by 1 to 21 days by 2030 and by 1 to 30 days by 2050 and annual rainfall in the centre of the country and in the project area will tend to decrease by 2050. The decrease in precipitation will be accompanied by an anticipated increase in the frequency and intensity of droughts and torrential rainfall events in accordance with the past trends (see figure 9).

Figure 9 Monthly and Maximum Temperatures



(Projected Change in Monthly Temperature of Tunisia for 2040-2059 (Compared to 1986-2005) RCP8.5 Ensemble Models (left) and Change in Daily Maximum Temperature in Tunisia for the 2040-2059 period. Source: World Bank Climate Knowledge Portal)

Climate Change Impacts

34. Tunisia is facing decreases in rainfall in some of its regions and is expected to face even more difficulties in the coming years. According to the Ministry of Agriculture, Water Resources and Fisheries (MAWRF) and the General Directorate of Water Resources, water tables are overexploited especially in the north and the centre of the country where the Project is taking place, mainly the result of low precipitation levels in recent years (2015-2017) and increased water extraction since the revolution of 2011 caused by unregulated drilling (unauthorized wells and boreholes).

35. Tunisia will be among the 33 countries most likely to experience water stress (or water scarcity) by 2040⁸ and lose more than 80% of its non-renewable water resources. In addition, following the projected rise in sea level, losses from salinisation of coastal water tables may affect about 50% of current resources by 2030, or nearly 150 million m³.
36. According to the INDC, 2015, Tunisia, which is already experiencing water stress, will see the situation worsen as a result of climate change. It is expected that conventional water resources will fall by around 28% by 2030; the decrease in surface water will be around 5%. The recharge of the water tables in Kairouan depend mainly on the precipitation regime and on the capacity of the soil to collect that water. The level of those water tables are also linked to water pumping (legal and illegal) and to the ability of the regional government to manage the resource. As shown in figure 11, the decrease of the water table level is evident since 1969 because of water pumping but some increases or plateau can be observed in figure 11 when the precipitation regime was higher. Climate Change and the expected decrease in annual precipitation will worsen the situation of the water tables in the governorate if adaptive action is not taken.

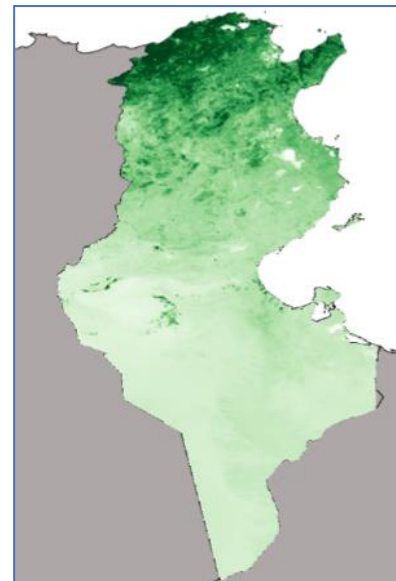
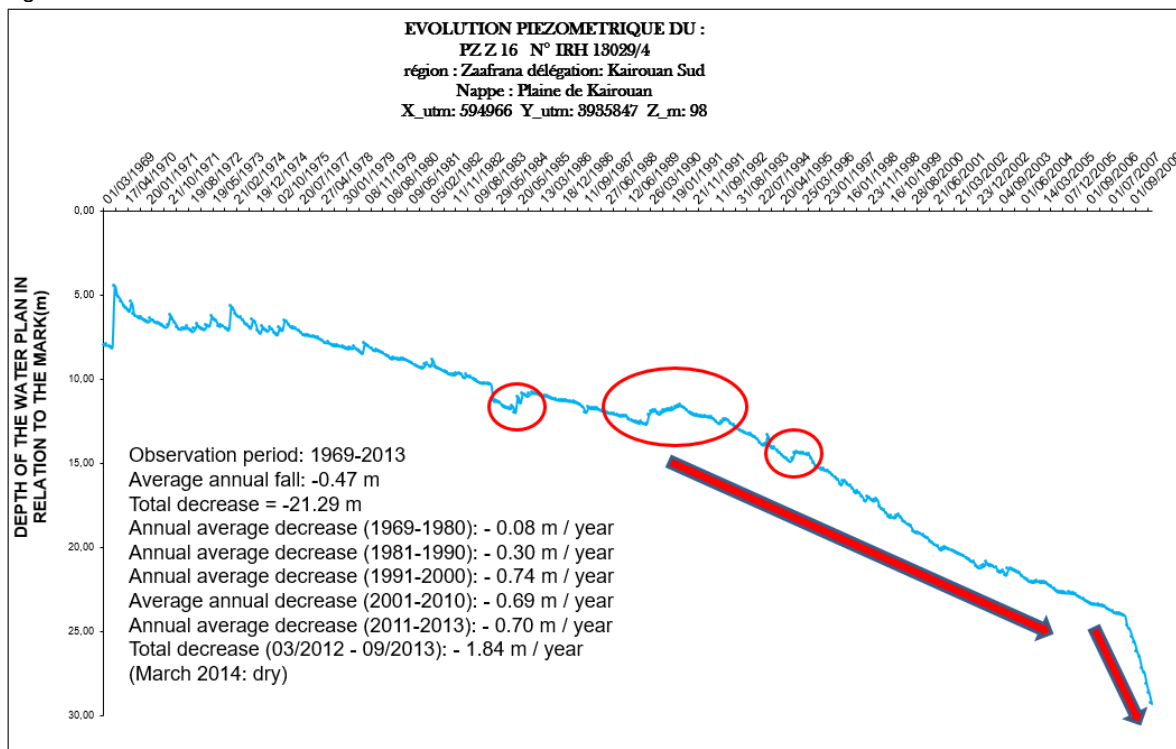


Figure 10 Vegetation Index (NDVI) in Tunisia, February 2018 IFAD.

Figure 11 Piezometric evolution of the South Kairouan water table 1989-2014



Forest and Natural Habitat

37. Major effects of climate change can be observed in forests and pastoral ecosystems. As temperatures and flammability of biomass increase, the risk of large forest and bush fires also increases. According to the INDC - 2015, 180,000 hectares of forest will be lost by 2030 in the country. In the north and centre of the country, such a risk will affect the availability of water resources, as well as the population and its heritage.
38. Modelled projections of future climate identify a likely increase in the frequency of fire occurrence in Kairouan, including an increase in temperature and greater variance in rainfall. Wildfire hazard is

⁸ World Resources Institute : <https://www.wri.org/blog/2015/08/ranking-world%E2%80%99s-most-water-stressed-countries-2040>

classified as high according to the Think Hazard platform⁹. This means that there is greater than 50% chance of encountering weather that could support a significant wildfire that is likely to result in both life and property loss in any given year. Based on this information, the impact of wildfire must be considered in all phases of the project, in particular during design and construction. Project planning decisions, project design, construction and emergency response planning methods should take into account the high risk of wildfires. The full design will check with local authorities for any local regulations concerning wildfire hazard and will ensure that the project conforms to 1) any applicable wildfire land use planning regulations; 2) any applicable building regulations 3) any existing plans for warning and evacuation; and 4) any national laws, regulations and rules.

Agriculture and Soil

39. According to the INDC¹⁰, droughts caused by climate change will particularly affect rainfed cereal crops, which are expected to decrease from a current average of 1.5 million hectares to about 1 million hectares in 2030, a reduction of about 30%. This would lead to a reduction of agricultural GDP from 10 percent to 5 percent by 2030. In the event of successive extreme droughts, the areas devoted to cereals and (central and southern parts of the country) will decrease by 200,000 and 800,000 hectares respectively. Finally, the herd sizes are expected to decrease by about 80% in the centre and south and by 20% in the north, due to the loss of hilly grazing areas.
40. The steppe ecosystems of the centre of the country (including Kairouan) will see their pastoral function decline because of Climate Change. Herds will fall back into the hilly northern grazing areas, which will further increase their numbers and increase the extent of overgrazing. If no measures are taken to improve the production of rough grazing areas and water management, the steppe ecosystems will have stopped by 2050. A monthly vegetation index analysis at the national level has been carried out by IFAD¹¹ (see figure 12 above) and could be used to geographically identify areas at risk.
41. According to the World Bank¹², Tunisia's agriculture sector is endangered by sea level rise and variability in temperatures and precipitation, which may lead to decreased crop yields, increased water scarcity, reduced water quality, and changes in growing season. The majority of Tunisia's agricultural production occurs in coastal zones, which are expected to experience significant sea level rise by the end of the century. This can increase the possibility of saline intrusion into coastal water tables, making this region particularly vulnerable to a decrease in the quality of water available to irrigate crops in coastal areas.
42. **Soil salinity** may also occur due to increased evaporation. Increasing temperatures can prevent crops from reaching maturity due to lack of adequate moisture in the soil. Floods and droughts are expected to occur more frequently, which may result in crop losses and food insecurity. These climate risks will likely have a negative impact on crop yields, mainly wheat, barley, and irrigated potatoes. Overall, Tunisia's economy is projected to suffer a reduced output of \$2 billion to \$2.7 billion between 2000 and 2030 (equivalent to 4.7- 6.4% of GDP in 2016) due to the combined effects of increasing global food prices and decreased crop yields (USAID, 2018).
43. **Desertification** is a slowly creeping phenomenon in the governorate of Kairouan. In general desertification implies decrease in some significant meteorological and agricultural quantities such as rainfall, vegetation coverage, surface water extensions, groundwater level drops, and crop yields. On the other hand, increase in temperature, sand coverage, drought coverage, urban area expansion, and sedimentation also imply desertification. A common misconception about desertification is that it spreads from an arid region such as a desert core. Land degradation can and does occur far from any arid region. Desertification begins usually as a spot on the land, where land abuse has become excessive. A second misconception is that droughts are responsible for desertification. Droughts cause increase in the likelihood that the rate of degradation will increase on non-irrigated land if the carrying capacity is exceeded. However, well managed land will recover from droughts with minimal adverse effects when the rainfalls return. The deadly combination is land abuse during good periods and its continuation during periods of deficient rainfall.¹³ Climate Change projections will worsen the

⁹Think Hazard Platform : <http://thinkhazard.org>

¹⁰ Intended Nationally Determined Contribution (INDC), August 2015
<https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Tunisia/1/INDC-Tunisia-English%20Version.pdf>

¹¹ IFAD Tunisia's COSOP 2018

¹² <https://climateknowledgeportal.worldbank.org/country/tunisia>

¹³ Sen, Z. (2008). Wadi Hydrology. CRC Press, Taylor & Francis Group.

current situation as drought will become more frequent. Measures need to be taken to improve land and water management in the governorate.

44. **Erosion.** Land with a slope greater than 10% is spread over 5.2% of the project area (see figure 13 below). These sloping lands are represented by the mountain range forming the crest of Jebel El Ballout, Djebel Zaghdoud, Djebel Zabbous and Djebel Oueslat, the ridge of Jebel Esserj and Kef Ashargui and the overcrowding of the Sidi Saad dam. The steep slopes, in the absence of a dense vegetation cover, are the most exposed to water erosion, which results in superficial topsoil stripping, generalized and hierarchical gully erosion and bank failure. In addition, the eastern part of the project area is dominated by lowland terrain, subject in some cases to remarkable wind erosion.

45. Unfavourable conditions occur in foothills where the geological formations are relatively soft and the soils they cover are fairly loose, which has caused a strong erosive dynamic in these areas. Resilient rock reliefs allow for the collection and concentration of runoff water in steep talwegs that lead them to the wadis by causing gully erosion on the slopes and riverbanks at the wadis. For mountains and hills with soft geological formations (clays and marls), erosion is very strong and is characterized by a generalized and hierarchical gully. Much of the land cultivated in the project area is located on a slope and is mostly pastoral. They are often severely degraded and their agricultural potential is rapidly deteriorating mainly because of the reduction of the topsoil and, consequently, of the decrease of water reserves in soil that is more and more eroded. The increase in heavy precipitation event and temperature will exacerbate this deterioration of top soil and increase erosion.

Figure 12 Slopes in degrees

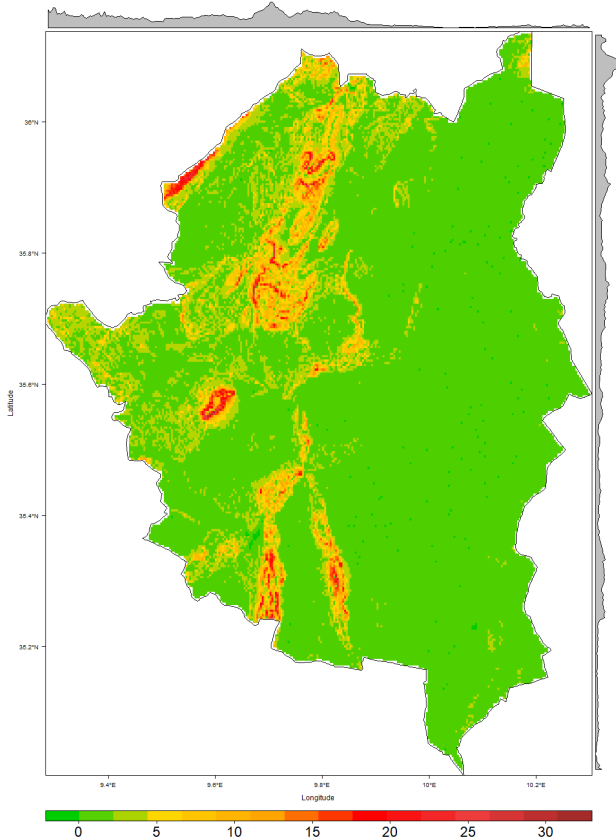
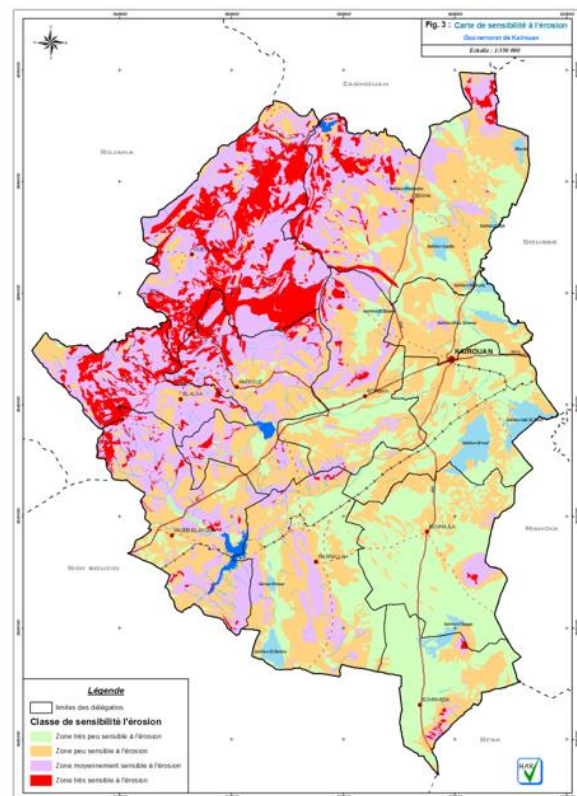


Figure 13 Erosion sensitivity in the governorate of Kairouan



Source: NASA and CRDA.

Project Upscaling and Lessons Learned.

47. The IESS and IESS projects upscale and build upon a previous USD 7.8 million project by the African Development Bank (AfDB) in the governorate of Kairouan, the Kairouan Integrated Agricultural Development Project (IADP)¹⁴, and implemented by the Regional Office of Agricultural Development (*Commissariat Régional de Développement Agricole* – CRDA). The IADP was designed as part of the Tunisian Government's strategy to improve incomes and improve the living conditions of farmers, with the objective to promote sustainable agricultural development through the development of agricultural infrastructure, participatory development and institutional strengthening of the administration and beneficiary organisations. Following the completion of the IADP project, an impact assessment was conducted by the National Centre for Agricultural Studies (*Centre National des Etudes Agricoles* – CNEA). The CNEA also conducted a study providing detailed government approved plans identifying the needs and priorities for upscaling. The CNEA study produced participatory development plans (*Plans de Développement Participatifs* – PDP) for 25 administrative sectors of the Kairouan governorate and have been the result of detailed participatory consultations with the rural poor smallholders. The PDPs are the result of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis from which lessons were drawn. The IESS and IESS-Adapt have based the projects on the PDPs while also improving upon them and extending them to an additional 10 sectors.
48. The PDPs identified specific areas of action and improvements. Some of the lessons learned from the IADP include the need to upscale the IGAs with the involvement of Microfinance NGOs to help ensure greater access to rural finance for the most vulnerable women and youth. The involvement of IGAs in the sustainable management of degraded and vulnerable lands as a form of livelihood have also been identified by CNEA and which the IADP did not fully explore. Other recommendations included ensuring a programme to closely follow the progress of the neediest families as they have tended to drop out due to a lack of monitoring and coaching; the CNEA study also recognises that the irrigation infrastructure in the Irrigated Perimeters (IP) is old and leaking and needs to be renovated to reduce the stress on already over exploited water tables. The GDA has also been identified for requiring more training in infrastructure operation and maintenance, as well as all actors involved in irrigation to need to receive training on the proposed development plans for each IP.

Targeting and Targeting Strategies

49. **Geographic targeting.** The regional development index shows that the Governorate of Kairouan occupies the second to last place among the 24 governorates of Tunisia with an average poverty rate of 33%. The population of the selected area represents nearly 252,000 people in more than 49,000 households or 44% of the population of the Governorate. There are 7,200 'families in need' ("familles nécessiteuses"), 21,000 low income families and 22,000 smallholders. The Governorate is divided into a relatively prosperous area of plains in the east, and an area of hills, where the development indices are lower. The latter is situated between 200 and 500 meters of altitude to the west where the Tunisian ridge, a mountain range culminating at 1,355 meters in altitude, marks the border with the Governorate of Siliana.
50. The project will focus mainly on the rural areas of the hills where the regional development index is below the average of the Governorate and the level of poverty is higher on average. The remote geographical characteristics lead to increased isolation and pockets of poverty where access to basic services (connection to drinking water, sanitation, electrification) is limited or non-existent. The youth unemployment rate is relatively higher and rural women face difficult work situations due to long and uncomfortable journeys. As described above, violent rainfall events on unmanaged slopes are the main cause of erosion and drastic soil fertility decline, and do not allow for the optimal water replenishment of soil and underground water tables.

Target group.

51. The Adaptation Fund specifically targets the poorest communities that are also the most vulnerable to climate change. To this end the targeting for the IESS-Adapt will be fully aligned with the larger IESS project. IESS-Adapt will target 9,600 households, its targeting strategy is fully integrated into that of the IESS and its priority target groups are divided into three categories:

- (i) Members of 'families in need' (FIN) and limited income families (LIF), as defined by the government (including the elderly, persons with reduced mobility, and persons with disabilities);

¹⁴ <https://projectsportal.afdb.org/dataportal/VProject/show/P-TN-AA0-007>

- (ii) Small family farms of not more than two ha in irrigated land and less than 20 ha in dry land, practicing extensively sedentary farming.
- (iii) Farmer cooperatives (SMSAs) and farmer-level water management bodies (GDA) will also be targeted to support the FIN in the value chain and the latter for improved water management skills.

52. The project plans to support around 1100 FIN and LIF in category 1; 3500 as part of the Irrigated Perimeters in category 2 (although this can include LIF); and 31 GDAs and 30 SMSA will also be trained (co-financed with IESS) as part of category 3. While the Adaptation Fund targets those most disproportionately vulnerable to climate change, the economic and trade interdependence between the actors of the value chain may mean the project will need to work with a limited number the "less poor" (e.g. in SMSAs or SMEs) to develop partnerships for example in supplying raw materials (organic fertiliser) but also in acting as middlemen/women in linking farmers with food processors and marketers - this will also create new jobs for women the youth. AF involvement in the latter will be limited to supporting training where it will strengthen climate change adaptation mainstreaming and gender sensitisation.

Targeting strategy.

53. The project area will cover 40 administrative sectors divided into 7 delegations located in the western half of Kairouan Governorate. These delegations and sectors were selected initially as part of the PDPs developed in upscaling the AfDB project and subsequent CNEA study. The selection criteria for IESS and IESS-Adapt is one primarily of poverty (where at least 63% will be poor households), isolation, difficulty of access to water and climate vulnerability. The project will work in these rural sectors, with Families in Need (FIN) and Limited Income Families (LIF) as officially recognised and registered with the Directorate of Social Affairs.

- i. **Specific geographical targeting:** The project will work in pockets of poverty, characterized by a high concentration of poor or high poverty rates, isolation situations and high vulnerability to climate change and environmental degradation.
- ii. **Graduation:** The central idea is to give the poorest a "guiding hand" to get them out of the poverty trap while taking into account a specific sequence of intensive actions within a specified time frame. Target groups will benefit from a range of individual (literacy, training, IGA, mentoring, coaching, etc.) and collective support (opening up, access to services, etc.) which will then enable them to benefit from the activities of component 2 of the IESS that will add value to the value chain and provide access to the market, dedicated to smallholders as beneficiaries, individually or collectively.
- iii. **Direct Targeting:** 'Families in need' and those with limited incomes will be directly targeted in the in outcome 1.2 in the form of training, literacy sessions, IGAs coaching and mentoring.
- iv. **Self-targeting measures:** IGAs will be designed with the participation of the target groups themselves, taking into account their needs, livelihood challenges and promising pathways with a focus on climate change adaptation (off-farm activities and activities that contribute to the environmental stabilisation of degraded and vulnerable and eroded lands).
- v. **Empowerment and Capacity Building Measures:** Targeted capacity-building and self-confidence measures will be applied to empower those who traditionally have few means of expression and power, and encourage more active participation in planning and decision-making. The use of GALS approach will be key in this regard.
- vi. **Outreach / mobilisation.** The project will create an enabling environment for the inclusion of the poorest, women and youth in the development of value chains. As part of outcome 1.2 it will aim to inform and communicate as widely as possible the objectives of the project in terms of target groups using the different media available. Subsequently, awareness of the actors of the sectors at different levels (delegations, sectors) will be developed through capacity building.

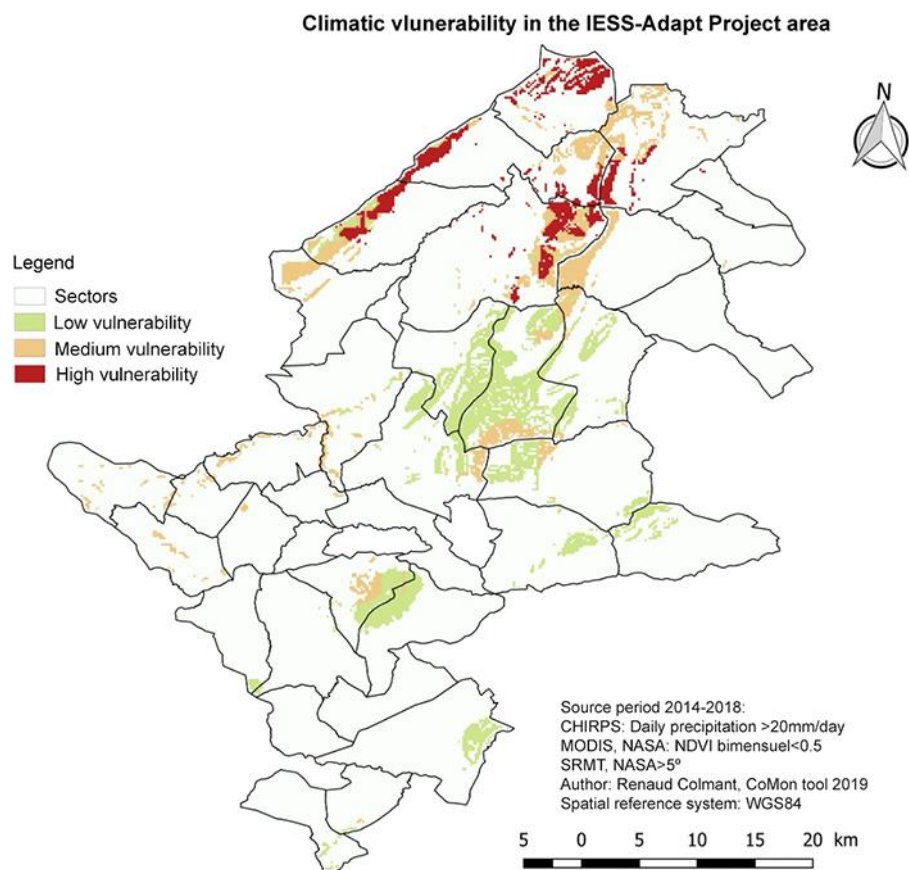
Climate-proofing Roads Targeting Strategy

54. The selection criteria IESS activity to rehabilitate 80 km of roads is primarily based on the PDPs that resulted from the upscaling of the AfDB project through the CNEA research. IFAD will review and carry out feasibility studies that will include cumulative impact assessments and ensure all construction is in compliance with national environmental regulations. IESS-Adapt however will not be creating new roads, this project will limit itself to ensure that the rehabilitation / construction of roads under IESS are climate proofed to improve sustainability and to withstand increases in torrential rain

intensity and frequency (despite an overall trend in reduced precipitation levels). The sections of roads that will be reinforced will be determined by a selection criteria aimed at climate vulnerability targeting. IFAD has as part of its climate risk analysis created a climate vulnerability map presented below and combines i) NDVI levels; ii) patterns of rainfall intensity; and iii) slope angle. This map will be used for the geographical road climate-proofing targeting of areas at high, medium and low climate vulnerability risk. This map was created by analysing the data from:

- I. **The normalized difference vegetation Index (NDVI):** Data has been obtained from MODIS, NASA with a resolution of 250m at 2-week intervals, with a total of 125 satellite images for the 5-year period. The threshold is set at NDVI <0.5, when vegetative cover is less and vulnerable to the extreme weather.
- II. **Daily precipitation levels:** Data has been obtained from CHIRPS with a 5km resolution and daily intervals, with a total of 1826 satellite images for the 5-year period. After discussions with national experts the design team set the threshold of what is considered an intense rainfall event at 20mm / day.
- III. **Slope:** Data has been obtained from SRMT, NASA with a resolution of 250m. The threshold for a moderate slope that can increase the flow of water and cause erosion is set at > 5 °.

Figure 14 Climate vulnerability analysis of project area.

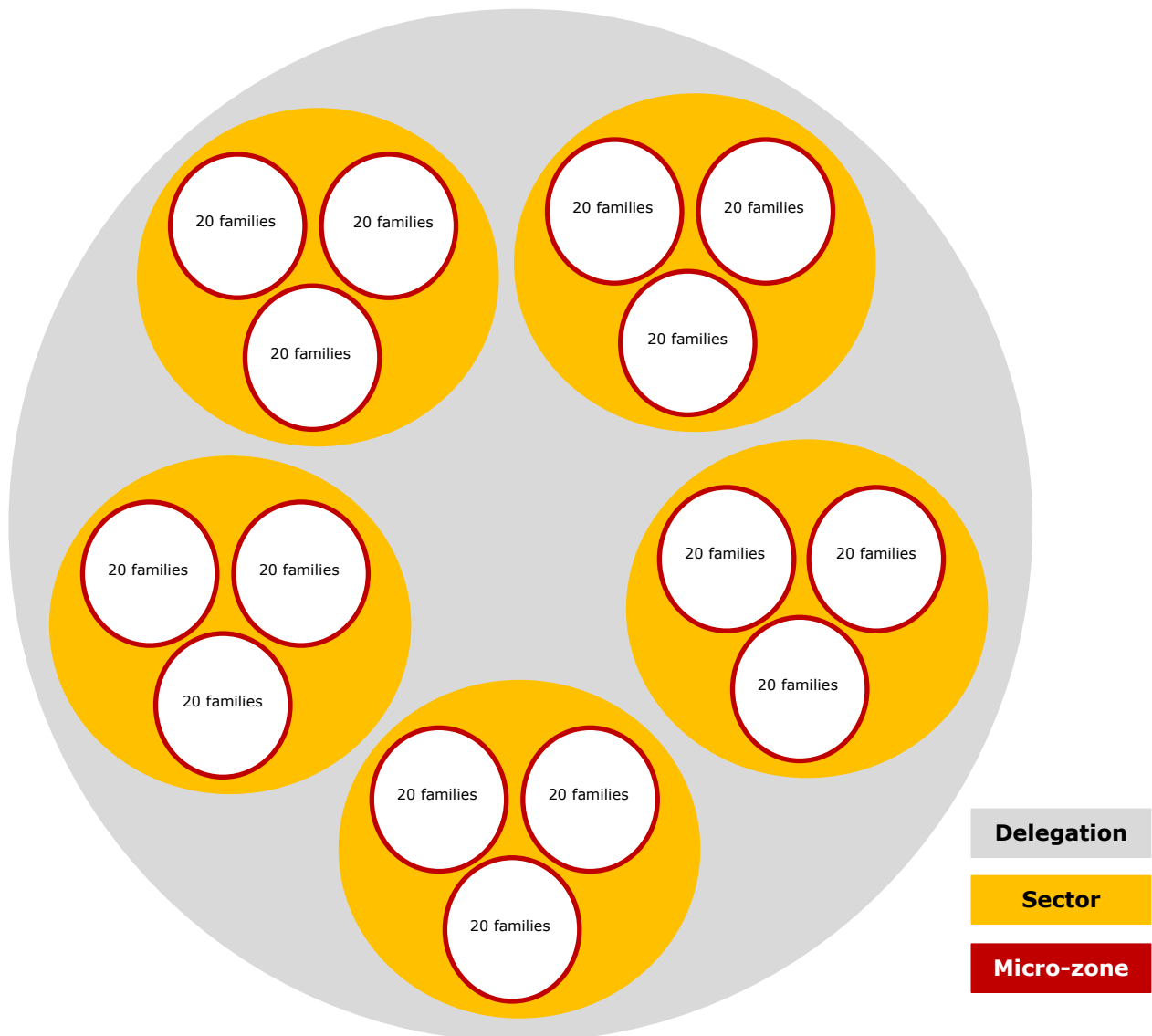


Graduation Targeting Strategy

55. The targeting of the graduation programme will be the primary means through which the most vulnerable IESS-Adapt beneficiaries will be identified. The sole focus of the graduation approach is to help lift the most vulnerable out of poverty through a five-pillar approach and the way it will identify the most vulnerable will primarily be through the government list of Families in Need (FIN) and Limited Income Families (FIN) provided by the Regional Directorate for Social Affairs (DRAS). This will be accompanied with a brief verification survey carried out at the beginning of the project to check whether the data correspond to the reality on the ground.

56. In the project implementation area, three micro-areas with a high concentration of poverty (according to the FIN mapping) and severely affected by land degradation (as indicated on the national land degradation maps in mountainous areas of Kairouan) will be selected by sector. Each micro-zone will contain about 20 needy families (and 40 low-income families). Micro-zones with the largest number of households headed by women and unemployed youth. The use of micro-zones will help to avoid geographical dispersion.
57. All FIN within the micro-zone, with at least one active member of the household, will be able to participate in the "graduation" program. While the AF will focus its efforts on mainstreaming climate change and sustainable environmental management as this is a fundamental aspect of the lifting the rural poor out of poverty, IESS-Adapt is fully integrated into IESS and its beneficiaries will benefit from other IESS initiatives. All micro-zone LIF will therefore benefit from one to a number of interventions in the IESS element of the graduation" program, such as access to water and community awareness (for example, nutrition education, links to telecentres and pre-school education centres).
58. Grievance mechanisms will be included in the targeting to ensure that community members have a way to challenge the selection of households targeted by mistake. Grievance mechanisms will also be a means of correcting errors of inclusion or exclusion, independently investigating complaints and adjusting the list of targets accordingly.
59. The figure below shows the number of families, the number of micro-zones and the number of sectors by delegation.

Figure 15 number of micro-zones and the number of sectors by delegation.



Gender Strategy.

60. In order to promote gender equality and empower women, the project will aim to (i) promote economic empowerment; (ii) enable women and men to have equal voice and influence in rural institutions and organisations; and (iii) achieve a more equitable balance between women and men in the distribution of work and economic and social benefits. The project will challenge social norms that perpetuate inequalities between men and women.
61. IESS and IESS-Adapt will develop women's economic empowerment through access and control of productive assets and the home. To undertake productive activities, efficiently and effectively, women will have access to and access to assets - inputs, technology and finance (through IGAs - with 65 percent going to women - and support for GDA and SMSA), and will benefit from stronger links with profitable markets through the IESS project. They will also have access to economic services - extension, training, business activity - and the possibility of having "decent work". Training will be adapted to the needs of women and the use of extension agents and female leaders will be encouraged.
62. Importantly, to sustain their interest and motivation to participate in economic activities, they will need to have access to the fruits of their labour, especially the income and fair remuneration of their work. Using the GALS¹⁵ approach will help women gain more weight in the use of household income or assets.
63. For rural development products to be effective and sustainable, women need to have a stronger voice and influence in decisions affecting their lives. IESS and IESS-Adapt will also strengthen and ensure the representation and participation of women in local decision-making bodies. While awareness campaigns will be organised to increase the number of women in the GDAs and SMSAs, leadership training will also be given to encourage more women to hold leadership positions in these organisations. Similarly, women's groups and organisations will be supported to network the sharing of experience and advocacy. Each GDA and SMSA will have a gender and youth inclusion strategy with indicators for monitoring implementation.
64. The contribution of women to decision-making within the household or the community must be valued alongside that of men. The use of the GALS approach will also be very important in this regard. Literacy classes will help to counteract discriminatory factors against women and unequal power relations by giving women access to other places of information and education, allowing informed decision and creating opportunities for income generation and socialization.
65. The project will also address the third objective of IFAD's policy on gender equality. As such, IESS Kairouan will reduce women's workload and achieve a fair balance between the workload of women and men. Specifically, access to infrastructure and basic services such as water supply and roads will be improved. Improved access to water sources will free up time for household work such as food preparation, and facilitate the sharing of roles and responsibilities between women and men.
66. It is also important to fight for greater gender equity in the distribution of work within the household and in the sharing of economic and social benefits. Again, using the GALS approach will be very helpful in solving this problem. Awareness campaigns for women, men, communities and leaders of gender-based violence will be conducted.
67. IESS and IESS-Adapt aim to test the graduation model and engage in a policy dialogue on how to help very poor families escape extreme poverty. The attention that this approach gives to the gender issue will be an important dimension of the discussions. Data generated by the use of the Women's Empowerment Index in agriculture will also be very useful in this regard.

Youth Strategy

68. In order to promote the social and economic inclusion of young people, the project will aim to (i) promote their economic empowerment; and (ii) enable young people to have equal voice and influence in rural institutions and organisations. At least 30 percent of the beneficiaries will be young people. Special attention will be given to young women.
69. The project will develop youth economic empowerment through access to productive assets and links to profitable markets. Fifty percent of the alternative IGA beneficiaries will be young people, but will also have access to inputs, technology and finance as members of GDAs and SMSAs. Through their involvement in the larger IFAD projects, they will also have access to markets.

¹⁵ the GALS approach is further explained in annex 3

70. Through the GALS approach IESS and IESS-Adapt also aim to increase the representation of young people in household and political processes, and to promote the importance of giving young people a decision-making role. This will be done by encouraging more young people to join GDA and SMSA, but also by putting in place a youth inclusion strategy for each organisation. Leadership training will be provided for young people so that they can, over time, occupy positions of responsibility in the different institutions. The use of the GALS approach will also facilitate their participation in decision-making at the household level.

B. Project Objectives:

71. This Adaptation Fund funded integrated natural resource management and livelihoods project will help ensure sustainable land management and improve the climate resilience of the rural climate vulnerable poor. The goal of the project is to contribute to poverty eradication in the Kairouan region through providing the rural poor the means to adapt to climate change through sustainable environmental management and livelihoods. The project will protect against the negative climate change impacts by simultaneously improving ecosystem functions, promoting sustainable land management (SLM) and protecting rural climate vulnerable livelihoods. The immediate objective is to increase household incomes through SLM practices such as reducing water losses, encouraging groundwater replenishment; reducing damage to productive land and rural transport infrastructure from the increased prevalence of damaging torrential rain; decreasing water insecurity; and introducing drought resistant agricultural technologies and alternative climate-proofed livelihood schemes.

Objective:

72. The overall objective is to improve the climate resilience of vulnerable ecosystems, vulnerable populations and the livelihood infrastructure of the rural poor in the Kairouan region.

73. The project's immediate objective will be achieved through the following three outcomes or "components".

- i. Access to basic services and strengthening of livelihoods.
- ii. Sustainable value chains through climate resilient water infrastructure.
- iii. Knowledge management.

C. Project Components and Financing:

Table 2 Project components and financing

Project/Programme Components	Expected Outcome	Outputs (Adaptation Fund contribution)	Contribution of the Adaptation Fund (US\$)
Component 1 Access to basic services and strengthening of livelihoods	Outcome 1.1 Modernized and resilient basic social infrastructure	Output 1.1.1 Climate-proofing of 50 km of rural access roads	1,650,000
	Outcome 1.2 Strengthened capacity and climate proofing vulnerable rural households	Output 1.2.1 The most climate vulnerable and rural poor (2,100 FIN and 4,200 LIF - 65% women, 50 % youth) are identified.	42,600
		Output 1.2.2 Training and capacity building program implemented (2,100 FIN and 4,200 LIF - 65% women, 50 % youth.)	185,000

Project/Programme Components	Expected Outcome	Outputs (Adaptation Fund contribution)		Contribution of the Adaptation Fund (US\$)
		Output 1.2.3	400 beneficiaries have developed new climate-resilient income-generating activities (65% women 50% youth).	1,000,000
			400ha of dry, vulnerable and degraded land stabilised with cactus plantations (400 beneficiaries)	340,000
Total Component 1				3,217,600
Component 2 Sustainable value chains through climate resilient water infrastructure.	Outcome 2.1 More resilient productive infrastructure and stewardship of natural capital	Output 2.1.1	300 seasonal water reservoirs ("citermes enterrées") are constructed (total capacity 15,000 m ³) minimum 65% women.	2,130,000
		Output 2.1.2	Water losses reduced by ~40% (1,211,840m ³ of water saved per year) on 321 ha of existing irrigated perimeters and 448ha from 6 water pumping stations modernised for more efficient water distribution.	1,995,000
		Output 2.1.3	Infiltration of runoff into groundwater reserves is increased by 45 purpose-built and rehabilitated structures ("ouvrages de recharge") in seasonal water courses	560,000
		Output 2.1.4	7 additional groundwater monitoring stations installed in key locations	168,000
	Outcome 2.2 Farmer and farmers organisations capacity strengthened.	Output 2.2.1	Service providers and producer organisations trained.	140,000
		Output 2.2.2	Adaptive technologies are demonstrated 14 demo plots are established and around 3500 farmers trained in climate adaptive agricultural techniques.	313,333
Total Component 2				5,306,333
Component 3 Knowledge Management	Outcome 3.1 Knowledge is generated and disseminated	Output 3.1.1	Groundwater recharge study undertaken	25,000
		Output 3.1.2	Impact study of using cactus as an indigenous means of consolidating degraded and vulnerable land.	25,000

Project/Programme Components	Expected Outcome	Outputs (Adaptation Fund contribution)	Contribution of the Adaptation Fund (US\$)
		Output 3.1.3 Kairouan-wide climate risk agricultural land survey conducted.	70,000
		Output 3.1.4 Farmers / Adaptation Fund beneficiary stories recorded and CCA educational video clips broadcast on TV and social media; radio programmes produced; posters, leaflets produced.	40,000
Total component 3			160,000
Project Subtotal			8,683,933
Project Execution Cost			530,067
Total Project Cost			9,214,000
Project Management Implementing Entity Fee			783,190
Amount of Financing Requested			9,997,190

Projected Calendar:

Table 3 Project Implementation Milestones

Milestones	Expected Dates
Start of Project Implementation	June 2021
Mid-term Review (if planned)	June 2023
Project/Programme Closing	June 2026
Terminal Evaluation	December 2026

PART II: PROJECT JUSTIFICATION

A. Project Components

74. This proposed IESS-Adapt project is fully integrated into the IFAD "*Insertion Économique, Sociale et Solidaire dans le Gouvernorat de Kairouan*" (IESS) project. The Project aims to build the resilience of vulnerable ecosystems and that of the vulnerable rural poor to climate change in the mountains and foothills in Western Kairouan Governorate. It will achieve this by climate proofing rural infrastructure; strengthening the capacity and resilience of rural communities to adapt to climate change; improving sustainable Natural Resource Management (NRM) to make more sustainable use of limited natural resources in view of an increasingly harsh climate; and strengthening farmer organisation's climate adaptation capacity.

Component 1: Access to basic services and strengthening of livelihoods (USD 3,217,600)

Outcome 1.1: Modernized and resilient basic social infrastructure

75. Adaptation gap - In Tunisia climate events such as torrential rain used to be considered rare events and have become more frequent, to the extent of being considered the new normal. The livelihoods of the rural poor depend on functioning road networks particularly in large parts of the project area that are relatively isolated and beyond the reach of the main road network. The maintenance of rural roads by the Governorate-level Infrastructure Division ("Division de l'Équipement") are based on assumptions regarding the environmental stressors the roads are exposed to that are being challenged by climate change. The increased frequency and intensity of storm events in the hills and mountains of the project area are causing significant damage to the structure of the roads by way of damaging the underlying and surrounding soil structure. The increased damage is directly related to the increased surface runoff that is overwhelming existing drainage capacity of channels, culverts, fords and bridges. To help build climate resilience into the livelihoods of the rural poor, the project will do the following.

Output 1.1.1- 50km of rural access roads are climate-proofed.

76. In response to the PDP plans, IESS will be constructing and rehabilitating 80 km of roads. The project will undertake the climate-proofing of 50 km of rural roads that have been damaged in recent years and are identified as critical to the well-being and livelihoods of target beneficiaries. The Adaptation Fund contribution through IESS-Adapt will increase the longevity of the IFAD investment by covering the cost of ensuring that roads are able to adapt to increased risk caused by more frequent torrential precipitation events. This will be achieved through design improvements such as: wider and reinforced ford crossings; concrete-lined drainage channels; increased capacity of culverts; road surfacing with local calcareous tuff and reinforcement of the surrounding earth road structure with gabions to prevent bank failure. The proposed structures will be defined in detailed technical studies conducted by the project and based on which construction firms will implement. This will ensure the quality of construction and their long-term sustainability.

Selection criteria for road climate proofing. The project will climate proof existing and new roads with the objective to i) ensure the sustainability of the track allowing the continuity of the economic and social life of its beneficiaries; and ii) protect the natural environment (including agricultural land) from gullying and bank failure due to heavy rain. It will do this by reinforcing specific sections of roads depending on the slope angle and severity of the risk, stabilising the slopes of sections of road against water erosion through the collection and disposal of runoff water that would otherwise damage the surrounding natural environment. The interventions will be selected based on a specific points-based selection criteria as detailed below, this will include: i) geographical selection that will determine the areas of high climate risk as identified in figure 14 and is based on slope angle and rainfall intensity; ii) the slope angle; and iii) the risk of bank failure and gullying. A cumulative score will be made with the proposals achieving the highest score being selected.

C1: Climate vulnerability assessment as per the climate vulnerability map created for the project area.

	High vulnerability	Medium vulnerability	Low vulnerability
Points	3	1	0

C2: Slope angle

	Steep	Medium	Shallow
Angle	$\geq 15\%$	$5 \leq P < 15\%$	$< 5\%$
Points	3	1	0

C3: Risk of bank failure / gullying

	High risk	Medium risk	Low risk
Points	3	1	0

77. The CRDA as a government agency has broad experience in rural access road construction. Based on this experience the design team in close consultation with CRDA engineers developed the procedure for road construction and detailed them in the Project Implementation Manual (PIM), they are summarised as follows.

78. **Technical Studies and Construction Permit:** The contract for the delivery of the technical studies by a qualified design consulting firm that is required to secure the construction permits, will be publicly tendered. This process will be closely supervised by engineers specialised in road infrastructure from the CRDA the control office. The content and submission procedures of the technical drawings are governed by legal Decree n ° 87-654 (April 28, 1987) and explained in more detail under section II – E of the proposal. The CRDA will be submitting the technical drawings as part of the request for permit from the MoEH. By law it is the MoEH that will review and approve the application and technical drawings and on basis of which issue the permits.

79. **Construction and Supervision.** The construction and supervision of the works will be contracted to regional and national private companies. The MoEH has specific tender guidelines governing the recruitment of construction and supervisory firms that the project will need to comply with; the project will obtain the guidelines from the Regional Directorate of Kairouan MoEH.

80. **Delivery of the works:** The final delivery of the road construction will be entrusted to the supervision firm with the close participation of the CRDA of Kairouan. The CRDA will work closely with the Regional Direction of MoEH of Kairouan who will support the CRDA in the procedures of temporary and final acceptance of works.

Outcome 1.2 - Strengthened capacity and climate proofing vulnerable rural households

81. Adaptation gap - Poverty levels in the IESS project area are among the highest in Tunisia with a high illiteracy rate at 40 percent of men and 42 percent of women. Physical features and limited infrastructure lead to isolation and the presence of pockets of poverty with limited or non-existent access to basic services. Youth unemployment is relatively high and rural women are faced with difficult working conditions owing to long and uncomfortable travel. The poorest households are particularly exposed to the impacts of climate change in that they generally live in remote areas, on barren and steep slopes. Their livelihoods are first hit when prolonged drought events occur and torrential causes extensive erosion and gullying. Successful adaptive management of natural resources in an agricultural landscape requires a basic understanding of the climate change trends, that can be intuitively linked by farmers, herders and other rural dwellers to observed phenomena. But in addition, given the scale and magnitude of environmental change even within the limited project area, an effective response requires a capacity for collective action that builds on a clear understanding of the different roles and capacities of men and women, adults, children and youth.

82. The IESS and IESS-Adapt projects are dedicated to helping climate vulnerable rural households out of poverty. The project will be driven by a graduation process whereby it will identify and address the root causes of poverty and build household capacity empowering families to interact with the local economy and community in productive, positive, environmentally sustainable and climate resilient ways. The graduation approach has been developed to identify and address critical vulnerabilities

faced by extremely poor households that are often excluded from market-based development programs. By addressing the root causes of poverty including environmental degradation and climate change vulnerability, the approach equitably strengthens household capacity and enables families to interact productively and sustainably with the local economy, environment and community. As extremely poor households begin to emerge from poverty and graduate through the programme, they begin to live secure and stable lives that are more resilient to climate change.

Output 1.2.1 The most climate vulnerable and rural poor are identified.

83. The graduation programme will be implemented through an NGO the Tunisian Social Solidarity Union (*'Union Tunisienne de Solidarité Sociale'* – UTSS), a NGO working on social development projects targeting the needy; it will work in partnership with the CRDA (including the CTV - extension workers) and the Regional Directorate for Social Affairs (*'Direction Régionale des Affaires Sociales'* – DRAS). Through this implementation modality, the IESS will be supported by the IESS-Adapt to conduct a poverty mapping exercise to identify the poorest communities with concentrated pockets of Low Income Families (LIF) and Families In Need (FIN) households. This 'poverty mapping' will be based on the list of households as identified by the National Programme for Support to the Families In Need (*'Programme National d'Appui aux Familles Nécessiteuses'* – PNAFN) database¹⁶. The database contains key socio-economic information on LIF and FIN households as well as their GPS location to be able to monitor the extent of environmental rehabilitation through remote sensing.
84. In all around 6,300 households will receive blanket social, health, and climate change adaptation messaging through community-wide awareness raising campaigns (2,100 FIN and 4,200 LIF). Adaptation Fund support will be focused on mainstreaming climate change adaptation and supporting DRAS social workers to visit each LIF and FIN household in targeted areas and conduct a brief labour capacity and environmental vulnerability assessment consisting of a short questionnaire, which will take approximately 15 minutes to administer. The training of the enumerators in conducting environmental assessments will be carried out by the AF funded Climate Change Officer. After the survey has been administered, UTSS supervisors with CTV extension support will conduct a verification process in which they visit a sample of selected households and re-apply the questionnaire. This is done to ensure that the original questionnaire was administered and filled out correctly and that the household is indeed eligible for inclusion in the program. Additional eligibility criteria will be developed based on a more intensive vulnerability assessment detailed below.
85. **Vulnerability assessed.** As part of the combined IESS and IESS-Adapt projects, a vulnerability assessment that profiles the ultra-poor with the specific challenges they face and the coping mechanisms they employ will be conducted. This includes identifying household-level characteristics and issues such as levels of food security and nutrition, impacts of climate change, environmental degradation, social awareness, literacy, skills base, health, disability, and prevalence of gender-based violence, child labour, or early marriage. The assessment will be disaggregated by gender and age and take into consideration the existing environmental situation, the capabilities of FIN and LIF households and potential opportunities suited to their skill sets. These will then be used to develop tailored capacity building training modules across the five pillars¹⁷, facilitated by UTSS animators during household and group visits and community-wide awareness raising campaigns. Climate change adaptation has been mainstreamed as one of the pillars and a key cross-cutting element that the AF will ensure is incorporated into the vulnerability assessment. This will ensure effects of climate change and environmental degradation on land holdings, housing structures are captured as well as the overall resilience of FIN and LIF families to climate shocks. Once participants have been selected to engage in the program, GPS mapping of landholdings will take place in order to monitor the uptake of climate change adaptation methodologies. IESS external Graduation Specialists will be contracted to support the design, execution and analysis of the vulnerability assessment.

¹⁶ The national criteria of the "family in need" category are those families eligible for regular state support (monthly average pension of 230 Tunisian Dinars): Families without extended family support and inability to perform professional activity; an annual individual income of not more than 585 TD; families with one or more disabled members or incurable illnesses living in precarious conditions (housing, hygienic conditions, etc.).

¹⁷ i) Social protection (food security, access to health and sanitation); ii) Environmental sustainability and climate resilience; iii) Livelihood promotion of alternative income streams to support consumption, asset accumulation and economic empowerment, especially for women and youth; iv) Financial inclusion (financial literacy training and access to MFI savings and credit services); and v) Social empowerment (life skills training, social inclusion and five-pillar coaching and a commitment to gender equality).

86. Key considerations for executing a vulnerability assessment include: i) The creation of gender, age and disability sensitive data collection tools including: focus group discussion guides, key informant interviews, household visits and market observation guides; the development of mobilization strategies to engage the most vulnerable in the assessment, ensuring inclusion of gender, age and disability profiles; iii) The training needs for enumerators to conduct field level data collection including environmental profiling; and iv) the collection of environmental data.

87. Adaptation Fund support will:

- Train all field workers DRAS, UTSS and CTV on environmental profiling.
- Support the outreach campaign.
- Mainstream climate change adaptation and environmental sustainability into the 5 pillars of poverty reduction.
- Support the collection of site-specific GPS, remote sensing and qualitative data to monitor environmental improvements.
- Provide remote implementation CCA and ENRM guidance and support.

Output 1.2.2 Graduation programme implemented.

88. The Adaptation Fund will support an extensive training and coaching programme through supporting the field animators that will train the households and the programme will be developed by the IFAD funded external Graduation Specialist. The training will be provided to supervisors and cover the Graduation approach, program components across the five pillars and their integration, roles and responsibilities of staff members with particular emphasis on the roles of animators as coaches. Supervisors will then, in turn, provide this training to the Adaptation Fund supported animators who will train 2,100 FIN and 4,200 LIF households. One core element of this training will be techniques around how to visually diagnose climate change related challenges and advise on how to make the appropriate adaptations. This training will be provided by the IESS-Adapt Climate Change Adaptation Officer.

89. **Gender Action Learning for Sustainability at Scale (GALS)**¹⁸. The project learning approach will be based on GALS. GALS is a community empowerment methodology that uses the principles of inclusion to improve income, food and nutrition security for vulnerable people while respecting gender equity; it will be piloted by the animators for the FIN target group. This system enables poor men and women to position themselves as actors in their own development rather than as victims by identifying and overcoming the barriers of their environment, which is a challenge for service providers and service providers. GALS will help ensure: the planning of daily life and economic activities for women and men including IGAs; the sensitising of institutions and change power relationships; and leading collective actions and defend women's rights to initiate change.

The comprehensive training programme is summarised below.

- **Life skills training.** Monthly group meeting training will be conducted and reinforced through monthly household visits by program animators. There will be 10-12 training modules that will be provided over the course of the first 12 months of training. This cycle will be repeated in the cohort's second year to further encourage memorization of the topics and ultimately behaviour change.
- **Environmental Management Training.** Participants will receive climate change and environmental awareness training. This will educate them on the impact of climate change; the importance of, and how to, sustainably manage their surrounding natural environment. Participants will learn how to recognise degraded, vulnerable soil; what measures can be taken to reduce vulnerability; and how their livelihoods will benefit.
- **Business Skills Training.** The AF will support UTSS to provide participants with business skills training. Building climate change resilience is not only confined to sustainable environmental management also teaching rural poor how to manage their business finances and invest and diversify their income so as not to depend on climate vulnerable soils. This will be a short course covering basic principles that will be provided jointly with the Livelihood Technical Skills training. Participants will also be given a 'participant book' in which they develop a simplified business plan. Animators will provide on-going support and training to participants to complete this plan during home visits.

¹⁸ Refer to annex 3 for more detailed information on the GALS methodology

- **Livelihoods Technical Training.** Participants that receive alternative IGAs, (see output 1.2.3) will first receive technical livelihoods training. This training should take place within one month before the participants receiving the grant. The training will equip participants with the technical skills necessary to properly manage and grow their livelihoods in an environmentally sustainable fashion. A refresher training will be provided to participants 12 months after the initial training. A technical training should take approximately 2-3 days and consist of 20-30 participants. These trainings will take place at a central location, for instance a UTSS centre. The exact duration and contents of this training will be developed by CRDA once appropriate forms of climate-proofed alternative incomes have been identified. Animators will also receive this training so they can properly monitor IGAs and provide basic advice to participants on IGA management when conducting home visits.
- **Financial Literacy Training.** This training will be provided to participants on a monthly basis by staff from either a Microfinance Institution (MFI) or UTSS and will be coupled with the Life Skills Training. Financial literacy will cover simple practices for saving, borrowing and investing. The exact nature and timing of this training will be determined at a later date once an appropriate MFI partner is identified and savings and loan instruments for participants have been developed.
- **Monitoring.** The data collected by the graduation programme will be used for operational purposes such as financial management and compliance monitoring. The monitoring programme will review:
 - Staff engagement with participants and performance of facilitators.
 - Completion of the training and activities indicated in the graduation process.
 - Quality of assets and other inputs provided to participants
 - Assessment of progress in livelihood development, including expected returns
 - Progress in savings and level of engagement with financial institutions
 - Sensitivity and response of other stakeholders, especially the community, to extremely poor households
- **Household monitoring.** Monitoring at the household level will allow field staff to monitor the progress of each graduation participant in relation to their economic and social goals. Regular household visits, group discussions and registries will allow each household to see progress against its own goals. Challenges can be identified during regular household-level follow-up visits and processed before they become more important barriers to achieving the graduation objectives. For example, some households may need additional resources to make a living or to solve family problems.
- **Coaching and Training Reinforcement.** Families In Need (FIN) and Low-Income Families (LIF) that are alternative income grant recipients (output 1.2.3), will also be assigned to an animator and receive monthly home visits. During each home visit, the animator will review and reinforce the Life Skills Training that the participant received that month. The animator will also review the participant's booklet, which contains their business plan and key information on the household's finances (i.e. savings, profits, loss, asset value, etc.). The animator and the participant will then jointly assess the state of the alternative income generating activity, the participant's progress towards their goals and suitability to graduate as contributors to the rural value chain component of the IESS with linking up with food processors through the farmer cooperatives (*'Société Mutuelle de Services Agricoles'* – SMSAs).

Table 4 Planned training frequency

Training	Frequency
Life Skills Training	Monthly in group-based setting
Livelihood Technical Training	Twice (at least one month prior to receiving IGA package and one year after receiving IGA package)
Business and Environmental Management Skills Training	Once (linked to first Livelihood Technical Training)
Financial Literacy Training	Monthly in group-based setting
Coaching and Life Skills Refresher Trainings	Monthly in individual setting

Output 1.2.3: New climate-proofed income generating activities developed (65% women, 50% youth).

90. Access to information on climate change that is tailored to the requirements of the rural population is critical. Equally the development of collective structures that serve vulnerable rural dwellers – and women in particular – are key to promote active participation in the sustainable management of natural resources. The climate vulnerable rural poor are disproportionately dependent and exposed to the ability of the land to sustain them. The IESS-Adapt will therefore support the IFAD GALS methodology and Graduation approach by helping to mainstream community-based climate change adaptive measures and awareness raising into the IESS programme to help local communities graduate out of poverty, of which sustainable environmental management and climate change adaptation is a central pillar.
91. Through the graduation and GALS methodology explained previously, the IESS-Adapt will identify IGAs suitable to diversity and improve household incomes. The IGAs will help ensure that the most vulnerable are better adapted to a changing climate with a particular focus on the development of climate adaptive off-farm value chains. The IGAs will be implemented as described in the above outcome 1.2 and the Adaptation Fund will directly support 400 beneficiaries (of which 65 percent will be women and 50 percent youth) with off-farm grants administered by the UTSS. The UTSS will facilitate the IGAs that may include for instance: small ruminants (rabbit and chicken fattening), honey bees, but also crafts these will be further detailed during implementation based on the vulnerability and needs assessment. Beneficiaries will receive the five-pillar training as described before. Additionally, 400 FIN households living on vulnerable and degraded lands as identified through the vulnerability assessment, will also receive cactus plantations as well as five-pillar training to ensure sustainability.
92. **IGA Implementation Modality.** The targeted FIN will receive direct support from the project in the form of an in-kind grant (equipment, supplies, etc.) and to help ensure ownership and sustainability, the beneficiaries will be expected to make an overall 20 percent in-kind contribution. The AF supported IGA grants will be the equivalent of USD 2500 released in two instalments with the objective to obtain profitability for the smallholder activity and in view of the very limited resources of the FINs, the grant is also of modest size. The first instalment will be 50% of the grant with 90% subsidized by the project and the remaining 10% in-kind beneficiary contribution; the second instalment will be 70 percent from the project and at least 30 percent from the beneficiary. The beneficiary will be given the option to take out a micro-loan from a MFI if necessary.
93. The beneficiaries will receive an 18-month support programme during which time the UTSS facilitators and CTV extension workers will provide regular support with coaching and mentoring. The beneficiary will be evaluated on whether they demonstrate motivation and involvement in the implementation of the project. This evaluation will be carried out one year after the launch of the IGA, and aims to determine the level of commitment and the motivation, the capacity to consolidate and manage the project and initial signs of profitability according to the criteria of the "Graduation Process" (see specific methodology described in output 1.2.2).
94. **Cactus planting.** Climate change adaptation and sustainable environmental management are one of the pillars of the Graduation methodology. A lack of awareness about the importance of a resilient environment is one of the underlying causes of environmental degradation, exposing the environment to the increasing weather extremes. To support the mainstreaming of sustainable and climate resilient environmental management, the AF will support 400 beneficiaries with a USD 850 equivalent grant managed through the UTSS and CTV. This will be used for the planting of prickly pear cacti on 1ha of land that is identified as being vulnerable and/or degraded. Due to the required growing period for the cactus plant, the investment will be a one-off with beneficiaries also being allowed to benefit from other IGAs promoted by the IESS and IESS-Adapt projects.
95. Prickly pear cacti are an indigenous and climate adaptive plant in Kariouan widely used to consolidate barren land prone to rain and wind erosion and gullyng, but also provides vegetative cover that reduces soil evaporation and carbon loss. The prickly pear is also a prized fruit that is exported at a premium - a hectare of prickly pear can be harvested twice a year for total of around USD 4,000. As with all the supported income generating initiatives, this initiative will also be supported by the larger IFAD project in developing the sustainable production value chain. FIN households that have 'Graduated' will be supported by the creation of employment opportunities for 'middle-men and women' that will collect the produce at a reasonable price (trained by IFAD) and transport it to the processors. Beneficiaries will therefore be educated, coached and supported with the tools to bring them out of poverty and learn the importance of sustainably managing their environment, while also

being given a form of income that will help build environmental resilience to climate change and environmental degradation.

Component 2 - Sustainable value chains through climate resilient water infrastructure. **(USD 5,306,333).**

Outcome 2.1- More resilient productive infrastructure and stewardship of natural capital

96. Adaptation gap - The effects of climate change are visible in the Kairouan governorate and already affect agricultural production in the project area, through multiple mutually-reinforcing pathways. Older farmers in Kairouan remember rain-fed cereal production, that today is considered impossible. Forecasts suggest a deepening of the phenomena that are already challenging local farmers. Higher temperatures, particularly in the summer, will increase evapotranspiration, thus requiring more (or more efficient) irrigation to compensate and will render the surface layer of the soil more vulnerable to wind erosion. Most irrigation networks rely on underground water resources that themselves depend on natural recharge for their replenishment (through infiltration of runoff in the main seasonal streams). The increased inter-annual variability of rainfall in the past decade has made it particularly difficult to assess the sustainable withdrawal potential from underground resources. However, the Ministry of Agriculture estimates that most water tables in the Governorate are currently exploited at between 100% and 150% of their sustainable recharge capacity. This has resulted in a continuous lowering of groundwater levels, that recently accelerated as a result of three consecutive dry years (2015-2017) and caused some wells and boreholes to dry up.
97. Extended periods of drought are expected to become more frequent, interrupted by fewer, but more intense torrential precipitations: fewer rainy days, but an increase in the number and intensity of storm events. In the parts of the project area that do not have access to a secure water supply for household needs, basic homestead production and animals, mainly women need to travel for up to five hours in forbidding temperatures on donkey-back for the collection of household water.
98. Rapid surges in the flow of seasonal water streams ("oueds") also reduce the proportion of rainfall that can naturally infiltrate the ground to recharge the water tables, thus further limiting their replenishment. Maladaptation land use practices further aggravate a precarious situation that have left degraded and barren land exposed to increasing torrential rain events, causing severe gullying.
99. The combination of all these stressors points to a serious adaptation deficit that calls for increased efforts in:
- Seasonal household rainwater reservoirs constructed to alleviate burden on women and water vulnerability and to meet basic livelihood requirements in isolated areas;
 - Hydrological works that slow down torrential water flows in the seasonal streams ("oueds") to enhance infiltration in key water table recharge areas;
 - Increased efficiency of irrigation systems to reduce water losses and reduce water withdrawals from water tables.
 - Improve the capacity to monitor underground water levels, including to measure the impact of the IESS-Adapt's groundwater recharging efforts.

Output 2.1.1 - Seasonal water reservoirs ("citernes enterrées") constructed (at least 65% women)

100. Predominantly poor rural women in Kariouan still do not have access to running water and have to travel around 5 hours in extreme temperatures and on donkey-back to carry 250 litres of water a day for household use. In order to ensure that vulnerable households in the more remote sectors of the project area can withstand longer dry periods and also to alleviate the burden on women, the IESS-Adapt will finance the construction of 300 underground water reservoirs ("*citernes enterrées*") at a unit cost of USD 7,100 with a total capacity of 15,000m³. Such reservoirs are already commonplace in Kairouan Governorate, and can be readily built by local masons. The reservoirs are fed by gravity from surface runoff, located in a natural low point, where an *impluvium* can be readily landscaped to concentrate the rainfall runoff, as well as from converting the flat roofs of houses. They feature a sediment trap to minimize cleaning requirements and are painted on the inside to prevent algae and mould. Typical reservoirs have a volume of 50 m³, an adequate volume for the basic needs of a household: household cleaning and cooking needs, small homestead production and a couple of small ruminants. These reservoirs can store natural runoff during rainy seasons and maintain

adequate household reserves during dry months that is supplied by tanker. The reservoirs will additionally be supplied by solar powered pumps and a hose (100 m) to reduce the workload of the women who's task it is to carry the water by bucket to irrigate household orchards and tree crops (predominantly olive trees) as well as meet household needs.

101. **Selection.** The targeting of the vulnerable households will primarily be based on the PDPs but further refined as part of the Graduation Process (outcome 1.2) and the lists of the rural poor officially considered vulnerable (FIN). As part of the graduation outreach programme, the project will identify and verify each beneficiary's vulnerability status and needs, based on which 300 FIN households will receive one water reservoir each. Land ownership is a problem in Tunisia as it is mainly men who own land, the project will therefore target at least 65 percent women by entering into a contract with women who are traditionally responsible for household water management. In order to avoid social conflict between neighbours, the project will select beneficiaries by in a neighbouring group approach whereby a group of qualified households will be selected for support.
102. **Implementation.** While the beneficiaries will be selected through the graduation vulnerability assessment, the activity will be implemented by the soil and water conservation (*'conservation des eaux et des sols'* – CES) division of the CRDA. Standard technical drawings for the construction of the reservoirs will be used and open tenders made for the construction contracts. The construction activities will be monitored by a technical specialist, supported by the AF, for the verification of all CES construction (all outcome 2.1).

Output 2.1.2 - Water networks losses reduced on existing irrigated perimeters (IPs).

103. The Kairouan Governorate is an agricultural production area that is of national importance in Tunisia. The most productive land is irrigated, organised in perimeters and managed by volunteer-operated Agricultural Development Groups (*'Groupement de Développement Agricole'* - GDAs), that operate pumping and water networks to reach each plot on a cost-recovery basis. Perimeters are a grouping of farmer plots of maximum 2.5 ha as defined by presidential decree and enforced by the Agricultural Land Agency (*'Agence Foncière Agricole'* - AFA). While some IPs use surface water immediately downstream of existing dams, most water is obtained through pumping of groundwater from vulnerable water tables. The main networks (from the borehole to the farmer's plots) consist of either old PVC or asbestos-cement piping that have exhausted their useful life and are leaking significant quantities of water; GDA studies subtracting water metered at the plots from the total water pumped from the water table, have shown water losses of between 25 and 50 percent depending on the perimeter. Some of the IPs are also still serviced by inefficient and wasteful water pumping stations that are not able to selectively distribute water efficiently where needed on the IPs resulting in considerable water wastage as plots of land receive water unnecessarily.
104. The objective of this activity is not to create new irrigation schemes, but instead to mainstream climate resilience through the rehabilitation of pumping stations on 6 IPs (448ha) and an estimated 321ha in 5 small-scale IPs to received rehabilitated irrigation water transport infrastructure. This will benefit climate vulnerable smallholder producers by reducing water losses of an estimated 1,211,840m³ a year through the rehabilitation of ageing irrigation transport network from the source of the water to the individual farms. Rehabilitation furthermore not only reduces pressure on limited groundwater resources but also reduces the cost of electricity for pumping and greenhouse gas emissions associated with electricity production.
105. **Selection.** The activity and site selection is primarily based on the CNEA study and resulting PDPs from the upscaling of the AfDB IADP project. Perimeter selection will be based on the estimated current loss of water; the level of water stress as measured by the lowering of the water table over the last decade; poverty levels; maximum farm size of up to 2ha; the IPs need to be operational with irrigation infrastructure that is in urgent need of replacement; and lastly in IPs where the GDAs are operational.
106. **Implementation.** The rehabilitation of existing IPs will follow the following steps:
 - I. Development of feasibility studies and tendering of contracts.
 - II. Recruitment of works contractors.
 - III. Realisation and supervision of works.
107. **Environmental Risk Management.** While the proposed activities are focused only on rehabilitating the transport of water to farms, the project has also ensured that the on-farm utilisation of the water supplied will be through the adoption of water-efficient technologies. It is by Presidential Decree that all beneficiaries on IPs need to have adopted drip- or micro-irrigation technology and this is it is still being rolled out to all IPs. All project supported IPs will need to have water saving irrigation

infrastructure installed on their farms to be eligible. Water-efficient technologies are widely available in Tunisia, known to farmers and their installation is supported through government 50 percent matching grants.

Output 2.1.3 - Infiltration of runoff into groundwater reserves in seasonal water courses is increased.

108. In times of heavy rainfall water rushes increasingly frequently down the slopes and meets with seasonal waterways ("oueds"), aggravating erosion and carrying sediments downstream. The velocity of the water as it flows down the stream's channel results in reduced infiltration of water into the water table, when compared with a lower regular laminar flow.
109. In order to enhance infiltration, the speed of water in the streams has to be reduced, which can be achieved through the construction of permeable and submersible gabion check-dams in the riverbed. Because these works are not elevated (generally less than 2 m in height) and allow water to easily flow through (generally featuring a lower central section), disturbance to the natural pattern of the stream is minimal. Water and some of the carried sediment is retained upstream, reducing soil losses and turbidity downstream. Along the Serdiana seasonal waterway (oued) in Sbikha, there is also a leaking 12m high reservoir that is fed by the 'oued', this micro-dam is actually found to be leaking into the underlying water table, inadvertently replenishing it. It is however in need of some repairs to ensure it continues to be able to carry out the unintended water table replenishment activity.
110. **Selection.** Based on the PDPs from the CNEA study, five priority areas for water table recharge were pre-identified and discussed during project design, these are listed in the table below. The site selection of the works within these areas will be defined through technical feasibility studies that will include cumulative impact assessments carried out by CRDA. The studies will ensure maximum effectiveness, as they will ensure the most hydro-geologically suitable sites will be selected while giving priority to areas with over-exploited water tables. The project budget is based on the assumption of installing 45 purpose-built and/or rehabilitated infiltration structures ("ouvrages de recharge") for an average unit cost of USD 12,400, however the exact number and type of new structures will depend on locations to be determined through an exhaustive study that will include an analysis of potential hydrological and environmental impacts.

Location	Description
Wadi Hoshass	Rehabilitating existing gabion check-dam structures by additions for the recharge of the over-exploited Chouggafia water table.
Oued El Hamra,	Construction of new gabion check-dams to slow down the flow velocity and to control the distribution of flood waters for the recharge of the Ain Jloula water table
Oued Merguellil downstream of the El Houreb dam.	The new gabion check-dam structures would help recharge the Kairouan water table used by IPs in Jefne, Ajufre, Chebika East and West, and Houfia.
Cherichira wadi	Upstream of the Houfia IP (gabions or masonry) for the recharge of the Kairouan aquifer.
Oued Themda	Gabion check-dam for water table recharge

111. The Regional Directorate of the CRDA is a government body of the MAWRF and is inter alia responsible for all climate change adaptation, natural resource management construction activities. It is the various arms that comprise the CRDA that are responsible for all water related construction activities. The CRDA for example has internal approval mechanisms that review, oversee and approve the technical drawings and construction of the gabion 'dams' - that slow water down to facilitate underground infiltration. There will therefore be no requirement to adhere to other bodies for construction permits and approvals. This is done by the CRDA and in close coordination with the local Kairouan governorate authorities. Based on the broad experience of the CRDA in constructing the IESS Project Implementation Manual (PIM) has put procedures in place for the designing and approval of construction under this component.

112. Implementation steps.

- i. **Technical studies and design:** These studies will be tendered to be carried out by a specialised consultancy firm and reviewed and validated by engineers from the respective

boroughs. The objective of this study is to identify and select the most suitable hydrogeological sites for the recharge of the water tables concerned;

- ii. **Realisation of the Works:** Will be ensured by private companies through a call for tender; these are present in the central region of Tunisia and have experience in the realisation of this type of work;
- iii. **Supervision of Works:** Will be provided by the district CES (department of the CRDA) with the support of the CES verification officer funded by AF for the control and supervision of activities.
- iv. **Roles of the CRDA / PMU department:** Approval of the studies, launch of tenders, elaboration of the contracts of contracts and final approval of the works.

Output 2.1.4 - Groundwater monitoring stations installed.

113. Since the revolution Tunisia has seen a free-for-all situation to drilling new water points by private individuals. This, combined with the long-term trend in groundwater depletion as well as climate change has meant that water tables are under increased pressure from over extraction. Given the strategic importance of preserving groundwater resources on which irrigated agriculture depends, the project will support the densification of the existing groundwater monitoring network through funding 7 additional groundwater monitoring points (piezometers) at a unit cost of USD 24,000. At least three of these will be installed in locations that will allow for the monitoring of the impact of project interventions (rehabilitation of irrigation networks and groundwater recharge infrastructure), in addition to contributing to the overall understanding of groundwater dynamics. This will contribute to enhanced planning for further groundwater rehabilitation interventions. The relevant feasibility studies that include cumulative impact assessments and required for precise site location will be conducted in the second half of PY1; the implementation activities will take place during the second half of PY2 and the first half of PY3 and the tentative proposed locations (subject to modifications at detailed design stage) are as follows:

- Houfia (near irrigated perimeter, 250 m deep);
- Ajifre (near irrigated perimeter, 250 m deep);
- Oueslatia (near irrigated perimeter Zedara school - 200 m deep);
- Serdiana (Sbikha Delegation - 180 m deep);
- Kdheyria (Ghouiba sEctor, Hadjeb Delegation - 200 m deep);
- M3bis (Chebika, 150 m deep);
- PZX8bis replacement (Chebika, Kerouan plain - 150 m deep)

Outcome 2.2 – Farmer and farmers organisations capacity strengthened

114. Adaptation gap - Farmers' organisations in Kairouan Governorate deliver a limited set of services. The Agricultural Development Groups (*'Groupement de Développement Agricole'* - GDAs) are the organisations for the management of common water infrastructure in a geographically-limited landscape. GDAs are local in nature operated by volunteers to manage irrigation equipment in established perimeters, tractors, storage warehouses, trucks and other equipment that is used by multiple farmers who constitute their membership. Community Agricultural Service Providers (*'Société Mutuelle de Service Agricole'* – SMSA) are profit driven cooperatives that facilitate the distribution of agricultural inputs and services (seeds, tools, fertiliser, pesticides, etc.) and the marketing of produce through transport, bulking and warehousing. The SMSA will typically provide services to a number of GDAs as well as to individual farmers. SMSAs are stable and trusted intermediates for the farmers and their local associations and thus constitute an appropriate entry point for innovative ideas. Both GDA and SMSA comprise a board of directors or steering committee elected to represent the interests of its members in a defined geographical area at the local level. In the project area there are currently 29 GDAs managing irrigation water. There are 12 SMSAs operating in the project area, bringing together about 1,000 members.

115. Part of the sustainability strategy of the combined IESS and IESS-Adapt projects is based on the graduation programme as detailed in outcome 1.2 that teaches, equips, coaches and monitors the climate vulnerable rural poor out of poverty. Outcome 2.2 is a direct extension of outcome 1.2

because it complements the process of integrating FIN and LIF into the economic fabric and their inclusion in the channels of access to finance. It aims to enhance the sustainable climate resilient productive capacity of all beneficiaries including the FIN, LIF, informal and formal producer groups and facilitators with the aim to be self-sufficient and autonomous by the end of the project cycle. The aim of this outcome is to contribute to the integration of rural populations including women and youth into the rural institutions within the project area, as well as to the capacity building of existing producer organisations (GDA and SMSA).

116. This outcome will directly support beneficiary capacity building and climate-proofing of vulnerable rural households. It will do this through IFAD support to existing as well as supporting the creation of new demand-driven SMSAs that will strengthen the alternative income activities in outcome 1.2 by linking them up with the production value chain and hereby supporting the project's long-term financial sustainability. Additionally, it will also train the GDAs in sustainable water management of the IPs and will also train the CRDA extension services (*'Cellules Territoriales de Vulgarisation'* - CTV) as trainers.

Output 2.2.1 Service Providers and Producer Organisations trained.

117. The AF will finance the hiring of the SP that will design and oversee the whole GDA, SMSA and the AF supported demo plot (output 2.2.2) capacity building programme for outcome 2.1 and also ensure that climate change adaptation is fully integrated. The SP will mobilize two part-time specialists (a climate change adaptation skills specialist and a specialist in rural entrepreneurship and sustainable development). This provider will also mobilize specialized trainers at the request of the project. IFAD will provide further support for the capacity building of 31 GDAs. In addition, the project will support 30 SMSAs, including 12 existing ones and the creation of 18 new SMSAs. The objective of the training programme is to build capacity including sustainable environmental management, climate change adaptation as well as general operational capacity in adhering to rules and regulations, administration, archiving as well as improved financial and technical management. This institutional capacity building will be directly beneficial to the sustainability of the activities under outcome 1.2.
118. The IESS project will be providing broad support to develop the capacity and outreach of existing and new farmers' organisations through the recruitment of a Service Provider (SP). The SP will be in charge of designing and facilitating the implementation of a capacity building program, both for public services and for producer organisations (SMSA and GDA). The SMSA will receive climate change adaptation capacity building, financial and technical management as well as basic organisational management. In supporting the capacity building of the GDAs, the AF will strengthen the water governance and infrastructure maintenance elements complimenting the investment in rehabilitating irrigation infrastructure under output 2.1.2 as well as financial and technical management and basic organisational management.
119. The services that the SMSAs will provide will be demand-driven and will function as essential value chain links between farmers and largescale producers. For example, SMSA will be filling gaps such as in connecting olive oil producers with farmers to ensure that the olive oil mill wastewater currently being discarded can be processed and sold to farmers as bio-fertiliser. This is a practice that is broadly used and well established in olive oil producing countries such as Italy. Under output 2.2.2 below, the Adaptation Fund will be promoting such waste minimisation innovations amongst other climate change adaptive techniques, in the demo plots and hereby creating the required demand. Other activities could include acting as intermediaries (or middlemen – or women) to collect the cacti fruit that is used to consolidate the degraded lands in outcome 1.2 and providing an income in the process. These are just examples but the SP terms of references specify that climate change adaptation and environmental sustainability will need to be fully integrated into all activities, which could result in innovative climate adaptive, environmentally sustainable community-driven solutions. By funding the recruitment of one SP to implement all these inter-related activities and overseen by the CRDA, the AF will ensure that there is sustainable coordination between the SMSAs, GDAs and farmers.
120. All training for SMSAs and GDAs will include climate change awareness raising and the importance of sustainable environmental management as will they receive equipment (from IFAD) and training support to strengthen their administrative, financial and technical management capacity. Exchange visits to be promoted between OPs will facilitate the networking of these organisations and learning by experience. The activities related to this output include:
- Assessing the capacities of the existing SMSAs and GDAs.
 - Designing of the ToT curriculums and delivering the training for Producer Organisations: GDAs, SMSAs and interest groups (informal producer organisations).

- Build the capacity of POs on the organisational, technical and financial aspects of the management of hydraulic installations.
- Raising awareness of POs members on climate change adaptation in particular with regard to the management and the maintenance of the infrastructures and the management of the water and soil resources.
- Promote exchange visits between farmer organisations and other partners: public agencies, financial institutions, private contractors of works and services, suppliers of equipment and inputs adapted to climate change, etc.
- Organise women-specific training by adapting the content, schedule and format of these trainings to the needs and constraints of rural women.
- Provide capacity building of POs in administrative management (collection of fees, accounting and financial management); technical management (planning, operation and maintenance of infrastructures); governance (rules and regulations of the OPs, general assembly, decision-making mechanisms); commercial aspects (agricultural outlets, partnerships with the private sector upstream and downstream).
- Monitor and evaluate the effects and impacts of these trainings on the functioning of POs and their ability to adapt to climate change.

Output 2.2.2 Adaptive technologies are demonstrated

121. The entire IESS-Adapt project is directly aligned with the new Strategy for the Management and Conservation of Agricultural Land (*"Nouvelle Strategie pour l'Aménagement et la Conservation des Terres Agricoles"* – ACTA) the objective of which is the sustainable management of natural resources for the development of rural territories. This output is fully aligned with ACTA as it aims to teach farmers techniques to adapt to increased drought and increased rainfall intensity because of climate change with the aim to increase soil fertility, reduce erosion, and improve yields and production. These new techniques will require new agricultural inputs such as compost and other organic fertilisers, namely olive oil mill wastewater or 'marginés' but also new climate resilient types of crops, supply of gravel (for torrential rain) etc. that will be supplied by the SMSAs under output 2.2.1. The training programme will be designed and implemented by the climate change skills specialist recruited as part of the SP for outcome 2.2. She/he will design the ToT curriculums for trainers and beneficiaries, as well as supporting training manuals and picture leaflets. The SP will also train the CTV extension workers as trainers and the training programme will include the gender sensitisation of the CTV trainers, the CTV trainers will in turn will train the beneficiaries. IFAD will support the CTV to address some lack of capacity with new vehicles and equipment and five additional staff to support the implementation of the IESS project. The AF will also support the recruiting of 3 additional CTV staff to function as trainers for the duration of the project and will provide limited extension support to the existing CTV manpower after the end of the 3-year demo programme. By the end of the project the beneficiaries will be trained and supported with the introduction of new techniques and the establishment of interdependent commercial links with the SMSAs, hereby ensuring sustainability.
122. **The training programme** will last 3 years and will train a around 3500 farmers of which at least 65 percent will be women (the majority of the on-farm labour force comprises women while land owners being men). The demo plots will be located within the IPs and will be used to train around 1225 land owners (men) and 2275 on-farm labourers (women) working therein (two women labourers for every land owner). The SP and the CRDA will survey the perimeters in each sector and identify the best perimeter that will function as a central location. The central irrigated perimeter will serve an additional 4 perimeters that will need to be within reasonable traveling distance and this model will be applied to 7 sectors in total, for a total of 14 demo plots and a maximum of 25 - 30 IPs. The SP will be responsible for the purchasing of the demo equipment and hand tools that will be procured through the CRDA. The selected IP will host two 1 ha demo plots and will be located on the land of two farmers that are officially recognised as LIFs and without drip irrigation infrastructure installed. The farmer will need to agree to have their plot of land used for training throughout the duration of the project. The farm will have one part of the farm as demonstration and a second as a control so that the trainees are able to compare results. In return, the demo farmer will receive all the required equipment for free (including drip irrigation for the duration of the project, fertilisers, compost, as well as CTV training and technical support throughout) to ensure the success of the demo plots. The SP will be responsible for the transporting and catering (food and drinks) of trainees. The training programme will be structured as follows.

- The training groups will comprise between 10 and 20 members and will be trained continuously throughout the 3-year period.
- **Gender.** The training programme will be tailored to the needs of the women beneficiaries in terms of timing and content. Women will be trained separately from the men so that their concerns and needs can be more appropriately identified and catered for. The training programme will inter alia also carry out the gender sensitisation of the male land owners.
- **Lessons learned.** The SP will work closely with the CTV trainers and monitor what technical solutions work and document lessons learned, the SP will subsequently fine-tune the training programme for each subsequent year. Each year the SP will also introduce new intercropping combinations and demonstrate new types of climate resilient crops.
- **Value chain strengthening.** The training programme will also be open to GDA, SMSA and other CTV members (those that are not trainers); should the SMSAs be located too far from the demo, the CTV trainer will be equipped by IFAD to travel to the SMSA to deliver ad-hoc training. By including the SMSAs in the training programme for climate adaptive agriculture practices, SMSAs will be incentivised by commercial interest to involve more farmers and upscale project activities post-project.
- **Technical capacity.** The capacity of land owners will be developed through the development of training programmes that can include irrigation systems and equipment operation and maintenance; water quality and irrigation regimes; simple entry accounting and fiscal reporting; expenditures and revenues of irrigated sectors; advisory services in technology, economics and marketing; climate change awareness capacity building; training on the importance and necessity of sustainably utilising the limited water resources; composting and organic agriculture (IESS will also be promoting composting and reducing pollution by recycling olive oil wastewater or '*margines*' as bio-fertiliser); additional water storage; crop load management (heavier fruit loads are more vulnerable to water stress than those with less fruit).
- **Drought.** Both land owners and labourers will be taught techniques to better adapt during times of drought. These will include, but not be limited to: the introduction of new more drought resistant crops; mulching to reduce soil evaporation; intercropping; tree-crop thinning to mitigate the adverse long-term effects of water stress on growth and can benefit fruit growth; summer pruning to reduce water stress while having minimal impact on fruit growth; and avoid applying foliar nutrients during heat stress because the nutrients will not be able to enter the tree and salts will concentrate too quickly in the leaves. The manual labourers will be trained on many of the same subjects to apply the theory into practice.
- **Excessive moisture.** To cope with periods of too much moisture, land owners and labourers will be taught techniques to minimise negative impacts. These will include appropriate drainage options; the importance of land preparation such as the application of gravel on heavier soil to improve drainage; during heavy rains allow for drainage before using heavy machinery to minimise compaction. Cover crops or orchard sod row middles to help to absorb moisture during excessive rainfall, and prevent leaching by tying up nutrients in organic form over winter, and releasing them in the spring when the trees can use them; farmers, SMSAs and GDA will also be taught to monitor soil moisture to avoid excessive irrigation.

Component 3: Knowledge Management. (USD 160,000)

Outcome 3.1 - Knowledge is generated and disseminated

123. Adaptation gap – knowledge generation and dissemination are a fundamental element a climate change adaptation project. IESS-Adapt will therefore have a knowledge management (KM) component that will generate research that will aide in improving climate adaptability but also in generating knowledge that can be shared with the general public. Specific gaps were identified in the course of project design in terms of scientific knowledge in particular, the need for increased understanding of groundwater flows and recharge dynamics as well as exploring the ability of cactus as an indigenous means to consolidate vulnerable land. The project will also have a KM strategy that aim to raise the awareness of the general public to climate change and produce success stories of beneficiaries and distribute these widely.

Output 3.1.1- Groundwater recharge study undertaken

124. The Agricultural Development Commission “Commissariat Régional de Développement Agricole” (CRDA) has, over decades, collected significant data on groundwater levels in the Governorate of Kairouan that, alongside a map of the main water tables, provides a general picture of the available resources and threats faced. However, the flow dynamics between the different water tables and the potential for replenishing groundwater reserves through irrigation water savings, soil and water conservation works, purpose-built groundwater recharge structures in seasonal streams and releases from upstream dams remains largely unknown. Using historical data and new measurements from piezometers installed, the project will fund a study of the effect of various interventions (including those put in place through IESS-Adapt) on the groundwater recharge. It is hoped that the study will generate relevant knowledge and recommendations for the sustainable management of the Governorate's limited groundwater resources, including an assessment of the cost-effectiveness of various approaches to enhance infiltration.

Output 3.1.2 - Impact study on cactus as an indigenous means of consolidating degraded and vulnerable land undertaken.

125. The increased intensity of storm events combined with the maladaptation practices by rural climate vulnerable people in the mountainous region of Kairouan has resulted in barren land that is subject to frequent and severe erosion and gulying. The project design team observed that cactus (*Opuntia ficus-indica*) is frequently used as means of land consolidation in close proximity to areas subject to such severe erosion, particularly when the gulying is in proximity to residential homes. The benefits of using this indigenous plant are obvious to observe as they grow with ease into tall plants that cover large areas that provide ample vegetative land cover and reduce wind erosion. FAO also explains that apart from providing food, cactus stores water in its pads, hereby providing a botanical well that can provide up to 180 tonnes of water per hectare - enough to sustain five adult cows. What is not entirely understood within the context of Kairouan is the effectiveness the root network has on land consolidation and in slowing down severe gulying. The project will therefore tender a contract for a research consultancy to conduct research on the effectiveness of using *Opuntia ficus-indica* as a means to protect degraded land that is subject to severe erosion. While *Opuntia ficus-indica* is widely used, the research will also explore if there are any other indigenous plants that may be equally if not more effective at land consolidation.

Output 3.1.3 – Kairouan-wide climate risk agricultural land survey conducted.

126. The need to better understand the risks agriculture faces from climate change is a pressing one and one that has been identified in the Nationally Determined Contributions (NDC). Better understanding the risks enables to better adapt to the increasingly adverse impact of climate change. The research will focus on i) the location and type of agricultural practices that are being conducted in the Governorate of Kairouan; ii) the availability of water; and iii) the extent and intensity of land degradation and erosion. The consultancy contract will involve a team of experts including in agronomy, climate change, sustainable natural resource management, water resources, GIS mapping and a training expert and the contract will last a maximum of 6 months. The team will design a data gathering methodology that will be reviewed by the CRDA and recruit and train field enumerators. The enumerators will collect the qualitative data from farmers to obtain up-to-date information on current agricultural practices. This will be supported by the desk-based work in obtaining GIS and remote sensing satellite imagery and onsite verification, as well as using up-to-date hydrological water table data to identify which agricultural areas are most at risk from climate change. This research will directly influence regional policy and future agricultural planning.

Output 3.1.4 – Knowledge generation and dissemination programme implemented.

127. Knowledge generation, management and dissemination will form a core part of the IESS-Adapt. The IFAD funded Knowledge Management (KM) Officer will be responsible for the IESS-Adapt KM Climate programme. She/he will work closely with the Climate Change Specialist and M&E Officer to set up a campaign of gathering project-related information on success stories in every aspect of the AF funded activities. The KM Officer will be responsible for recruiting production consultants and closely overseeing the production of video material on the impact of climate change and water scarcity; on the benefits of the climate resilient innovations promoted by the demo plots. The KM officer will actively engage with beneficiaries to record farmer experiences but also digest and present

the scientific research generated as a result of the project in a format that is easily understood by the general public. The KM products will raise awareness of around 10,000 people about climate change by broadcasting on TV as well as social media (Facebook, Instagram and YouTube). Other appropriate material will also be produced for the relevant outlets such as radio and the printed media including posters and leaflets.

128. **Studies.** The dedicated Adaptation Fund Climate Specialist will oversee the studies being conducted in outputs 3.1.1, 3.1.2 and 3.1.3 on water table regeneration; on the impact of indigenous vegetation on degraded land consolidation; and on the Governorate-wide climate risk agricultural survey. The aim will be for the KM Officer and Climate Specialist to process the knowledge that is generated into a formulate that is easily digested by the general public in short video programmes aimed at raising the general public's awareness about climate change, the limited natural resources and what practical solutions the project has demonstrated work in successfully adapting to the adverse conditions.
129. **Baseline.** The IESS-Adapt will benefit from the added value of being incorporated into the larger IFAD IESS meaning there will be a merged baseline. As the IESS-Adapt is planned to be implemented as of PY2 of the IESS, the baseline study will be undertaken in PY1 of the IESS a year before IESS-Adapt will be implemented. The added cost-benefit of partnership with IFAD will allow the Adaptation Fund to help mainstream climate change vulnerability assessments into the combined IFAD/AF baseline project. The baseline will focus inter alia on assessing the degree of water vulnerability of women from families in need in project areas; and it will also assess the levels of land degradation in the marginal areas targeted for the cactus activities. It will obtain baseline remote sensing data of the vulnerable land project areas that will be the focus of land consolidation activities through cactus planting to monitor increases in vegetative land cover.
130. **Impact Assessment.** The IA will be undertaken independently of the IESS project management and assess the achievements of project/programme outcomes; the evaluation of risks to sustainability; and processes influencing achievement of results, including financial management; the achievement of outcomes, including ratings and with particular consideration of achievements related to the proposed concrete adaptation activities, if applicable; and the likelihood of sustainability of outcomes at project completion, including ratings; the evaluation of processes influencing achievement of project results.

B. Environmental, Social and Economic Benefits.

Environmental Benefits.

131. Climate adaptive and environmental benefits are at the basis of the IESS-Adapt project. With Adaptation Fund support the project will assist the CRDA implement a number of national strategies, including the new Strategy for the Management and Conservation of Agricultural Land and hereby help climate vulnerable smallholders adapt to the identified adverse environmental and climate risks from a changing climate. This will happen in terms of climate proofing 50 km of rural roads to inter alia also protect adjacent lands against the risk of landslides / bank failures and erosion caused by torrential rain; the protection of 400ha of vulnerable and degraded land including at risk of gully through the planting of indigenous cactus while also acting as a botanical water storage mechanism, storing 180 tonnes of water per hectare - resulting in around 72,000 tonnes of water stored; the sensitisation of 2100 FIN and 4200 LIF vulnerable rural households through the graduation programme on the effects of climate change and inter alia the importance of community-based participation in the protection and conservation of degraded lands; the development of climate-proofed off-farm climate resilient income-generating livelihoods for 400 climate vulnerable rural households that will reduce the stress on degraded and vulnerable lands from over exploitation as well as help build climate resilient livelihood strategies for vulnerable communities; the demonstration of soil and water conservation techniques to 3500 smallholder farmers to enhance soil fertility with the aim to reduce soil erosion, increase soil fertility and help make livelihoods more climate resilient; the supporting of value chain actors (SMSAs) that will reduce waste from olive oil production and recycle it as organic fertiliser as well as the promotion of composting and reduced fertiliser use making the soils more fertile and climate resilient; improved water efficiency through the renovation of leaking IP irrigation networks and inefficient pumping stations that will save an estimated 1,211,840m³ of water per year; the construction and/or rehabilitation of 45 water management structures that will help the regeneration of water tables; and extend the ground water monitoring network as well as capacity building of the GDA for improved water management.

Social benefits.

132. The social benefits of the IESS-Adapt project are multiple. Primarily, women and youth who are particularly vulnerable in Tunisia will be targeted directly and will represent respectively at least 65% and 50% respectively of the targeted beneficiaries. The rural poor will also benefit from improved environmental management and the resulting protection from climate change-induced torrential rain damage to roads that are essential to safeguarding the livelihoods of the rural poor from climate change impacts. The combined IESS and IESS-Adapt projects will also co-finance the innovative graduation programme that will carry out vulnerability assessments through the profiling of 2100 FIN and 4200 LIFs clearly identifying their needs in terms of the coping mechanisms with food insecurity, the impacts of climate change, environmental degradation, social awareness, literacy, skills base, health, disability, and prevalence of gender-based violence, child labour, or early marriage. This detailed social vulnerability assessment will result in a targeted approach to capacity building, coaching and monitoring that will give the most vulnerable the livelihoods, knowledge and support to sustainably graduate out of poverty and state dependency.
133. Through the graduation programme, the Adaptation Fund will support 400 off-farm alternative income generating activities that will also climate proof livelihoods and will provide a source of sustainable incomes from small household poultry fattening, honey bee production, arts and crafts etc. Also under the graduation programme, 400 rural vulnerable households will receive 1ha of cactus plants together with the graduation coaching and support to integrate into the rural economic activity. Furthermore, 300 FINs will receive water harvesting underground reservoirs. While project will target 65 percent of women, women are traditionally responsible for the collection and distribution of water, the project will therefore likely exceed the quota with the exception of the occasional man living alone. The project will greatly reduce the burden on women as they will no longer need to travel many hours on donkey-back to collect 250 litres of water and instead will be able to have 50m³ brought in by tanker and stored. The design team noted from previously constructed reservoirs, that women still have to carry heavy buckets of water from the reservoirs to the home or small homestead orchards / olive groves, the project will therefore also include 100m hoses and solar powered pumps to further reduce the burden on women.

Economic Benefits

134. In 2016 the Tunisian Farmers Union (UTAP) estimated that drought damage cost farmers 800 million dinars (around USD 266 million). Consequences for farmers included crop failure (200,000 ha for grain cereals and 85,000 ha for cereal fodders and legume fodders), serious crop yield decline (0.5 million tons less than average values for the last 33 years), and 100 percent inflation in the market for hay, forcing farmers to sell their female sheep at 50 percent of the normal price. As recent as 2017 it is estimated that damage caused by climate change affected as many as 18 states. The main cause is from disasters and droughts and caused farmers to accumulate debts that in 2017 amounted to about USD 423.8 million.
135. The integration of the Adaptation Fund into the larger IFAD project will ensure greater impact in helping the rural poor adapt to climate change and help to limit the damage to their livelihoods. By helping the Government of Tunisia (GoT) to protect rural roads, the project will help mitigate some of the damage to livelihoods caused by increased frequency and intensity of torrential rain and flood events; the project will also help limit the damage caused by drought through the support given to the development of infrastructure that will increase ground water replenishment by slowing runoff water in seasonal waterways, as well as reduce water losses through improved irrigation network efficiency.
136. By promoting climate resilient agricultural techniques through the demo plots, the project will also be creating new business opportunities that improve livelihoods while also reducing food waste and promote recycling. The demo plots will also be promoting greater improvements in soil fertility, reduced losses due to drought, improved crop resilience, improved water-use efficiency and overall greater agricultural productivity. The increased availability of seasonal water, the increased efficiency in water-use and increased climate resilient livelihood diversification will ultimately reduce climate stresses on the water supply and improve resilience to climate shocks and reduced adverse financial impacts.

C. Cost-effectiveness

137. **Best Practices.** The project is mainly orientated with a view to maximise impact in a cost-effective fashion. The proposed adaptation technologies (gabion check-dams, reservoirs) to be implemented by the project have been tested and approved by the Arid Regions Institute of Médenine (Institut des Régions Arides de Médenine) and the Regional Office of Agricultural Development (Commissariats Régionaux au Développement Agricole (CRDA)). The technologies also feature in the World Overview of Conservation Approaches and Technologies (WOCAT) global database on SLM and the primary recommended database by the United Nations Convention to Combat Desertification (UNCCD). They have therefore demonstrated their effectiveness in enhancing resilience to climate change, agricultural productivity and the sustainable use of natural resources. The project will therefore largely be implementing technologies that have relatively assured outcomes, rather than testing new ones.
138. **Cost-effectiveness through IESS and IESS-Adapt integration.** Through alignment with the IESS project there are additional savings to be made. IESS-Adapt will be a blended project, fully integrated into the IFAD supported IESS programme and as such it will benefit from sharing resources and structures. This partnership will boost the cost-effectiveness of both interventions, particularly as there will be a common management structure and a linked M&E framework. Other benefits expected are improved coordination and communication, the application of common procurement and supervision procedures (reducing costs); also, the implementation of complementary project interventions in the project districts. In financial terms the IFAD loan will contribute USD 1,590,000 to shared costs that are going to support the delivery of the AF grant as shown in the table below.

Table 5 IFAD IESS cost sharing.

Costs	Unit	Quantity	Cost per unit USD	Standalone fixed costs USD
PMU Salaries				
Government funded (cost-share with other projects)				
Project manager	Person / year	5 years	13,000	65,000
M&E Officer	Person / year	5 years	10,000	50,000
Gender focal point	Person / year	5 years	10,000	50,000
Driver	Person / year	5 years	5,000	25,000
DRAS focal point (PMU)	Person / year	5 years	9,000	45,000
DRAS (field social workers - outcome 1.2)	7 people / year	5 years	42,000	210,000
IFAD funded (as needed)				
Finance Manager	Person / year	Up to 5 years	32,000	160,000
Knowledge Management Officer	Person / year	Up to 5 years	32,000	160,000
Water Engineer	Person / year	Up to 5 years	32,000	160,000
Procurement Specialist	Person / year	Up to 5 years	32,000	160,000
Sub-Total				1,085,000

Costs	Unit	Quantity	Cost per unit USD	Standalone fixed costs USD
Operating costs – Office (Government funded)				
Fixed Operating Costs (rent, utilities, stationary, office maintenance)	Year	5 years	96,000	480,000
IT and GIS equipment	Year	5 years	5,000	25,000
Sub-Total				505,000
Total				1,590,000

139. **Quantifiable Benefits.** As shown in the table below, the cost-effectiveness of the Adaptation Fund project is present throughout all the project's components and activities. The IESS-Adapt will help address some of the most pressing concerns facing Tunisia in terms of essential infrastructure being exposed to more intense torrential rainfall, reduced water availability, increase hardship, degrading soils, desertification, a lack of knowledge as to what farmers are able to do to improve their livelihoods, reduce erosion and protect their soils from land degradation and inevitable desertification.

Table 6 Project cost-effectiveness

Component	Cost (USD)	No. of Beneficiaries	Losses Averted / Benefits Generated	Alternative to Project
1. Access to basic services and strengthening of livelihoods	3,217,600	7,100	<ul style="list-style-type: none"> Climate proofing 50 km of rural roads inter alia to also protect livelihoods and adjacent lands against the risk of landslides and erosion caused by torrential rain. 400ha of vulnerable and degraded land including at risk of gulying protected through the planting of indigenous cactus. 72,000 tonnes of water stored by cactus acting as a botanical water storing (180 tonnes of water per hectare). 2100 FIN and 4200 LIF vulnerable rural households sensitised on the effects of climate change and the importance of community-based participation in the protection and conservation of degraded lands as part of the graduation out of poverty programme. Livelihoods of 400 climate vulnerable rural households climate-proofed with off-farm climate resilient income-generating livelihoods that will also reduce the stress on degraded and vulnerable lands 	<ul style="list-style-type: none"> The maintenance of rural roads is based on assumptions regarding the environmental stressors the roads are exposed to and are being challenged by climate change. The increased frequency and intensity of storm events in the hills and mountains of the project area are causing significant damage to the structure of the roads by way of damaging the underlying and surrounding soil structure. Poverty levels in the IESS project area are among the highest in Tunisia with a high illiteracy rate at 40 percent of men and 42 percent of women. The poorest households are particularly exposed to the impacts of climate change in that they generally live in remote areas, on barren and eroded climate vulnerable steep slopes. Their livelihoods are first hit when prolonged

Component	Cost (USD)	No. of Beneficiaries	Losses Averted / Benefits Generated	Alternative to Project
			from over exploitation.	drought events occur and torrential causes extensive erosion and gullyng.
2. Sustainable value chains through climate resilient water infrastructure.	5,306,333	3,800	<ul style="list-style-type: none"> • 300 FINs will receive water harvesting investments as well as underground reservoirs with 100m hoses to reduce water vulnerability and reduce hardship burden on predominantly women. • Around 1,211,840m³ of water saved per year through improved water efficiency through the renovation of leaking IP irrigation networks and inefficient pumping stations. • Water tables regenerated through the construction and / or rehabilitation of 45 water infrastructure designed to slow down seasonal water flows. • Awareness raised for around 3500 farmers through the demo plots on the techniques to adapt to climate change. This will help reduce production losses, improve soil fertility, reduce erosion. • Farmer cooperatives (SMSAs) trained on composting and olive oil waste recycling and linked with the demo plot farmers providing environmental benefits while reducing agricultural waste and increasing livelihoods. • GDAs trained on improved water management and maintenance of IP water infrastructure. 	<ul style="list-style-type: none"> • Most water tables in the Governorate are currently exploited at between 100% and 150% of their sustainable recharge capacity. This has resulted in a continuous lowering of groundwater levels, that recently accelerated as a result of three consecutive dry years (2015-2017) and caused some wells and boreholes to dry up. Without Adaptation Fund assistance, this trend is set to continue making life for the most climate vulnerable increasingly unsustainable. • Without IESS and IESS-Adapt FIN will continue to remain dependent on limited state subsidies. Without integrated climate resilient value chain development and strengthening of the intermediary farmer cooperatives, there is no viable and sustainable path for income generation no access to markets and provision of agricultural services. • Without access to innovative climate resilient approaches through demo plots, farmers would continue to lose production capacity because of climate change; water consumption would be higher; and soils would become increasingly infertile and degraded, they would also be subject to continued erosion.
3. Knowledge Management	160,000	n/a	<ul style="list-style-type: none"> • Knowledge generated on water table regeneration; on the 	<ul style="list-style-type: none"> • Without IESS-Adapt gaps in terms of scientific

Component	Cost (USD)	No. of Beneficiaries	Losses Averted / Benefits Generated	Alternative to Project
			<p>impact of indigenous vegetation on degraded land consolidation; and on the Governorate-wide climate risk agricultural land survey. This research will enhance the CCA knowledge-base and enable better stewardship and sustainable management of scarce and degraded resources.</p> <ul style="list-style-type: none"> • General public awareness will be raised through short TV programmes, video clips, social media, posters and leaflets on the results of the project, but also on the impact human activity is having on limited resources. Increased knowledge and awareness on the importance of sustainable environmental management and solutions that everyone can adopt will help contribute to more sustainable environmental management and increased resilience to climate change. 	<p>knowledge, in particular the need for increased understanding of groundwater flows and recharge dynamics as well as exploring the ability of cactus as an indigenous means to consolidate vulnerable land would remain unfilled and adaptive opportunities missed.</p> <ul style="list-style-type: none"> • Without a knowledge management strategy that would be able to showcase the successful stories to the general public with an accompanying environmental and climate change messaging strategy, would mean that potentially thousands of people would not benefit from increased awareness about the environment and available climate adaptive strategies.

D. Strategies.

140. **Background.** Since the late 1980s, Tunisia has been implementing a strong public policy on environmental protection, which led to the creation of the National Environmental Protection Agency (ANPE) in 1988, a National Environmental Action Programme in 1990, the establishment of the Ministry of the Environment and Territorial Improvement in 1991, the creation in 1993 of a National Commission for Sustainable Development (CNDD), the creation in 1994 of the Tunisian Observatory for Environment and Sustainable Development, and the development in 1995 of its Agenda 21. Furthermore, the country has participated actively in the United Nations' adoption of international conventions - it has ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1993; the UNCCD in 1995; and the Convention on Biological Diversity (CBD) in 2003. It has further prepared two National Communications to the United Nations Framework Convention on Climate Change (UNFCCC) in 2001, 2014 and a biennial report in 2014; and ratified the Paris agreement in 2017.
141. **New Strategy for the Management and Conservation of Agricultural Land - 2017.** The new strategy is based on five main objectives: i) the protection and regeneration of soils; ii) combating gully; iii) using sustainable soil and water management to protect and add value to agricultural land; iv) utilising runoff water and increasing surface, soil and deep-water storage; v) contribute to biodiversity conservation and promoting sustainable environmental management for adaptation to climate change. The project is aligned to the new strategy through the promotion of alternative IGAs and cactus planting to slow down gully; enhance water table regeneration; and the promotion of demo plots to teach farmers new climate adaptive techniques that will enhance soil fertility, reduce erosion and support soil biodiversity enhancement.
142. **National Climate Change Strategy (NCCS).** Tunisia developed the NCCS in 2012 wherein it sets out the possible future climate scenarios the country is facing and the energy, agricultural and water strategies that will be required for a national strategy to adapt to and mitigate climate change. Water management features significantly with the objective to change farmer's approach to water

management and use. The national aim is to encourage farmers to make better use of water, reduce water loss and increase awareness about the importance of water conservation. The NCCS promotes NAMAs (Nationally Appropriate Mitigation Actions) with a strong focus on job creation and poverty alleviation as a means of climate change adaptation. The project will be aligned with the NCCS through the promotion of increased water availability, better water management and awareness by the farmers as well as the promotion of alternative livelihoods that help farmers better adapt to climate change.

143. **Strategic Development Plan 2016-2020 (SDP).** The SDP (Plan de Développement Économique et Social 2016 - 2020) developed up by the Tunisian Ministry of Development, Investments and International Cooperation, is the country's primary development strategy. The SDP outlines five axes: 1) enhancing good governance, administrative reform, and anti-corruption; 2) accelerating the adoption of crucial reforms to develop a higher value-added economy; 3) developing human capital and promoting social inclusion; 4) reducing regional disparities; and 5) embracing the green economy as a pillar of sustainable development. The project will be aligned with three of the five pillars namely 3, 4 and 5 through the promotion of modernising basic infrastructure; strengthening the capacity of vulnerable households; the promotion of Sustainable Natural Resource Management (SNRM); strengthening of farmer organisations; and the monitoring of ground water levels and institutional capacity development.
144. **Sustainable Development Strategy 2014-2020 (SDS).** The SDS ("Strategie Nationale de Developpment Durable") is developed by Ministry of Ministry of Equipment, Housing and Territorial Development ("Ministère de l'équipement, de l'habitat et de l'aménagement du territoire"). The main climate change objectives outlined are to improve knowledge of the impacts of climate change on the different natural environments; and to increase climate change resilience with a focus on integrating climate change adaptation into development planning. The project will be aligned with the SDS through the generation of knowledge through the groundwater recharge study undertaken in collaboration with IRESA, but also the installing of groundwater monitoring stations. Climate change adaptation is furthermore fully mainstreamed into the project through climate-proofing road infrastructure, improving access to water and protecting productive lands from erosion.
145. **Intended Nationally Determined Contributions (INDC).** Tunisia submitted its first INDC to the UNFCCC in 2015. Its INDC includes both mitigation and adaptation measures with an estimated USD 20 billion of international financing required for implementation. The list of adaptation actions to be taken are in relation to water resources, agriculture, coastline and tourism sectors. Those areas that the project is aligned to relate to the agricultural sector, and specifically to adapting irrigation in the central region; adapting mixed farming-livestock production to climate change in vulnerable regions; updating the agriculture map to take into account the impacts of climate change; and conserving and exploiting genetic heritage to adapt cereal crops to climate change, developing innovative systems for arable crops.

E. National Technical Standards and Environment and Social Policy

146. The project complies with the Environmental and Social Policy of the Adaptation Fund, (see ESP risk assessment summary in section II – K and detailed assessment in the EMSP in annex 4) and has been designed to minimise any negative environmental impact, resulting in net environmental benefits. IESS-Adapt will furthermore not trigger any need for Environmental Impact Assessments (EIAs), the list of activities that trigger the need for EIAs are listed below. Specifically, the climate-proofing of the IESS roads or the construction of gabion check-dams will not require EIAs, IESS will however need to apply for permits to construct / rehabilitate roads. While IESS-Adapt is not constructing new roads and merely climate proofing them, any road construction /rehabilitation will need to receive a permit from the Ministry of Equipment and Housing (MoEH). IFAD has clear guidelines and procedures based on CRDA experience that have been laid out in output 1.1.1. The relevant decree that the project will need to comply with is detailed below.
147. **Decree on Environmental Impact Assessment No. 91-362 of 13 March 1991.** This was further updated by Decree No. 2005-1991 of July 11, 2005 and lists a number of activities that trigger the need for Environmental Impact Assessments. These include:
 - i. Crude oil refineries.
 - ii. Thermal power plants and other combustion plants with a heating capacity of at least 30 MW.
 - iii. Installations for storing or disposing of waste water.
 - iv. Installations for the manufacture of cement.

- v. Plant for the manufacture of chemical products of pesticides, pharmaceuticals, paints and varnishes, elastomers and peroxides.
- vi. Iron and steel plants and non-ferrous metal production facilities.
- vii. Exploration and extraction units for oil and natural gas.
- viii. Surface mining of mineral resources and quarries
- ix. Land consolidation projects
- x. Reforestation operations of an area of 100 ha.
- xi. Clearings and projects of uncultivated or semi-natural land use on intensive agricultural exploitation of an area greater than 100 ha.
- xii. Pulp, paper and paperboard manufacturing units.
- xiii. Cellulose production and processing units.
- xiv. Tannery and tanning units.
- xv. Construction of railway, motorway and airport traffic lanes, including the runway for take-off and landing at a length of 2100 meters or more.
- xvi. Commercial, fishing and pleasure ports.
- xvii. Development works of industrial zones.
- xviii. Urban development works.
- xix. Line dams intended to retain water or store it in a sustainable manner.
- xx. Installation of aqueducts.
- xxi. Holiday villages and hotels with a capacity of more than 250 beds.
- xxii. Treatment plants.
- xxiii. Storage of scrap metal
- xxiv. Manufacture of artificial mineral fibres.
- xxv. Manufacture, packaging, loading or packaging of powders and explosives.
- xxvi. Textile industries and dyeing.
- xxvii. Treatment plants in urban areas.

148. **Decree on the construction of public roads (n ° 87-654 (April 28, 1987))** This Decree governs the parameters relating to the construction of public State roads. This Decree sets out in detail the procedures required for all road construction proposals to be submitted to the Ministry of Equipment and Housing (MoEH). Permits are issued following an application made to the MoEH. The applicant needs to accompany the request with a general over view plan at a scale of 1/5000 and a general plan at a scale of 1/1000; a detailed description of the construction to take place, including costs; calculations determining the strength and stability of the construction; and technical design drawings. The permit will be issued for a period of 30 years. The project will comply with this law through the CRDA who will oversee road construction and climate-proofing. The Regional Kairouan Directorate for the MoEH will work closely with the CRDA to oversee construction works and has detailed procedures based on this Decree, that govern everything from tendering procedures to delivery of works and which the CRDA will obtain from the MoEH. Output 1.1.1 sets out the procedures that have been developed based on MoEH regulations and broad CRDA experience in rural access road construction and the CRDA will oversee the entire works from tender to delivery.
149. **'Margines'**. The project will also propose to use the waste by-product of olive oil production or 'margines'. This by-product can be very fertile for the soil, however as is the case for common fertilisers, its use needs to be closely regulated so as to ensure it does not cause harm to people or the environment. The Tunisian legal framework has regulated the use of 'margines' and set specific parameters that need to be followed as detailed below.
150. **Decree n° 2013-1308 (2013). Parameters for the management of the olive oil mill wastewater 'margines' from olive oil mills for use in the agricultural sector.** This directive sets out the conditions under which the olive oil mill wastewater is processed and used as a form of bio-fertiliser. Specifically, it details i) the management conditions for the use of 'margines' in agriculture; and ii) how the resource should be applied. For example, it may only be applied for a maximum of 50m³ per hectare once every two years, it may not be stored for more than 30 days after production, it is also prohibited during the growing season and during periods of high rainfall where there is a risk of flooding and runoff outside the agricultural land. Thirdly, it sets out the required procedures for monitoring and evaluating its correct application for example through the monitoring of soil and water PH levels, polyphenols levels in soil up to 80 cm in depth; the degree of salinity; and the electrical

conductivity as well as hydrological studies with periodic controls of the water table. According to article 11 of the Decree, it is CRDA that is responsible for monitoring the correct implementation.

151. The project will comply with the national standards for ‘marginés’ use during the capacity building of both the farmers of the IPs as well as the SMSAs who would be the intermediaries between the producers and the farmers. The service provider hired by the project would fully integrate the legal requirements in to the designing of the training curriculums and the training of the CRDA/CTV extension workers as trainers. During the demonstration plots the application of ‘marginés’ will be overseen by the SP and the CRDA, while after the project it will be the responsibility of the CTV extension workers to take on this responsibility.
152. The project complies with a number of laws that have been listed below.
153. **Water Code 1975 (‘Code Des Eaux’)**. A revised water law is currently being debated in the Tunisian Parliament, in its present form this law is the overarching legislation covering the water sector. It covers aspects such as the sector’s organisation, rights to water, the protection of water resources and the penalties that should be applied should its principles be breached. All decrees and ordinances that apply to water and wastewater treatment reference the water code. The project will be in full compliance with the Water Code as the main objective is to reduce water losses in the agriculture sector, promote water table replenishment and by raising awareness about the importance of sustainable water management particularly as a means to build resilience to climate change.
154. **Gender Equality (Constitution 2014)**. Under Article 21 of the constitution, men and women with equal rights and duties under the law. The project will be based on giving men and women equal opportunities and also set the target of women participation at 65 percent to reflect the level of female participation in the rural agricultural labour force.
155. **Worker rights (Constitution 2014)**. Work is a right for every citizen, male and female. The state shall take the necessary measures to guarantee work on the basis of competence and fairness. All citizens, male and female, shall have the right to decent working conditions and to a fair wage. The project will be in full compliance with the Tunisian workers’ rights as well as international labour standards both as a responsible employer of the core PMU staff but also in the contracting of the Service Provider, consultants and anyone else otherwise employed for the implementation of the project.

Figure 16 Summary of laws to comply with.

Concern	Law Legislation	Enforcing Agencies	Enforced Regulation / Item
Construction Permit	Decree n ° 87-654 (April 28, (1987)	Ministry of Equipment and Housing	Issue of permit
Pesticides and Fertilisers	Decree n° 2013-1308 (2013)	Ministry of Environment and Ministry of Health	Monitoring and enforcement by CRDA/CTV

F. Duplication

156. There are a number of ongoing and closed projects in the Kairouan region that focus on natural resource management, adaptation to climate change and sustainable livelihood development. This project has been designed to be complementary and synergistic with them as it is the only one directly targeting the most climate vulnerable and rural poor. It will also ensure that the beneficiaries being targeted are not receiving duplicate investments by actively engaging with other stakeholders and donors. The table below details the potential synergies and risk of duplication.

Table 7 List of projects in Kairouan

Other Projects / Partners	Summary	Proposed geographical areas	Synergies with the proposed project.
<p>World Bank (USD 132m) The Integrated Landscape Management in the Least Developed Regions Project in Tunisia (2017-2024),</p>	<p>Aims to improve landscape management and access to economic opportunities for targeted communities in the less developed regions of the North West and Centre West of Tunisia.</p>	<ul style="list-style-type: none"> • Governorates of Beja, Jendouba, Kef, and Siliana in the Northwest Region; • Governorates of Kairouan, Kasserine, and Sidi Bouzid, in the Center-West Region; • Governorate of Bizerte. 	<ul style="list-style-type: none"> • Territorial Development Planning: will improve market access for small local agricultural producers through Productive allowances and value-chain development activities. (no duplication as project does not target the most vulnerable). • Strengthening institutional and legal frameworks. Strengthening legal frameworks and the Ministry of Agriculture, Water Resources, and Fisheries (MAWRF) Forest Exploitation Management Unit (no synergies). • Climate Smart Agricultural Management Practices. Tree planting; conservation tillage, and soil, water, and nutrient management; livestock husbandry and diversification; afforestation/reforestation activities; rangeland seeding and natural regeneration; the thinning and pruning of forests, combined with forest fire protection and biodiversity measures; and forest and rangeland certification activities. (no synergies). • Complementary local infrastructure investments enhance water resources and to open up isolated territories through feeder roads, water crossings, small water reservoirs, small bridges, and culverts. (the project will actively ensure no overlap in areas proposed by project or where cost savings can be made). • Fostering economic growth Support the formalization of producer organisations (POs), by bringing together small individual producers and farmers and helping them connect to bigger and better markets (Some synergies, the project will actively ensure no overlap in areas proposed by

Other Projects / Partners	Summary	Proposed geographical areas	Synergies with the proposed project.
			project or where cost savings can be made. The project is not developing value chains linkages with the FIN and LIF – different target group).
French Development Agency – AfD (€ 80.7m). The Adaptation Program for Climate Change in the Vulnerable Rural Territories of Tunisia (PACTE), (2018-2022)	Aims to support the sustainable environmental and social development of the rural territories. Its main three objectives are: (i) to sustainably manage vulnerable natural resources; ii) to contribute to the economic development of rural areas; and (iii) build mechanisms for better governance of territorial development.	Kairouan: Msaïd, Sayada Nord and Massiouta Nord	<ul style="list-style-type: none"> • Rainwater and CES management. Maintenance of Oueds, development of existing dams and household rainwater harvesting. (no synergies) • Livestock Management (no synergies). • Commercialisation of cactus fruit and olive trees. Development of the prickly pear and olive industry; (no synergies as different target groups).
GIZ 2016-2019 Integrated Water Management project II (<i>Gestion intégrée des ressources en eau II</i> (GIRE II))	Is a highly localised project upstream of the Nebhana Water System under the GIZ supported AGIRE program. It aims at ensuring a community-based participatory approach by the beneficiaries living upstream of the Nebhana dam to promote a role in the sustainable water and soil management (water and soil).	Kairouan	Project contributed to improving the management of water-related conflicts in the Sbikha-Kairouan region: <ul style="list-style-type: none"> • Small-scale (600 beneficiaries) capacity building on sustainable water management • Institutional and private sector capacity building in conflict management, negotiations and arbitration in the water sector. (No synergies).
African Development Bank – AfDB (USD 7.8m) Kairouan Integrated Agricultural Development Project (IADP) (2006 – 2015).	Aimed to promote sustainable agricultural development through the development of agricultural infrastructure, participatory development and institutional strengthening of the administration and beneficiary organisations.	Kairouan	IESS and IESS-Adapt upscale and improve on this project through the lessons learned and Participatory Development Plans developed by the CNEA national research institute.

G. Learning knowledge management and lessons learned.

157. Effective knowledge management – including the collection, generation and dissemination of information – is an important component of climate change adaptation. Learning from adaptation activities and being able to transform knowledge into products that are targeted at various audiences is essential to effective climate change adaptation. Component 3 will compile and disseminate project information, experiences and results on an on-going basis. The overall responsibility for Knowledge Management (KM) and communication will rest with the IESS KM Officer. The KM Officer will coordinate with the climate change specialist, local government counterparts and the M&E Officer to

identify case studies that illustrate the impact that the project has had on improving rural livelihoods. The project will also benefit from the knowledge that will be generated by way of research carried out on groundwater recharge; research on the effectiveness of using cactus as a means of stabilising gully and otherwise degraded land; a Kairouan governorate-wide agricultural climate risk survey; but also in knowledge dissemination through the ToT programme for the training of CRDA Kairouan staff as well as the development and dissemination of two policy-relevant knowledge products. The KM Officer together with the Climate Change Specialist will process the knowledge generated into an appropriate format for the general public and disseminate it. This will be through workshops and seminars, a website, radio and television programs, social media (YouTube, Facebook, Instagram etc.), posters and leaflets.

H. Consultative Process

158. The design for IESS and IESS-Adapt was conducted in two missions with the first one in March 2019 and the second in June 2019 during which a wide range of stakeholders have been consulted¹⁹. The proposed project has worked closely with the CRDA, and was consulted throughout the design process with the project proposal having been developed through a gender and youth sensitive participatory approach. The field survey focus groups were instrumental in informing the development of project interventions and the activities were subsequently designed based on local community concerns and needs. During the field visits every effort was made to identify women groups and associations, however none of the stakeholders interviewed, including the Ministry for Women, Families, Childhood and the Elderly were able to identify any in Kairouan. The stakeholder consultations however have been very gender and youth focused with meetings being arranged with smallholders that were timed to be sensitive to their respective needs as well farmer's needs more generally. As reflected in the list of persons met in Annex 5, women were also interviewed separately from men, this produced the desired effect as women felt freer to open up about their issues, which otherwise would not have been possible.
159. The main concerns that emerged from the consultation process have been integrated into the project design. Women from the more isolated homesteads complained about the hardship they faced in having to travel 5 hours to collect water by donkey and a general lack of water for the household and irrigation. Beneficiaries interviewed in villages however did have tap water in their homes but complained of not having water for irrigation or their animals, as it is illegal to use tap water for this purpose. Women further complained about reduced access to land as land is not registered in their name and women farmers have highlighted the challenge of their long working hours due to their farming and domestic responsibilities. Women are predominantly used as farm labour because farmers are able to pay them half of what a man would be paid which was an issue that was raised repeatedly in the consultations. Both female and male and youth target populations that have been interviewed complained about few opportunities and high levels of unemployment.
160. Reports of ravines and erosion have been common among the rural beneficiaries that have been interviewed, although they demonstrated little awareness about adaptive and management measures that can be applied to address this problem. Farmers also raised concerns relating to heavy rains causing flooding and erosion and extensive mud causing periods of being unable to move. The beneficiary consultations in the irrigated perimeters (IP) also identified that while farmers are supported by the government to purchase drip irrigation, none were taught or explained that the pipes can be maintained for increased longevity and consequently typically last only two seasons before they are replaced.
161. **Free, Prior and Informed Consent (FPIC)²⁰ and do no harm principles.** The consultative process during design and implementation has and will follow the FPIC and do no harm principles. Adherence to the FPIC principle needs to be assured before supporting any development intervention that might affect the land access and use rights of communities, IFAD will ensure that their free, prior and informed consent has been solicited through inclusive consultations based on full disclosure of the intent and scope of the activities planned and their implications.
162. The project will also adhere to the "do-no-harm principle" at all times. A broad range of development interventions, particularly those concerned with agricultural intensification, such as irrigation or technology-based agricultural production, and those focused on afforestation or rangeland management, effectively add value to land. Under such circumstances, there may be the risk that the

¹⁹ See annex 5 for the list of stakeholders met.

²⁰ Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People

rural poor, especially women, may lose out to more powerful groups. The project must be designed and implemented in such a way that it 'does no harm' to the land tenure interests of the rural poor, especially those of women, other vulnerable groups. Careful measures will always be considered to avoid elite capture or forced displacement of people, and to address conflicting claims.

I. Justification for Funding

163. This project functions as additional climate adaptation financing to upscale the lessons learned from the AfDB IADP project. These include increasing the likelihood of sustainable outcomes through the sustainable management of degraded and vulnerable lands susceptible to climate change through their inclusion as part of the IGAs; alternative IGA sustainability will be further enhanced through the involvement of an MFI and close supervision and coaching. Training has also been recommended for the GDAs in better managing the scarce water resource as well as being better able to operate and maintain irrigation infrastructure on the IPs. The project will be using sustainable water management (SWM) and sustainable land management (SLM) techniques that have been proven to work and recommended by the WOCAT database and UNCCD to tackle desertification and climate change. This will further add to the justification for the selection of activities being promoted by the project. The table below outlines the baseline and the alternative adaptation scenario the Adaptation Fund will help materialise.

Table 8 Adaptation Fund Additionality

Baseline Scenario	Alternative Adaptation Benefits of the IESS-Adapt project.
Component 1	
<p>Erosion. In the absence of dense vegetation cover combined with increased torrential rain caused by climate change, the steep slopes in Kairouan are exposed to water erosion. This results in superficial topsoil stripping, generalized and hierarchical gully erosion and bank failure. In addition, the eastern part of the project area is dominated by lowland terrain, subject to wind erosion. Increased soil erosion is also causing severe damage to rural road infrastructure, hereby negatively impacting the livelihoods of the rural poor.</p>	<p>Roads. The increased risk caused by more frequent torrential precipitation events will be prevented through 50 km of rural roads benefitting from wider and reinforced ford crossings; concrete-lined drainage channels; increased capacity of culverts; road surfacing with local calcareous tuff and reinforcement of the earth road structure with gabions.</p> <p>Vulnerable land consolidation. Increased environmental and climate change awareness and capacity building as a result of the graduation programme will bring benefits of increased sustainable environmental management by 6,300 vulnerable beneficiaries. 400 beneficiaries will be given off-farm alternative IGAs to alleviate pressures on soils that are exposed, degraded and vulnerable. 400 vulnerable households will also be educated and provided with cactus plantations as a form of income but also to consolidate land and slow down gully erosion that also function as botanical water wells storing 180 tonnes of water per hectare - resulting in 72,000 tonnes of water stored.</p>
Component 2	
<p>Desertification is a slowly creeping phenomenon in the governorate of Kairouan. In general desertification implies decrease in some significant meteorological and agricultural quantities such as rainfall, vegetation coverage, surface water extensions, groundwater level drops, and crop yields. Droughts increase the likelihood that the rate of degradation will increase on non-irrigated land if the carrying</p>	<p>Measures need to be taken to improve land and water management in the governorate. The project will implement the following:</p> <p>Water table replenishment. 45 water structures along seasonal waterways will help ground water recharge by slowing the speed of water in the streams through the construction and rehabilitation of permeable check dams and other structures.</p>

Baseline Scenario	Alternative Adaptation Benefits of the IESS-Adapt project.
<p>capacity is exceeded. Climate Change projections will worsen the current situation as drought will become more frequent.</p> <p>Water availability is a major concern in Kairouan with all the water tables reporting to be decreasing because exploited faster than they are being replenished. This poses serious problems for the livelihoods of the governorate and the future of one of the agricultural centres of the country. The wells that vulnerable rural smallholders, FINs and LIFs depend on will also gradually dry out.</p> <p>Torrential rain. Overall precipitation in Kariouan is decreasing, however flash flood events and torrential rain are increasingly frequent occurrences. This damages crops, causes erosion and compacts soils when heavy machinery is used on flooded soils.</p>	<p>Reservoirs. Underground water reservoirs ("<i>citernes enterrées</i>") will be built to help climate vulnerable households adapt to more frequent drought events. The reservoirs are sufficient for the basic needs of a household: cleaning and cooking needs, small homestead production and a couple of small ruminants.</p> <p>Water wastage. Studies have shown that the ageing IPs are leaking on average 40 percent of the water being extracted through leaking pipes and inefficient pumping stations. The ageing irrigation network will be rehabilitated to save an estimated 1,211,840m³ of water per year. GDA members will also be trained in improved water management and maintenance of water infrastructure.</p> <p>Demo plots. Around 3500 farmers will receive training through demo plots that will build their capacity in being able to apply techniques aimed at adapting to increased drought and torrential rain. Activities for drought will include but will not be limited to: the introduction of new more drought resistant crops; intercropping; mulching to reduce soil evaporation; tree-crop thinning to mitigate the adverse long-term effects of water stress on growth and can benefit fruit growth; summer pruning to reduce water stress while having minimal impact on fruit growth; and avoid applying foliar nutrients during heat stress because the nutrients will not be able to enter the tree and salts will concentrate too quickly in the leaves.</p> <p>Activities for heavy rain will include but will not be limited to: appropriate drainage options; the importance of land preparation for example application of gravel on heavier soil to improve drainage; allow for drainage before using heavy machinery to minimise compaction; cover crops or orchard sod row middles to help to absorb moisture during periods of excessive rainfall, and prevent leaching by tying up nutrients in organic form over winter, and releasing them in the spring when the trees can use them; and farmers, SMSAs and GDA will be taught to monitor soil moisture to avoid excessive irrigation.</p> <p>Technical capacity will further be improved through: equipment operation and maintenance; water quality and irrigation regimes; simple entry accounting and fiscal reporting; expenditures and revenues of irrigated sectors; climate change awareness capacity building; training on the importance and necessity of sustainably utilising the limited water resources; composting and organic agriculture; and crop load management.</p>
<p>Component 3</p>	

Baseline Scenario	Alternative Adaptation Benefits of the IESS-Adapt project.
<p>Climate change adaptation knowledge management and awareness raising. 40 percent of the rural poor are illiterate and a lack of awareness about sustainable environmental management and climate change adaptation is a key barrier to development and poverty reduction. Key knowledge gaps remain in scientific knowledge remain in terms of water table resource availability and management; the use of indigenous plants in the stabilisation of vulnerable and degraded lands; and in the climate risks facing the smallholder agriculture.</p>	<p>Knowledge generation and dissemination are a fundamental element a climate change adaptation project. The knowledge management component will generate knowledge that will aide in improving climate adaptability in terms of improved water table management; improved knowledge on the climate risks facing the smallholder agricultural sector; the use of indigenous plants for combating land degradation but also in generating knowledge that can be shared with the general public.</p>

J. Project Sustainability

164. Long-term sustainability will be sought primarily by i) emphasising the active participation of communities in the implementation and management of project interventions; ii) strengthening the community-level technical capacity to ensure stakeholders have adequate knowledge and skills to maintain the benefits of the project interventions; iii) training communities extensively on climate-resilient agricultural techniques; and iv) the maintenance of water-efficient irrigation technology and basic business management skills.
165. The project ensures sustainability through the participatory approach promoted throughout all project activities, that allow local communities and authorities to build ownership of the project results. The sustainability of the project is further enhanced through the SWM and SLM approaches that are being promoted and form the core element of the sustainable environmental and resource management approach to building resilience to future climate shocks. The climate resilient technologies that the project will implement have been proven to work and have been recommended by the Tunisian Arid Regions Institute of Médenine and the Regional Office of Agricultural Development. They have been further approved and are disseminated through the WOCAT online database for SWM and SLM techniques recommended by the UNCCD.
166. Long-term sustainability will be sought through institutional development and capacity building programmes designed to create a critical mass of efficient practitioners, and among all actors – from institutional to grassroots. The project will integrate participatory elements to fully address issues that affect the long-term sustainability of natural resource management and the welfare of local communities. Replicability will be further ensured through the dissemination of lessons learnt in the field demonstration trials, and the locally adapted management systems adopted by the beneficiaries. The dissemination of climate-resilient agricultural practices will be managed through farmer field schools, a ToT programme and the setting up of demo plots that will operate continuously for 3 years. This will ensure that there will be scope for extensive training opportunities for the local communities and will support the continuous transfer of knowledge between trainers and farmers. It will also foster collaboration between local farmers attending the field schools, further supporting the transfer of knowledge and skills throughout local communities. To support the long-term sustainability of this component, an established and experienced Service Provider (SP) will be contracted to conduct training and skills development. Partnering with a qualified and experienced NGO who have extensive experience working with the target communities will help ensure that the livelihoods are locally appropriate, thereby supporting their long-term sustainability.
167. Long-term environmental sustainability will be ensured on the one hand by promoting alternative IGAs to engage among other things in cactus planting that will earn an income while also consolidating vulnerable and degraded land, and carrying out a capacity building campaign through the Graduation programme. On the other hand, the project will ensure environmental sustainability through the construction and rehabilitation of water-related infrastructure that is designed to both to help conserve water to build resilience for times of drought, as well as protect roads and surrounding lands from erosion and bank failure during times of torrential flooding.

K. Socio-Environmental Impacts and Risks

168. IESS-Adapt aims to address the most important adaptation measures that have been proposed by the GoT in the national climate change adaptation and environmental management strategies. The ESP screening in annex 4 and summarised in this section, demonstrates that the project will have negligible potential socio-environmental risks. The investments to be undertaken by the project will promote climate resilience and take into consideration the vulnerability of the target areas in terms of climate-risks such as drought, increased water shortage, land degradation, poverty, rainfall intensity and slope angle.
169. The proposed investments and capacity development plan also aim to help marginalised climate vulnerable beneficiaries out of poverty through sustainable alternative sources of income by increasing awareness about environmental management and climate change as well as the other four pillars of the graduation process. Smallholder farmers will be shown how to shift to sustainable climate adaptive techniques that will help adapt to concrete environmental and climatic risks, such as increased drought, increased flooding, reduced water availability, increased land degradation and overall reduced livelihoods.
170. The environmental and social screening presented in the table below provides a brief overview of the risk assessments detailed in the ESMP in annex 4 and shows that there are low to negligible risks related to the IESS-Adapt project. There are some minor risks, but mitigation measures have been integrated into the project, which has therefore been categorised as a category B project. The assessment was however not able to determine the risks for ESPs 9,10 and 14 as the project sites have as yet not been defined. Section III and IV of the ESMP outline the management plan in place to ensure the risks are correctly identified and appropriate mitigation measures put in place.

Table 9 Overview of the ESP risk assessment

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
ESP 1	Compliance with the law positive impact: The project complies with all national relevant laws.	The project will be in full compliance with the law specifically in the securing of permits to climate-proof rural access roads, as well as the legal requirements for the use of olive oil mill wastewater as a bio-fertiliser.	Not needed
ESP 2	Access and equity positive impact: The project design supports equal access to training, equipment, infrastructure and services, taking especially into account marginalised and vulnerable groups, namely women and youth.	<ul style="list-style-type: none"> - The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. - Project targeting criteria is based on gender and age quotas - The project will advertise broadly through the mass media - The project will promote an extensive outreach programme that aims to be inclusive of the most vulnerable. It will use a registry of official FIN and LIF; the lists will be further verified by the project. - IESS-Adapt will publicly advertise and tender all contracts including the staff / technical experts of the PMU as well as 	Not needed

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
		the Service Provider implementing outcome 2.2 and all the private contractors that will be involved in the designing and constructing of the roads and water infrastructure under the Irrigated Perimeters (IP) and water table recharging activities.	
ESP 3	<p>Marginalised and vulnerable groups positive impact: The project specifically targets marginalised and vulnerable groups with an integrated gender and youth approach, who will benefit from climate-resilient investments throughout the project.</p>	<ul style="list-style-type: none"> - The project will specifically target the marginalised and vulnerable by using and verifying official registry of FIN and LIF households (including elderly, persons with reduced mobility, and persons with disabilities) - The piloting of the Gender Action Learning for Sustainability methodology will ensure the rights of women will be mainstreamed into the project. 	Not needed
ESP 4	<p>Human rights positive impact: The project is designed to respect and adhere to the requirements of all relevant conventions on human rights. IFAD is committed to support borrowers in achieving good international practices by supporting the realization of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work.</p>	<p>The screening as identified the main recommendations from the last Report of the OHCHR Assessment Mission to Tunisia. The project will address OHCHR concerns through</p> <ul style="list-style-type: none"> - Its activities to redress the disparities in standards of living and access to quality health, education, employment and social support structures for women, children, youth and marginalised in the governorate of Kairouan. - Ensuring that all activities will be the result of consultative and participatory processes. 	Not needed
ESP 5	<p>Gender equality and women's empowerment positive impact: The project will have specific gender targets and budget allocations, service providers with women staff to ensure outreach to women and integrate gender aspects in all reports. The project will have an approach to encourage the inclusion of women and specific targets have been identified for them. The identification of assets, skills training and enterprise development would be designed to address opportunities of relevance for women.</p>	<p>The project has taken proactive measures to integrate gender focused development strategies that will ensure it will not pose a risk to the principle of gender equality and women's empowerment. The project will:</p> <ul style="list-style-type: none"> - Target 65 percent of women. - Promote women economic empowerment; - Enable women and men to have equal voice and influence in rural institutions and organisations.; - Achieve a more equitable balance between women and men in the distribution of work and economic and social benefits. 	Not needed

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
		<ul style="list-style-type: none"> - Challenge social norms that perpetuate inequalities between men and women. - Women's economic empowerment will be promoted through access and control of productive assets and the home. - Strengthen and ensure the representation and participation of women in local decision-making bodies. - GDAs and SMSAs will have a gender and youth inclusion strategy with indicators for monitoring implementation. - The contribution of women to decision-making within the household or the community alongside that of men will be promoted - Awareness will be raised through campaigns for women, men, communities and leaders on gender-based violence. - Literacy classes promoted by the project will help to counteract discriminatory factors against women and unequal power relations 	
ESP 6	<p>Core labour rights positive impact:</p> <ul style="list-style-type: none"> - Relevant national labour laws guided by the ILO labour standards will be followed throughout project implementation. Employment creation enabling marginalized and vulnerable groups including unemployed youth and women to raise their income. 	<p>IESS-Adapt will integrate the recommendations made by the ILO through</p> <ul style="list-style-type: none"> - Ensuring workers rights are respected at all times and upheld to international standards. - In promoting social protection the project has designed the five-pillar graduation programme. 	Not needed
ESP 7	Indigenous peoples: Not applicable	There are no indigenous people in the Governorate of Kariouan	
ESP 8	Involuntary resettlement: Not applicable	The project will not engage in resettlement activities.	
ESP 9	<p>Protection of natural habitats</p> <p>The project is highly unlikely to pose a risk to critical natural habitats, however as the project activity areas has not yet been defined it is not possible to make a definitive assessment.</p>	As part of the ESMP, the project will identify the national critical habitat areas and monitor that the project implementation will not encroach or affect them in any way. This will be mapped and reported in the PPR.	Through the ESMP the project will identify if any protected natural habitat areas will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the critical habitat in

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
			relation to the project and if absolutely necessary explain why it cannot be avoided, as well as its characteristics and critical value.
ESP 10	<p>Conservation of biodiversity positive impact:</p> <ul style="list-style-type: none"> - The project objectives and activities are designed to support water conservation and promote soil conservation practices as means of adapting to the weather extremes and improve soil water retention, structure and microbiomes. - The project is highly unlikely to pose a risk to critical biodiversity, however as the project activity areas has not yet been defined it is not possible to make a definitive assessment. 	As part of the ESMP, the project will identify the national critical biodiversity areas and monitor that the project implementation will not encroach or affect them in any way. This will be mapped and reported in the PPR.	Through the ESMP the project will identify if any protected natural habitat areas will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the critical habitat in relation to the project and if absolutely necessary explain why it cannot be avoided, as well as its characteristics and critical value.
ESP 11	<p>Climate change positive impact:</p> <ul style="list-style-type: none"> - The project is designed with the purpose to be focused on climate change adaptation in terms of providing technical and capacity building solutions to the rural climate-vulnerable poor to adapt to climate change. This will be in terms of improving access to water; 	<ul style="list-style-type: none"> - The project does not promote any drivers of climate change (energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management). - Project activities will be aligned with national priorities in CCA as set out in the national development strategies. 	Not needed
ESP 12	<p>Pollution prevention and resource efficiency positive impact:</p> <ul style="list-style-type: none"> - Support improvements in efficient irrigation that save water, reduce production costs. - Application of national and international fertiliser use standards. 	<ul style="list-style-type: none"> - The project will improve water efficiency in irrigation on around 769ha of agricultural land, saving an estimated 1,211,840m³ of water a year. - A training programme will be focused on improved water management and maintenance of water infrastructure on the irrigated perimeters. - Waste from olive oil production will be minimised by promoting its use as a fertiliser in close adherence with the legal requirements set out in Directive n° 2013-1308 (2013). This will be included in the demo plot training programme and monitored by 	No screening needed. The ESMP will involve reporting on the inclusion of correct margins use and normal fertilisers in the training programme.

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
		the CTV trainers / extension workers.	
ESP 13	<p>Public health positive impact: The project is expected to have an overall beneficial impact on the public health with improved access to water, climate-proofed yields and increase quality of produce that will also provide improved food security and nutritional benefits.</p>	No risk to public health resulted from the screening for determinants of public health in the EMSP in annex 4. It covered: income and social status; education; physical environment; social support networks; health services; land use; unsustainable farming; and water.	Not needed.
ESP 14	<p>Physical and cultural heritage - The project will be in compliance with the law on archaeological heritage preservation.</p>	The project will ensure whether there will be any national cultural heritage sites in the project areas and propose measures to avoid any alteration, damage, or removal of physical cultural resources, cultural sites, and sites with unique natural values.	Through the ESMP the project will identify if any national or cultural heritage will be included in the project zones. In the unlikely event that this may be the case, the project will describe the location of the of the heritage in relation to the project and if absolutely necessary explain why it cannot be avoided and what measures are being taken to minimize negative impact.
ESP 15	<p>Lands and soil conservation positive impact: The project is designed to have positive impact on lands through various techniques in soil conservation.</p>	<ul style="list-style-type: none"> - The project will directly aim to reduce the climate vulnerability of these marginal communities in multiple ways, one of which is through lands and soil conservation. - The project has conducted a climate and soil vulnerability assessment (figure 14) and will aim to climate-proof 50km of rural access roads to reduce the erosion caused by torrential rain on the surrounding lands and soils. - The project will carry out extensive vulnerability assessments through the graduation programme to identify areas of land degradation and climate vulnerability. - It will promote the planting of 400ha of land with indigenous cactus aimed at consolidating vulnerable and degraded lands and protect them from gullying and erosion - Sustainable environmental management and CCA 	Not needed.

ESP	Potential Impacts and Risks	Mitigation Efforts	Screening and ESMP
		awareness raising will be delivered to 6300 vulnerable household (65% women).	

L. Grievance and Redress Mechanism

171. The proposed project will utilize the existing IFAD's grievance mechanism to allow affected to raise concerns that the proposed project is not complying with its social and environmental policies or commitments. The consultative process with the community and beneficiaries aims to ensure prevention of grievances that might arise from the project activities. However, if at all, there are any grievances, the below redressal mechanism is proposed:

- Grievance redressal mechanism would be shared with the community during the project inception workshop and subsequent meetings with the beneficiaries
- As part of the grievance redressal mechanism, the contact details of the project partners - Cluster Coordinator/ Project Manager would be made available to stakeholders including project beneficiaries and the community. Contact numbers would be displayed at common or predominant places along-with the project details. This is expected to promote social auditing of project implementation. The grievance mechanism will be available to the entire project intervention areas. However, the functionality of the mechanism rests with the beneficiaries considering that the project including the grievance mechanism is envisaged to be a bottom up approach.
- The grievance and redress mechanism protect complainants from retaliation, if requested.

172. Grievances are aimed to be addressed at the field level by the project team which will be the first level of redressal mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violation of any of the provisions of Environmental and Social Policy of the Adaptation Fund. All grievances received and action taken on them will be put up before the PMU and Steering Committee meetings and will also be included in the progress reports to the NIE for reporting and monitoring purposes.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Arrangements for project implementation²¹.

173. The IESS project will be implemented by the Ministry of Agriculture, Water Resources and Fisheries (MAWRF), through the Project Management Unit (PMU), embedded in MAWRF. The PMU will be led a Director and supported by two Deputy Directors for with respective responsibilities for planning and M&E as well as for implementation. The PMU will coordinate the implementing partners with a specific focus on financial management and procurement, climate change adaptation, activities related to gender and youth, communication and knowledge management. The PMU will recruit additional specialists as needed, who will be responsible for the day-to-day management and implementation project activities, covering overall management/supervision, fiduciary management and monitoring and evaluation.
174. **National Coordinating Committee ('Le Comité National de Coordination' - CNC).** The CNC will be established by ministerial decree and will be responsible for the overall supervision of the project. The CNC will meet at least once a year and will be chaired by the Minister of Agriculture or his representative. The CNC will comprise a panel including MAWRF, the Ministry for Development Investment and International Cooperation ('*Ministre du Développement, de l'Investissement et de la Coopération Internationale*' – MDICI), Ministry of Finance (MoF), The Ministry of Social Affairs - MSA ('*Ministère des Affaires Sociales*' – MAS), Ministry of Environment and Sustainable Development - MESD ('*Ministère de l'Environnement et du Développement Durable*' - MEDD), CRDA, PMU, UTSS, the Tunisian Agricultural and Fisheries Union - TAFU ('*Union tunisienne des agriculteurs et des pêcheurs*' – UTAP), the Tunisian Central Bank – TCB ('*Banque Centrale de Tunisie*'- BCT) and the IFAD focal point. The role of the CNC will be to: (i) monitor the project objectives and the quality of interventions, (ii) the integration of the programs and strategies of the various sectors in the region, (iii) the monitoring of institutional measures and setting of implementation deadlines; (iv) assuring the adequacy of resources with the planned tasks; (v) analyse and approve the annual project activity report and review of the Annual Work Plan and Budget ("AWPB").
175. **The Regional Coordination and Steering Committee ('Le Comité Régional de Coordination et de Pilotage' - CRCP),** will be created by decree of the Governor and will ensure coordination between the various regional structures for planning and implementation in the Governorate. The CRCP will meet twice a year and be chaired by the Governor of Kairouan or his representative. The CRCP will comprise representatives of regional technical directorates, the CRDA and PMU, DRAS, UTSS, UTAP and project partners. The main tasks of the CRCP will be to: (i) coordinate the planning and intervention approach of the project; (ii) develop synergies with other similar projects and programs at the regional level, (iii) the identification and implementation of communication strategies, (iv) piloting and validation of the training program, (v) exchange and sharing of experiences and dissemination of good practices; (vi) identification of partnership opportunities between socio-professional organisations and women's organisations in the region and with other regions; (vii) the negotiation / validation of technical proposals; (viii) review and adoption of the AWPB; (ix) periodic monitoring of the achievements of project activities and the implementation of partnership agreements with other regional services; and (ix) the integration of the various interventions to increase efficiency and reduce intervention and supervision costs.
176. **The Interregional Coordination Committee ('Le Comité Interrégional de Coordination' - CIRC)** will be established by ministerial decree and will meet at least once every six months. This committee will coordinate the various IFAD / AF activities, particularly in Kairouan and Siliana. The IARC will be chaired alternately by CRDA in Kairouan and Siliana and will comprise the two respective PMUs, divisions and technical districts of both CRDAs, partner representatives and coordinators of other IFAD-funded projects. Its main tasks will be: (i) the coordination and planning of the intervention approach; (ii) coordination of synergies with other similar projects and programs, particularly at the level of the CRDAs of both regions; (iii) the identification and implementation of communication strategies; (iv) exchange and sharing of experiences and dissemination of good practices; (v) coordinating the preparation of joint technical and socio-economic studies between the two PMUs; (vi) identification of partnership opportunities between socio-professional organisations and women's

²¹ A project organigram is available in annex 2

organisations in the two regions; and (vii) the organisation and coordination of the various project monitoring, supervision and evaluation missions in close consultation with the specialized structures and the PMUs.

177. **Local Coordination Committee ('Comité Local de Coordination' - CLC).** The CLC will be established at each of the seven sectors in the project area. It will be chaired by the CRDA Delegate comprising technical staff of the CRDA extension units (CTV), local social affairs representatives, local representatives of the UTSS, local representatives of partners, presidents of councils of administration of POs, representatives of the Regional PMU. To ensure sustainability, particularly with regards to the basic infrastructure, the municipalities will be part of the CLCs and will be involved in the process of planning and monitoring implementation. The CLCs will meet at least once a quarter and will to ensure: (i) coordination of field missions and contribute to the selection of local beneficiaries; (ii) support the socio-professional organisations; (iii) the identification and resolution of technical and socio-economic problems encountered during project implementation; and (iv) support for the establishment of income-generating activities (IGAs) and small and medium-sized enterprises (SMEs) and their supervision along the production process.

B. Financial and Project Risk Management

Financial Risks

178. **Financial risks** will be monitored and assessed by IFAD Financial Management Division (FMD) on an on-going basis throughout the implementation of the project and. The financial management structure of the project PMU comprises of a Finance Officer who will be assigned to the PMU and will be reporting directly to the Project Coordinator, he/she will preferably have an experience in working with international funded projects. For external funds, three designated accounts will be opened at the Central Bank, for the IFAD loan, the IFAD grant and the grant from the Adaptation Fund. Withdrawal and disbursement from the loan and grants account will be made in accordance with IFAD established disbursement handbook and procedures.
179. **Accounting.** The existing accounting system that is in place (ADEB) is primarily used for the management and monitoring of the State Budget and is therefore not capable to produce financial reports as required by IFAD. The project will therefore use an integrated financial monitoring and evaluation system called "INJEZ" developed by Centre National de l'Informatique that includes procurement, physical and financial monitoring and evaluation performance indicators. All relevant PMU staff will undergo INJEZ training prior to commencement of project activities. INJEZ will manage:
- I. Financial reports according to IFAD's reporting format (commitments and payments by component, sub-component, by category and source of financing, in Tunisian dinars and USD, source statements and uses of funds).
 - II. Budget vs actuals.
 - III. Reconciliation status of the designated accounts; and
 - IV. Procurement Plans.
180. **Financial Reporting and Auditing:** The project will adopt IPSAS cash basis (not accrual) for preparation of the annual financial statement²². The financial statements for the project will include all financiers (IFAD Loan, IFAD Grant, AF Grant, Counterpart contribution and Beneficiaries contribution). The external audit will be carried out annually for the entire project by the Contrôle Général des Finances (CGF) in accordance with an acceptable Auditing Standards to IFAD. The annual audit report will cover will also cover all financiers.
181. **Fraud prevention.** Fraud risks will be addressed in accordance with provisions of the IFAD Policy on Preventing Fraud and Corruption in its Activities and Operations, IFAD applies a zero-tolerance policy with regard to any fraudulent, corrupt, collusive or coercive actions in the projects it manages. This entails not only pursuing all allegations of fraudulent practices and applying appropriate sanctions but also promoting preventive control measures such as assessments of national and project-specific financial management, auditing and procurement systems. Where it is determined that fraudulent, corrupt, collusive or coercive practices have occurred in projects financed through its loans and

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<https://www.ifad.org/documents/38711624/39421009/IFAD+Handbook+for+Financial+Reporting+and+Auditing+of+IFAD+Financed+Projects/133b165d-15c7-4f79-8217-ae95b79dd67>

grants, IFAD applies a range of sanctions, including disciplinary measures for IFAD staff; and pursues the recovery of any losses in accordance with the provisions of the applicable IFAD rules and regulations and legal instruments. The Policy on Preventing Fraud and Corruption has been integrated into IFAD's legal framework (Project Procurement Guidelines²³, General Conditions for Agricultural Development Financing²⁴, IFAD's Code of Conduct²⁵) and applies to all recipients of IFAD financing.

Project Risks

182. The main potential risks to programme success and mitigation strategies are summarized in the table below.

Table 10 Main potential risks to programme success and mitigation strategies

Risk	Type of risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
Accounting system is not in line with international standards best practices due to limitation in the existing accounting software used by CRDA.	Financial	M	The project will use an accounting software system called (INJEZ) which is capable of producing the minimum reports required by IFAD standards and the CRDA has agreed to use it to ensure acceptable levels of transparency and accountability. All relevant staff will be trained on INJEZ software system.	L
Low interest and capacity of smallholder to adopt new climate smart approaches and technologies.	Technical	M	The programme will pay attention to technical and environmental capacity building and training as a key factor in ensuring motivation. It will carry out demonstrations and raise general environmental and climate change awareness and train farmers on the economic and environmental benefits for the adoption of systems and new technologies. The project will also be demand-driven so as to focus on the needs of the farmers to generate interest. This will mean that the project activities in outcome 2.2 will need to be reviewed and possibly updated within the detailed review framework so as to ensure farmer interest.	L
Fertiliser and olive oil mills wastewater ('marginés') can be used inappropriately and cause health and safety risks to the general	Environmental	M	IFAD will apply its international standards in fertiliser management and these will be incorporated into all relevant training programmes. The project will also ensure that the service	L

²³ <https://www.ifad.org/web/guest/document-detail/asset/39438991>

²⁴ <https://www.ifad.org/web/guest/document-detail/asset/39500875>

²⁵ <https://www.ifad.org/web/guest/document-detail/asset/40186603>

Risk	Type of risk	Initial risk assessment (H = high, M = moderate, L = low)	Proposed mitigation measure	Final risk assessment
public and the wider environment			provider adheres to Directive n° 2013-1308 (2013) as stipulated under section II-E of the proposal. As per the directive, the CRDA is responsible for the monitoring and enforcing of the conditions of use.	
Climatic shock: the main effect of climate change on weather patterns is the increased occurrence of extreme weather events: droughts and flooding in particular. These climatic shocks can have a direct impact on crop production and soil erosion	Environmental	H	The programme will introduce climate smart infrastructure and will ensure that climate adaptation measures are implemented. It will in particular ensure that farmers have the technical capacity and knowledge to apply techniques that have proven to help farmers adapt to climate change hereby reducing risks to livelihoods and increased land degradation. This will improve resilience to increased drought and torrential rain.	M
Insufficient capacities to appropriately manage the day-to-day implementation of the project	Technical	L	The PMU has the proven administrative and financial management capacity to implement projects and has the necessary autonomy and assumes the fiduciary management functions of the project. IFAD will participate as an observer in all stages of the recruitment process. The staff of the PMU will be linked to the project by renewable annual contracts based on a performance evaluation.	L

C. Environmental and Social Risk Management,

183. IFAD-funded projects and programmes are designed in a participatory manner, taking into account the concerns of all stakeholders. IFAD requires that projects are carried out in compliance with its policies, standards and safeguards. Moreover, IFAD's Strategic Framework calls for ensuring that projects and programmes promote the sustainable use of natural resources, build resilience to climate change and are based upon ownership by rural women and men themselves in order to achieve sustainability. The project design was assessed through the social, environmental and climate assessment procedures (SECAP) of IFAD, which are fully aligned with the AF Environmental and Social as well as Gender Policies, as shown in the ESMP section II-ii. Following the IFAD SECAP screening and the ESP screening in annex 3 (ESMP), the project has been categorised as a category B (also refer to section II – K).
184. As is summarised in section II – K and explained in detail in the ESMP in annex 4, the project will pose no social risks and on only minor environmental risks that can easily be mitigated, which has meant the project being rated as a category B project. The few risks associated with the promotion of

vegetable waters from olive oil mills or 'marginés' as fertilisers will be easily addressed and will comply with the clear regulation set out in the directive n° 2013-1308 as will any use of fertiliser be compliant with national laws and IFADs best practices. Although expected to be very unlikely, the risks could not be immediately identified for the protection of natural habitats, the conservation of critical biodiversity, and physical and cultural heritage. The ESMP has therefore detailed in the ESMP, screening and reporting processes that will further mitigate risks in these areas.

185. Overall the expected impact of the project on the environment will be positive given its orientation towards the climate proofing of livelihood infrastructure; the capacity building and climate proofing of 400 rural households through the promotion of alternative off-farm IGAs and training on sustainable environmental management and climate change adaptation; and the identification and consolidation of 400ha of vulnerable and degraded land with cactus planting. The project will promote the monitoring and regeneration of underground water tables; it will promote the training of producer organisations in improved irrigation infrastructure maintenance and operation; promote waste minimisation through the training of appropriate methodologies in fertiliser (and 'marginés') handling, storage and application; the increased efficiency of irrigation infrastructure and reduced water losses; and supporting 300 FIN with rainwater harvesting reservoirs.
186. Social risks will be reduced through the direct targeting of 65 percent women and 50 percent youth. Together with IESS the Adaptation Fund will help carry out vulnerability assessments through the profiling of 2100 FIN and 4200 LIFs clearly identifying their needs in terms of the coping mechanisms with food insecurity, the impacts of climate change, environmental degradation, social awareness, literacy, skills base, health, disability, and prevalence of gender-based violence, child labour, or early marriage. The result of the assessment will help develop the training and coaching programme that will aim to reduce any social risks.

D. Monitoring and Evaluation Arrangements

187. **Project Monitoring and Evaluation (M&E)** will be under the oversight of the PMU, and led by the M&E officer who will work closely with the implementing partners. The M&E system should: (i) produce, organise and disseminate the information needed for the strategic management of the project, (ii) document the results and lessons learned for internal use and for public dissemination on the achievements and (iii) respond to the information needs of Adaptation Fund, IFAD and the Government on the activities, immediate outcomes and impact of the Project. A monitoring and evaluation manual that will describe a simple and effective system for collecting, processing, analysing and disseminating data will be prepared in the first year of the Project.
188. A computerized and geo-referenced database will be developed that will enable the generation of dashboards used in IFAD projects. The system will be regularly fed from data collected in the field by the implementing partners and the various studies carried out as part of the projects' implementation. Trainings will be organised to strengthen the capacities of the various stakeholders involved in the monitoring and evaluation system.
189. Day to day monitoring of implementation progress will be the responsibility of the project team, based on the project's Annual Work Plan and its indicators. During the first months of the project, the project team will complete and fine-tune baseline data for each indicator, and will define and fine-tune performance. Specific targets for the first year of implementation, progress indicators, and their means of verification will be developed at the Inception Workshop (below).
190. **Project Inception Workshop.** An inception workshop will be conducted within two months of the project start up with the full project team, relevant government counterparts and IFAD. The inception workshop is crucial to building ownership for the project results and to plan the first-year annual work plan. A fundamental objective of the inception workshop will be to present the modalities of project implementation and execution of AF-only activities, and assist the project team to understand and take ownership of the project's goals and objectives.
191. **A Project Inception Report** will be prepared immediately following the Inception Workshop. It will include: (i) a detailed First Year/Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project; (ii) the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan; (iii) a detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners; (iv) a section on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation.

192. **Baseline study.** A baseline study will be conducted as part of the IESS baseline the terms of reference of which include indicators specific to the IESS-Adapt project. The baseline will collect data and serve as the basis for the assessment of how efficiently the activity has been implemented and results achieved. The study will include the target group and a control group which will be essential to determine the attribution of results to programme activities.
193. **Quarterly Progress Reports** will also be prepared by project implementing partners in the field, and submitted to the PMU to ensure continuous monitoring of project activities and identify challenges to adopt necessary corrective measures in due time.
194. **Annual Project Report (APR).** The project team will prepare an APR to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The format of the APR will be flexible but should include the following issues: (i) an analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome; (ii) the constraints experienced in the progress towards results and the reasons for these; (iii) the three (at most) major constraints to achievement of results; (iv) AWP and other expenditure reports; (v) lessons learned; (vi) clear recommendations for future orientation in addressing key problems in lack of progress. The project will also submit a PPR each year to chart progress, using the Adaptation Fund template. The PPR includes among others, information related to financial data, procurement, risk assessment, rating, project indicators, lessons learned. In addition, it includes the results tracker that needs to be filled. This will be done i) at inception where baseline-related information will be submitted, as well as planned targets at project/programme completion; ii) at mid-term; and iii) project/programme completion when the final PPR will serve as a project completion report.
195. **Supervision** will be by IFAD (under its direct supervision framework and guidelines), with a supervision mission mobilized at least once per year. Additional implementation support from IFAD on specific identified issues will be mobilized if considered necessary by the IFAD or recommended by the supervision mission. The composition of the supervision missions would be based on an annual supervision plan. The supervision plan would highlight, in addition to the routine supervision tasks (fiduciary, compliance and programme implementation), the main thematic or performance areas that require strengthening and would imply deployment of additional inputs for capacity building, in-depth analytical studies or review of existing policies.
196. **Mid-term Review (MTR).** The MTR will assess operational aspects such as programme management and implementation of activities as well as the extent to which the objectives are being fulfilled and corrective actions needed for the programme to achieve impact. Depending on the achievements the programme and the resources available, the possibility of scaling up the activities to other regions will also be considered in consultation with the government.
197. **A Final Evaluation** will be conducted three months before project closure which will include the programme completion survey.
198. Programme completion survey (impact evaluation): Will include the same set of questionnaires included at baseline to allow for comparison against baseline results. In addition, a panel of households will be interviewed to provide a thorough analysis of programme impact. Moreover, analysis will be done by type of beneficiary, region and gender of household head.
199. The proposed schedule of supervision M&E activities with associated budgets is presented in the table below.

Table 11 Breakdown of M&E fee utilisation.

IE Fees Breakdown of M&E Supervision	Responsibility	Timeframe	Adaptation Fund Budget (USD)
Start-up Workshop	IFAD, PMU	IESS PY1	10,000
Supervision missions	IFAD, PMU	Twice a year	(Covered by IFAD IESS)
Mid-term	IFAD, PMU	At mid-point of project cycle	60,000
Annual Work Plans and Budget	PMU	Annual	(Covered by IFAD IESS)

Semi-Annual Progress Report	PMU	Semi-annual	(Covered by IFAD IESS)
Annual Adaptation Fund PPR support (external consultant)	PMU	Annual	(Covered by IFAD IESS)
Final Evaluation	IFAD, External consultants	End of project	32,000
Total			102,000

E. Results Framework

Table 12 Results Framework

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions	
Overall objective: To improve the climate adaptive resilience of vulnerable ecosystems, vulnerable populations and livelihood infrastructure in the Kairouan Region	Km of roads climate proofed against torrential rain damage.		50 km of rural access roads climate-proofed to benefit 1,200 direct beneficiaries.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	<ul style="list-style-type: none"> • Good participation and involvement of local communities. • The interest of young people remains high throughout project implementation. 	
	No. of rural climate vulnerable poor beneficiaries with reduced water insecurity.		300 households benefitting from 50m ³ rainwater harvesting reservoirs (minimum 195 women).			
	No. of beneficiaries with improved climate change awareness		9,600 households (6240 women, 3360 men, 4,800 youth) between FIN, LIF and smallholder farmers on the IPs will receive capacity building in climate change adaptation.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations • Training programme • Attendance lists 		
	Improved knowledge on groundwater availability.			7 additional ground-water monitoring stations constructed.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	<ul style="list-style-type: none"> • Good participation and involvement of local communities.
				Study conducted on the impact of project activities on water table levels.		
Ha. of vulnerable land protected.			400ha of vulnerable land consolidated with cacti and vegetative cover increased (400 households – 260			

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
			women).		
	No. of water recharge gabion check-dams constructed.		45 gabion check-dams constructed.		
	Ha of irrigated perimeters with renovated		769ha of irrigated perimeter land is rehabilitated to reduce water losses through old and inefficient infrastructure.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Mid-term and final project evaluation 	
Component 1 Access to basic services and strengthening of livelihoods					
Outcome 1.1 Modernized and resilient basic social infrastructure					
Output 1.1.1 Climate-proofing rural access roads	Km of roads climate proofed against torrential rain.		50 km of rural access roads will be climate-proofed against increased frequency and intensity of torrential rain events.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	<ul style="list-style-type: none"> • Good participation and involvement of local communities.
Outcome 1.2 Strengthened capacity and climate proofing vulnerable rural households					
Output 1.2.1 The most climate vulnerable and rural poor are identified.	No. of FIN and LIF targeted as part of the graduation outreach and awareness programme		2,100 FIN and 4,200 LIF will be targeted.(4,095 women, 2,205 men and 3150 youth)	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports 	<ul style="list-style-type: none"> • Good participation and involvement of local communities.
Output 1.2.2 Graduation programme implemented.	No. of beneficiaries with trained on 5 pillars approach.		2,100 FIN and 4,200 LIF will be trained with AF support (4,095 women, 2,205 men and 3150 youth).	<ul style="list-style-type: none"> • AF PPR reports • Mid-term and final project evaluations • Training programme • Attendance lists 	<ul style="list-style-type: none"> • The interest of young people remains high throughout project implementation.

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
Output 1.2.3 New climate-proofed income generating activities developed	No. of alternative off-farm income generating activities promoted		400 beneficiaries (65% women and 50% youth) supported with alternative forms of off-farm income (260 women, 140 men and 200 youth).	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	<ul style="list-style-type: none"> • Good participation and involvement of local communities. • The interest of young people remains high throughout project implementation.
	Ha. of vulnerable and degraded land stabilised with cacti.	400 ha of climate vulnerable and gullying land planted with cacti.			
Component 2: Sustainable value chains through climate resilient water infrastructure					
Outcome 2.1 More resilient productive infrastructure and stewardship of natural capital					
Output 2.1.1 Seasonal water reservoirs ("citernes enterrées") constructed.	No. of water harvesting cisterns constructed.		300 households (at least 195 women) supported with 300 50m ³ reservoirs (total capacity 15,000 m ³).	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	
Output 2.1.2 Water networks losses reduced on existing irrigated perimeters.	Ha. of land with rehabilitated irrigation networks.		321ha of agricultural land benefitting from leak-free irrigation infrastructure.		
			448ha of agricultural land benefitting from water saving pumps with efficient distribution capacity.		
Output 2.1.3 Infiltration of runoff into groundwater reserves in seasonal water courses is increased	No. of water table replenishing infrastructure constructed / rehabilitated		45 structures constructed and/or rehabilitated to slow down seasonal runoff water and replenish underground water tables.		
Output 2.1.4 Water table monitoring	No. of groundwater monitoring stations installed in key		7 additional groundwater monitoring stations		

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
capacity increased.	locations.		installed.		
Outcome 2.2 Farmer climate adaptive capacity strengthened.					
Output 2.2.1 Service Providers and Producer Organisations trained.	No. of GDAs and SMSA trained		31 GDAs and 30 SMSAs trained including leadership training to encourage more women to hold leadership positions.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations • Training programme • Attendance lists 	<ul style="list-style-type: none"> • Good participation and involvement of local communities.
Output 2.2.2 Adaptive technologies are demonstrated	No. of demo plots set up.		14 demo plots created and operational for 3 years.		
	No. of beneficiaries to receive climate adaptive training.		3,500 farmers (2,275 women, 1,225 men) trained in climate adaptive techniques and adaptive technologies		
Component 3: Knowledge Management					
Outcome 3.1: Knowledge is generated and disseminated					
Output 3.1.1 Groundwater recharge study undertaken	An impact study on changes in groundwater is undertaken at end of project		One study conducted to get a better understanding of the levels of water in the water tables is achieved.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR reports • Mid-term and final project evaluations 	
Output 3.1.2 Impact study on cactus as an indigenous means of consolidating degraded and vulnerable land undertaken.	An impact study of the use of cacti as an indigenous means to stabilise degraded lands is undertaken.		One study conducted to get a better understanding of the benefits of using cacti as a means to make vulnerable soils more resilient is achieved.		
Output 3.1.3	A study is conducted		A study mapping the		

Project Objective(s)	Project Objective Indicators	Baseline	Target	Means of Verification	Assumptions
Climate risk agricultural land survey conducted.	to better understand the risks agriculture faces from climate change.		agricultural activity and climate vulnerability will be conducted.		
Output 3.1.4 Knowledge generation and dissemination programme implemented.	Knowledge products produced and disseminated		Farmer success stories collected; knowledge produced synthesised into knowledge products; video clips, radio programmes, posters, leaflets produced and distributed.	<ul style="list-style-type: none"> • Project M & E reports • Progress reports • Supervision mission reports • AF PPR report • Mid-term and final project evaluations 	

F. Alignment with the Adaptation Fund Results Framework

Table 13 Alignment with Adaptation Fund Results Framework

Project Outcome(s)	Project Outcome Indicator(s)	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Component 1				
Outcome 1.1 Modernized and resilient basic social infrastructure	Km. of roads climate proofed	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	1,650,000
Outcome 1.2 Strengthened capacity of vulnerable rural households	No. of beneficiaries more climate resilient through graduation out of poverty.	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	1,567,600
Component 2				

Project Outcome(s)	Project Outcome Indicator(s)	Adaptation Fund Outcome	Adaptation Fund Outcome Indicator	Grant Amount (USD)
Outcome 2.1 More resilient productive infrastructure and stewardship of natural capital.	No. of seasonal water reservoirs constructed.	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	4,853,000
	Ha. of land with rehabilitated water networks			
	No. of check dams constructed			
Outcome 2.2 Farmer and farmers organisations capacity strengthened.	No. producer organisations trained in improved water governance and water resource management	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	453,333
	No. of training sessions on adaptive technologies conducted.	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	

Project Objective(s)	Project Output Indicators	Adaptation Fund Outputs	AF Output Indicators	Grant Amount (USD)
Component 1				
Output 1.1.1 50km of rural access roads are climate-proofed.	Km. of roads climate proofed	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	1,650,000
Output 1.2.2. Graduation programme implemented.	No. of beneficiaries with trained on 5 pillars approach.	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability.	6.2.1. Type of income sources for households generated under climate change scenario	185,000
Output 1.2.3 New climate-proofed	No. of alternative off-farm income generating activities promoted	Output 6: Targeted individual and community livelihood	6.1.1. No. and type of adaptation assets (tangible and intangible)	1,340,000

Project Objective(s)	Project Output Indicators	Adaptation Fund Outputs	AF Output Indicators	Grant Amount (USD)
income generating activities developed		strategies strengthened in relation to climate change impacts, including variability	created or strengthened in support of individual or community livelihood strategies.	
Component 2				
Output 2.1.1 Seasonal water reservoirs ("citernes enterrées") constructed	No. of water harvesting cisterns constructed.	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	2,130,000
Output 2.1.2 Water networks losses reduced on existing irrigated perimeters	Ha. of land with rehabilitated water networks.	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale).	1,995,000
Output 2.1.3 Infiltration of runoff into groundwater reserves in seasonal water courses is increased.	Ha. of land benefitting from rehabilitated water-efficient pumping stations.	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale).	560,000
Output 2.1.4 Groundwater monitoring stations installed.	No. of groundwater monitoring stations installed in key locations.	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale).	168,000

G. Project budget

Item/activity		Total AF (USD)	Total IESS Co-funding	Grand Total
Component 1: Access to basic services and strengthening of livelihoods				
Outcome 1.1 Modernized and resilient basic social infrastructure				
Output 1.1.1 Climate-proofing of 50 km of rural access roads strengthened against increased torrential rain through wider and reinforced ford crossings; concrete-lined drainage channels; increased capacity of culverts; road surfacing with local calcareous tuff and reinforcement of the earth road structure with gabions.		1,650,000		1,650,000
Outcome 1.2 Strengthened capacity and climate proofing vulnerable rural households				
Output 1.2.1 The most climate vulnerable and rural poor are identified by supporting UTSS animators outreach campaign to households and through group visits and community-wide awareness raising campaigns.		42,600	665,000	892,600
Output 1.2.2 ToT programme developed, animators trained and supported for implementation		185,000		
Output 1.2.3	400 in-kind grants equivalent to USD 2500 will be distributed to 400 families in need (FIN) to support off-farm climate resilient alternative IGAs.	1,000,000	9,110,000	10,450,000
	400 FIN will also receive USD 850 equivalent support each to plant 1ha of cactus in land that has been identified as being vulnerable, degraded and exposed to gullyng.	340,000		
Cost for Component 1		3,217,600	9,775,000	12,992,600
Component 2 Sustainable value chains through climate resilient water infrastructure.				
Outcome 2.1. More resilient productive infrastructure and stewardship of natural capital				
Output 2.1.1 300 climate vulnerable FIN households without access to running water will receive 300 rainwater harvesting reservoirs. The reservoirs will also have 100m hoses and solar powered pumps to alleviate the burden on women who are traditionally those responsible for water collection and distribution.		2,130,000		2,130,000
Output 2.1.2	Feasibility studies conducted and ageing and leaking irrigation infrastructure on 321 ha of irrigated perimeter agricultural land will be rehabilitated and technical verification studies carried out.	1,650,000		1,695,000
	6 inefficient water pumps will be renovated on 448ha of irrigated perimeter agricultural land.	345,000		345,000
Output 2.1.3 45 seasonal waterway structures purpose-built and/or rehabilitated to slow seasonal streams and enhance the volume of water replenishing underground water tables.		560,000		560,000
Output 2.1.4 7 piezometers will be constructed including feasibility studies to drilling and equipment.		168,000		168,000
Outcome 2.2 Farmer and farmers organisations capacity strengthened.				

Item/activity		Total AF (USD)	Total IESS Co-funding	Grand Total
Output 2.2.1 Service provider will be comprising 2 experts in climate change adaptation skills specialist and a specialist in rural entrepreneurship and sustainable development. 30 SMSA and 31 GDAs will be trained in climate change adaptation, sustainable ENRM, financial and technical management as well as basic organisational management.		140,000	686,667	826,667
Output 2.2.2	Lump sum contract for service provider to design training programme, ToT curriculum, demo plot training curriculum, training manuals, deliver the training of CTV trainers, and facilitate the logistics for beneficiary catering and transportation.	80,000		80,000
	14 demo plots are set up to train around 3500 farmers. The SP will be responsible for the identification of the sites, the selection of the equipment, and installation. Demo plots will operate for 3 years and operating costs will be covered including fertilisers, compost, 'marginés' (olive mill vegetable waters), and introducing new climate resilient crop varieties.	233,333		233,333
Cost for Component 2		5,306,333	686,667	5,993,000
Component 3: Knowledge Management.				
Outcome 3.1 Knowledge is generated and disseminated				
Output 3.1.1	A study of the effect of various interventions (including those put in place through IESS-Adapt) on the groundwater recharge will be conducted.	25,000		25,000
Output 3.1.2	Tender a consultancy contract to conduct research on the effectiveness of using Opuntia ficus-indica and other indigenous plants as effective means to protect degraded land that is subject to severe erosion.	25,000		25,000
Output 3.1.3	A 6-month research into the climate change risks for agriculture including on i) the location and type of agricultural practices that are being conducted in the Governorate of Kairouan; ii) the availability of water; and iii) the extent and intensity of land degradation and erosion.	70,000		70,000
Output 3.1.4	A programme of knowledge dissemination will be developed and implemented by the IESS KM Officer setting up a campaign of gathering project-related information on success stories in every aspect of the AF funded activities by broadcasting on TV as well as social media (Facebook, Instagram and YouTube).	40,000		40,000
Cost for Component 3		160,000		160,000
Project Total		8,683,933	10,461,667	19,145,600
Project Execution Cost				
Project manager (cost-share with other IFAD projects)			65,000	65,000
M&E Officer (cost-share with other IFAD projects)			50,000	50,000
Gender Focal Point (cost-share with other IFAD projects)			50,000	50,000
DRAS PMU Focal Point (cost-share with other IFAD projects)			45,000	45,000

Item/activity	Total AF (USD)	Total IESS Co-funding	Grand Total
Climate Change Specialist (full-time)	170,000		170,000
Finance Manager (part-time as needed)		160,000	160,000
Knowledge Management Officer (part-time as needed)		160,000	160,000
Water engineer (part-time as needed)		160,000	160,000
Procurement specialist (part-time as needed)		160,000	160,000
CES Verification Officer (3 years)	38,067		38,067
Three CTV support staff recruited for 60 months	180,000		180,000
Vehicle	40,000		40,000
Driver		25,000	25,000
DRAS (field social workers - outcome 1.2)		210,000	210,000
Workshop, MTR and Final Evaluation Costs	102,000		102,000
Fixed Operating Costs (rent, utilities, stationary, office maintenance, vehicle maintenance, transport costs)		480,000	480,000
IT and GIS Equipment		25,000	25,000
Total Project Execution Costs	530,067	1,590,000	2,120,067
Total Project Costs	9,214,000	12,051,667	21,265,667
Project Cycle Management Implementing Entity Fee			
Operational and Financial Management	170,000		
Project Development and implementation support	315,000		
Technical support and supervision	298,190		
Total Project Cycle Management Implementing Entity Fee	783,190		
Amount of Financing Requested	9,997,190		

H. Disbursement Schedule


	Year					Total USD
	2021	2022	2023	2024	2025	
Total Project Costs	2,121,839	2,297,783	2,572,784	2,058,594	163,000	9,214,000
IE fee	156,638	156,638	156,638	156,638	156,638	783,190
Total	2,278,477	2,454,421	2,729,422	2,215,232	319,638	9,997,190

PART IV: ENDORSEMENT

A. Record of endorsement on behalf of the government²⁶

Mr Taoufic Sayadi, National Focal Point for the Adaptation Fund	Date: 09 May 2018
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B. Implementing Entity Certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.	
<p><i>Margarita Astrálaga</i>  Director, Environment Climate Gender and Social Inclusion Division, IFAD Implementing Entity Coordinator</p>	
Date: 02 August 2019	Tel. and email: +39 06 54592151 m.astralaga@ifad.org
Project Contact Person: Nicolas Tremblay, Lead Regional Environment and Climate Specialist – Near East, North Africa, Europe and Central Asia, IFAD Tel. And Email: + 20-109-165-4484; n.tremblay@ifad.org	

⁶ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Annex 1 Endorsement Letter



ADAPTATION FUND

Letter of Endorsement by Republic of Tunisia

Tunis, the 09 May 2019

To: The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Subject: Endorsement for the Project « **Economic, social and solidarity insertion for resilience in the Governorate of Kairouan** » - IESS-Adapt»

In my capacity as designated authority for the Adaptation Fund in Tunisia, I confirm that the above national project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Tunisia.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the International Fund for Agricultural Development (IFAD), and executed by the Ministry of Agriculture, Hydraulic Resources and Fisheries.

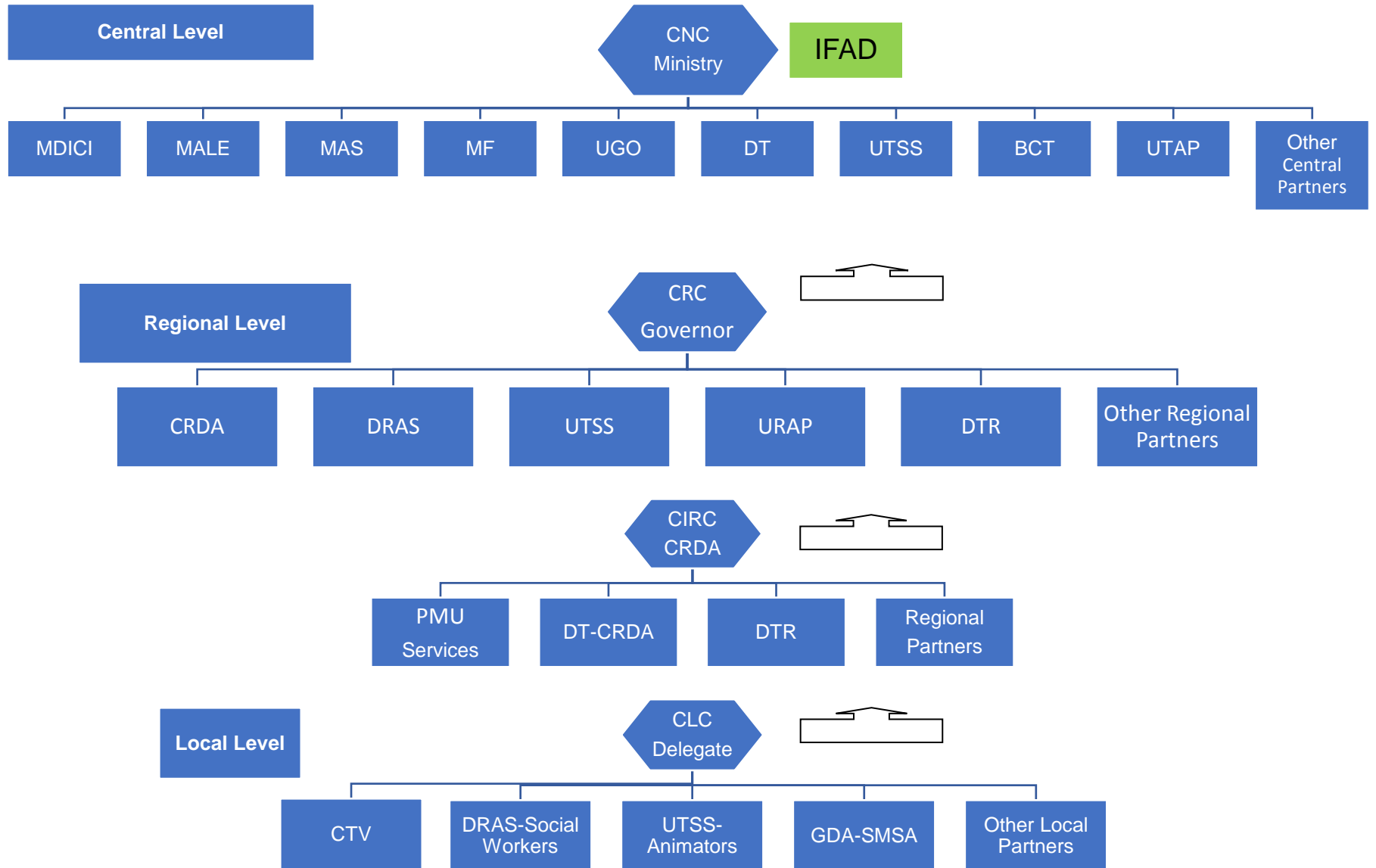
Sincerely,

National Focal point for the Adaptation Fund

Taoufik Sayadi

Senior Engineer, Head of Division, Ministry of Local Affairs and Environment

Annex 2 Project Organigram



Annex 3 Gender Action Learning for Sustainability²⁷

200. **Gender Action Learning for Sustainability (GALS)** is a community-led empowerment methodology that can be adapted to different cultural and organisational contexts – including communities where no organisation exists, cooperatives of varying sizes, private commercial companies and NGOs and donor agencies. It can be adapted for any issue including: livelihoods, food security, financial services, value chain development, conflict resolution, governance, health, reproductive rights and climate change.
201. GALS develops participatory visioning and planning skills and strengthens social networks for women and men at all levels, based on the generic Participatory Action Learning System (PALS) methodology. But GALS focuses specifically on developing new visions for relationships between women and men as equal human beings, and implementing changes in gender inequalities in resources and power. GALS is also mainstreamed in organisations and with multiple stakeholders to increase effectiveness of any development process.
202. Through developing self-motivated structures for pyramid peer sharing and integrating into existing activities of implementing public or private agencies it can empower many thousands of people to improve their lives and communities at relatively low cost. The GALS approach can be summarised as follows.

I Principles

203. GALS is not 'one methodology' or set of tools. It is a change philosophy based on underlying principles of social and gender justice, inclusion and mutual respect. In particular it promotes women's human rights based on the United Nations Convention on Elimination of ALL Forms of Discrimination Against Women:
- Right 1: freedom from violence
 - Right 2: equality of property ownership
 - Right 3: equality of decision-making
 - Right 4: equality of work and leisure
 - Right 5: freedom of thought and association
204. CEDAW is an international agreement signed by most governments and establishes that women have the same human rights as men. Experience with GALS has shown that these are all key concerns of women in all cultures, and can also be achieved in ways that benefit men as part of a mutual empowerment process.

II Diagrams

205. Diagrams and visual communication are increasingly important in a fast-moving world. Drawing and diagramming are important skills for creativity and innovation at all levels. They are not only for children or people who cannot read and write. 'Sketch-noting' and mind mapping are now common tools in higher level education and creative brain-storming in boardrooms of global companies.

GALS develops ideas from information graphics, concept mapping and graphic design to facilitate clarity of concepts and analysis, innovation and equal communication between stakeholders from those without formal education to the most powerful.

GALS adapts four basic diagram types:

- Road Journeys
 - Trees
 - Circles
 - Diamonds
206. These tools are adapted and sequenced in specific ways, depending on the nature of the issue and process.

²⁷ <http://www.galsatscale.net/>

III Facilitation

207. GALS facilitation aims not only to teach diagram tools and skills, but to catalyse discussion, awareness and motivation 'from within' the participants themselves so that they own the change process and are able to facilitate themselves.

Key principles are:

- Start with visions and the positive
- Everyone can be a leader
- Action from Day 1
- Inclusion: everyone has a right to be listened to and respected
- Facilitation from the back

IV Action Learning

208. In GALS Monitoring and Evaluation is one part of a bigger Gender Action Learning System. GALS brings together different stakeholders in an empowering learning process, rather than simply checking boxes for donors. It combines:

- Individual tracking of empowerment process/progress towards visions and action commitments in notebook diaries at each level: communities, private sector, organisation staff.
- Participatory quantitative monitoring and aggregation by groups and associations for collective planning.
- Participatory review by the stakeholders to decide what to do with the information
- Qualitative and multimedia methods by stakeholders, NGOs and/or external agencies for deepening understanding of processes.

Annex 4 Environmental and Social Management Plan.

Contents

- I. Summary Description of the Project
- II. Screening and Categorisation
- III. Environmental and Social Impact Assessment.
- IV. Environmental and Social Management Plan
- V. Monitoring and Evaluation Arrangements

I. Summary Description of the Project

Socio-Economic Context. Tunisia is a developing country ranked sixth in the Arab world and 88th out of 190 economies in the world, according to the 2018 Doing Business Report (World Bank, 2018). Tunisia has experienced strong economic and social progress in recent decades and more recently, a successful democratic transition. The convergence process has slowed down, however, due to the low level of investment since the early 2000s, while regional and labour market inequalities have persisted. Since 2011, the external and public debt-to-GDP ratios have risen sharply and Tunisia's economy registered a growth rate of 1,9 percent in 2017. In sharp contrast with the socialist policies of the 1960s, Tunisia's current economic focus is on bolstering exports, foreign investment, and tourism, all of which have become central to the country's economy.

209. Tunisia's economy faced an array of challenges exposed by the 2008 global financial crisis that helped precipitate the 2011 Arab Spring revolution. Tunisia's government remains under pressure to boost economic growth quickly to mitigate chronic socio-economic challenges, especially high levels of youth unemployment, which have persisted since 2011. According to the Organisation for Economic Co-operation and Development (OECD), encouraging women's participation in the labour market and adapting training to the needs of employers will help create quality jobs. Key exports now include textiles and food, petroleum products, chemicals, and phosphates, with about 80% of exports bound for Tunisia's main economic partner, the European Union (EU).
210. **Climate change.** According to the Tunisia's Intended Nationally Determined Contribution (INDC-2015), Tunisia is considered to be one of the countries most exposed to climate change in the Mediterranean. The main risks which it is likely to confront are temperature increases, reduced precipitation, rising sea levels and escalating extreme weather phenomena (torrential rains, floods and droughts). These risks are likely to result in major environmental and socio-economic vulnerability that will particularly affect water resources, agriculture and natural ecosystems. Extended periods of drought are expected to become more frequent, interrupted by fewer, but more intense torrential precipitations: fewer rainy days, but an increase in the number and intensity of storm events.
211. **Agriculture.** The main national agricultural products in Tunisia are cereals (wheat and barley), olives, dates and citrus for the vegetable sector and sheep for the animal sector. The cultivation of olive trees is largely rainfall dependent and its production varies greatly from one year to the next. In the governorate of Kairouan agriculture covers 590,000 ha, of which 434,000 ha is arable land; irrigated land is 59,780 ha which is 14 percent of the national total. The value of agricultural production amounts to 576 million dinars in 2017 at current prices, of which 60 percent is from the irrigated sector. Agricultural production over the last five years came predominantly from growing cereals (1,500,000 quintals), olive oil (100,000 tonnes), arboriculture (70,000 tonnes), gardening (510,000 tonnes), meat (16,000 tonnes) and milk (50,000 tonnes). Several support structures exist in Kairouan, among others 42 cooperative Agricultural Service Companies (SMSA) and 250 Agricultural Development Groups (GDA) of which 100 are active in the irrigated sector.
212. **Water.** Tunisia is already experiencing a water shortage and the per capita water availability is below the water poverty threshold (<500 m³/person/year). The annual renewable water resources at the level of the Governorate of Kairouan, are estimated at 325 million m³ of which 316 million m³ (97%) is extracted. Surface water resources are estimated at 179 million m³ mainly from the large dams of Nebhana, El Houareb, and Sidi Saâd, with a total capacity of 330 million m³; 22 hill dams with a total capacity initially estimated at 36 million m³ (currently 30 million m³); and 72 catchment lakes with an initial total capacity of 8 million m³ (currently 5 million m³).
213. The total groundwater resources of the Kairouan governorate are estimated at 146 million m³, distributed as follows: 53.5 million m³ for the groundwater, or 39% of the global resources; 89.8 million m³ for water tables. There are an estimated 800 deep wells and about 16 thousand surface wells of

which 9944 are equipped with pumps, that corresponds to an average exploitation rate of 187%. The governorate of Kairouan has 31 water tables that cover the entire territory of the governorate, whose northern tables are transboundary and shared with the governorate of Sidi Bouzid. The following table presents the main characteristics of the water tables of the governorate of Kairouan, according to the data available at the national centre for national agricultural research.

214. **Lessons learned and upscaling.** The IESS and IESS projects upscale and build upon a previous USD 7.8 million project by the African Development Bank (AfDB) in the governorate of Kairouan, the Kairouan Integrated Agricultural Development Project (IADP)²⁸, and implemented by the Regional Office of Agricultural Development (*Commissariat Régional de Développement Agricole* – CRDA). The IADP was designed as part of the Tunisian Government's strategy to improve incomes and improve the living conditions of farmers, with the objective to promote sustainable agricultural development through the development of agricultural infrastructure, participatory development and institutional strengthening of the administration and beneficiary organisations. Following the completion of the IADP project, an impact assessment was conducted by the National Centre for Agricultural Studies (*Centre National des Etudes Agricoles* – CNEA). The CNEA also conducted a study providing detailed government approved plans identifying the needs and priorities for upscaling. The CNEA study produced participatory development plans (*Plans de Développement Participatifs* – PDP) for 25 administrative sectors of the Kairouan governorate and have been the result of detailed participatory consultations with the rural poor smallholders. The PDPs are the result of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis from which lessons were drawn. The IESS and IESS-Adapt have based the projects on the PDPs while also improving upon them and extending them to an additional 10 sectors.
215. The PDPs identified specific areas of action and improvements. Some of the lessons learned from the IADP include the need to upscale the IGAs with the involvement of Microfinance NGOs to help ensure greater access to rural finance for the most vulnerable women and youth. The involvement of IGAs in the sustainable management of degraded and vulnerable lands as a form of livelihood have also been identified by CNEA and which the IADP did not fully explore. Other recommendations included ensuring a programme to closely follow the progress of the neediest families as they have tended to drop out due to a lack of monitoring and coaching; the CNEA study also recognises that the irrigation infrastructure in the Irrigated Perimeters (IP) is old and leaking and needs to be renovated to reduce the stress on already over exploited water tables. The GDA has also been identified for requiring more training in infrastructure operation and maintenance, as well as all actors involved in irrigation to need to receive training on the proposed development plans for each IP.

The project will be formed around the following components:

216. **Component 1** will focus on improving basic services and strengthening of livelihoods. The project will address the impact that climate change is having through the increased intensity and frequency of torrential rain on the rural road infrastructure. IESS-Adapt will ensure that 50km of IFAD's 80km investment to improve livelihoods through rural access road construction and rehabilitation will be climate-proofed and longer lasting. It will do this through design improvements such as: wider and reinforced ford crossings; concrete-lined drainage channels; increased capacity of culverts; road surfacing with local calcareous tuff; and reinforcement of the surrounding earth road structure with gabions to prevent bank failure from saturated soils.
217. The project will also be driven by a graduation process whereby it will identify vulnerabilities, address the root causes of poverty and build household capacity empowering families to interact with the local economy and community in productive, positive, environmentally sustainable and climate resilient ways. The component will identify and address critical vulnerabilities faced by extremely poor households that are often excluded from market-based development programs. It will apply the Gender Action Learning for Sustainability (GALS) approach that uses the principles of inclusion to improve income, food and nutrition security for vulnerable people while respecting gender equity. The Adaptation Fund has mainstreamed sustainable environmental management and climate change adaptation as one of the five graduation pillars to help the marginalised and vulnerable out of poverty through inter alia supporting alternative off-farm income generating activities (IGA) as well as the planting of indigenous cactus to consolidate vulnerable and degrading land.
218. **Component 2** will focus on developing sustainable value chains through climate resilient water infrastructure and improved climate resilient agricultural practices. This component will address the water crisis facing Tunisia as most water tables in the Governorate are currently exploited at between

²⁸ <https://projectsportal.afdb.org/dataportal/VProject/show/P-TN-AA0-007>

100% and 150% of their sustainable recharge capacity. This has resulted in a continuous lowering of groundwater levels, that recently accelerated as a result of three consecutive dry years (2015-2017) and caused some wells and boreholes to dry up. The activities the project will support are supporting 300 marginal and climate vulnerable Families in Need (FIN) without running water with 300 rain water harvesting tanks that will catch and store 50m³ of precipitation. The reservoirs will also double as semi-submersed tanks to purchase and store water for small scale homestead irrigation and for use around the house. Women will particularly benefit as they traditionally are the ones to travel long distances for water collection.

219. The project will furthermore promote water table rehabilitation through the construction / rehabilitation of 45 waterway structures aimed to slow seasonal water flows and promote groundwater infiltration. Water stress will be further reduced by the renovation of old and inefficient irrigation infrastructure on a combined 769ha of agricultural land saving around 1,211,840m³ of water a year. Ground water management will be improved through targeted capacity building of the Producer Organisations as well as enhancing the network of groundwater monitoring stations. Coupled with the improved water management, the project will also train around 2,275 women and 1,225 men on improved climate resilient agricultural practices that will improve the climate resilience, productivity and sustainability of the value chains.
220. **Component 3** will be dedicated to knowledge management. It will generate knowledge on groundwater recharge rates and particularly to monitor the project impact in recharging water tables; it will research the effectiveness of cactus on consolidating and protecting vulnerable and degraded lands including those affected by severe gulying as well as identify other suitable indigenous plants; and it will conduct a study identified in Tunisia's INDC to better understand the climate risks facing agriculture in Kairouan. The project will produce posters, leaflets to raise awareness about climate change as well as create videos of project adaptation success stories. The project will produce short education programmes that will be easily understood by the general public to use the knowledge generated to design educate and raise awareness about climate change and simple things that people can do to adapt and rehabilitate the landscape.

II. Screening and Categorisation.

i) Screening and Categorisation

221. TRTP-Adapt is an environmentally positive project with no potentially adverse impacts and it has addressed the concerns raised in the IFAD Social Environment Climate Assessment Procedures (SECAP) assessment and is aligned with the Adaptation Fund's ESP. Following the environmental and social risk assessment detailed in section III below and the IFAD SECAP (see part ii below for ESP SECAP Alignment), the project corresponds to a 'category B' due to some minor risks for which mitigation measures have been taken. Section III provides an analysis of the environmental and social impacts and risks for the category B justification and proposes a management plan that will mitigate risks as well as the screening of ESPs 9,10 and 14 as the risks for these cannot be identified until the project areas have been defined.
222. The main risks relate to the small-scale tertiary irrigation infrastructure under outcome 2.2 that the IESS-Adapt will co-finance with the IESS, as well as the risks posed by water extraction activities under outcome 2.2, for the use of new water sources for on-farm irrigation. The following table provides a brief overview of the potential risks the project poses in relation to the 15 Environmental and Social Principles, this is followed by a detailed environmental and social risk assessment.

Table 14 Adaptation Fund environmental and social checklist

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
ESP 1 Compliance with the Law	X	No risk
ESP 2 Access and Equity		No risk
ESP 3 Marginalized and Vulnerable Groups	X	No risk

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
ESP 4 Human Rights	X	No risk
ESP 5 Gender Equity and Women's Empowerment	X	No risk
ESP 6 Core Labour Rights	X	No risk
ESP 7 Indigenous Peoples	X	No risk
ESP 8 Involuntary Resettlement	X	No risk
ESP 9 Protection of Natural Habitats		Low risk During the mapping of the project activities IESS-Adapt will identify and exclude national parks ensuring that they will not directly or indirectly impact protected areas or high value conservation areas.
ESP 10 Conservation of Biological Diversity		Low Risk During the mapping of the project activities the PMU will conduct a full analysis on the potential impact on critical biodiversity in the project areas and take corrective measures to ensure their protection.
ESP 11 Climate Change	X	No risk
ESP 12 Pollution Prevention and Resource Efficiency		No risk The project will promote waste recycling and use olive oil mill wastewater as fertiliser. The applicable law regulating the handling and application of the fertiliser will be applied, integrating it into the training programme and monitored by the extension services.
ESP 13 Public Health	X	No risk
ESP 14 Physical and Cultural Heritage		Low risk During the mapping of the project activities IESS-Adapt will conduct a full analysis on the potential impact on the physical and cultural heritage of the project areas and take corrective measures to ensure their protection.
ESP 15 Lands and Soil Conservation	X	No risk

ii) Alignment between ESP/AF and SECAP/IFAD

223. IFAD's Social, Environmental and Climate Assessment Procedures (SECAP) were approved by the Executive Board became effective in 2015 and were updated in 2017. These procedures defined an improved course of action for assessing social, environmental and climate risks to enhance the sustainability of results based country strategic opportunities programmes (RB-COSOPs), country strategy notes (CSNs), programmes and projects. SECAP along with the guidance statements (GS) sets out the mandatory requirements and other elements that must be integrated throughout the project life cycle. The 2017 updated version: (i) draws on lessons learned in SECAP's implementation from 2015 to the present; (ii) clarifies the mandatory and non-mandatory requirements applicable to IFAD-supported investments; (iii) further aligns IFAD's environmental and social standards and practices with those of other multilateral financial institutions; (iv) reflects IFAD's complementary

policies²⁹ and climate mainstreaming agenda; (v) enables IFAD's continued access to international environment and climate financing; and (vi) better aligns IFAD's programming with the General Conditions for Agricultural Development Financing³⁰. All IFAD projects entering the pipeline are subject to an environmental, social and climate risk screening, and are assigned a risk category for environment and social standards (A, B, C), and for climate vulnerability (high, moderate, low). These findings, along with subsequent analysis and assessments, must be reflected in the project's SECAP review note. Projects with environment and social category "C" and climate risk "low" do not require any further analysis.

224. All category "B" projects must have a SECAP review note including a matrix of the environment and social management plan (ESMP) at design stage. The identified social and environmental risks, and opportunities-management measures must be reflected in the project design and the project design report (PDR). The ESMP matrix must be integrated into the project's implementation manual or developed as a stand-alone guidance document for the project management unit late in the design stage or early in implementation. All category "A" projects must have an ESIA at the design stage (or relevant stage of implementation). The draft and final ESIA reports, and other relevant documents³¹ must be disclosed in a timely and accessible manner at the quality assurance stage (or other stages during project implementation).
225. For all projects with a "moderate" climate risk classification, a basic climate risk analysis must be conducted during the project design stage and included in the SECAP review note. Adaptation and mitigation measures must be mainstreamed into the project design and PDR. For all projects with "high" climate risk classification, an in-depth climate risk analysis must be conducted during project design and adaptation and risk-mitigation measures must be mainstreamed into the project design and PDR.
226. IFAD SECAP includes 14 Guidance Statements (GS) with: (i) an introduction to each subject, (ii) how the subject has been addressed in IFAD projects, (iii) the environmental, climate change and social issues linked to the subject; (iv) Criteria for environmental screening and scoping of IFAD projects; (v) potential mitigation and adaptation plans and measures for controlling adverse impacts, (vi) the international legal context. The following table provides some information about the relation between AF ESP Principles and IFAD SECAP.³²

AF ESP Guidance Principles	IFAD SECAP GS, Guiding Values and Principles
ESP1 Compliance with the Law	<p>SECAP requires that activities in the framework of the IFAD financed projects or programmes meet IFAD's safeguard policy guidance, comply with applicable national laws and regulations (labour, health, safety, etc.) and international laws and treaties, and the prohibited investment activities list produced by the International Finance Corporation is adhered to.</p> <p>- Project design should review: (i) current national policies, legislation and legislative instruments governing environmental management health, gender and social welfare, climate change (mitigation and adaptation) and governance with their implementation structures, identify challenges, and recommend appropriate changes for effective implementation; (ii) all relevant international treaties and conventions on the environment, climate change, health, gender, labour and human rights to which the country is a signatory.</p>
Principle 2 Access and Equity	<p>Access and Equity is a cross-cutting issue in all the 14 SECAP Guidance Statements. SECAP requires that projects and programmes ensure the participation of target groups and equitable distribution of benefits. When projects result in physical or economic displacement (affecting access and user rights to land and other resources), the borrower or grant recipient should obtain Free, Prior</p>

²⁹ Including, but not restricted, to policies on targeting (2006), gender equality and women's empowerment (2012), indigenous peoples (2009). Available at: www.ifad.org/operations/policy/policydocs.htm.

³⁰ <https://www.ifad.org/documents/10180/e72d1b36-58ed-4630-b683-7b22f4075e73> See section 7.01(a)(vi)

³¹ Including environment and social management frameworks (ESMFs), draft resettlement action plans and frameworks (RAFTs), draft mitigation plans and documentation of free, prior and informed consent (FPIC) and indigenous plan (IP) consultation processes.

³² For further information, please visit <https://www.ifad.org/topic/gef/secap/overview>.

	<p>and Informed Consent (FPIC) from the affected people, document stakeholder engagement and consultation process and prepare resettlement plans or frameworks. The documents must be disclosed in a timely and accessible manner at the QA or relevant implementation stage.</p> <p>GS 7 - Water In the case of water-related projects like the water points in TRTP-Adapt, project design should: (i) consult all local water users, and involve beneficiaries in all stages of infrastructure development, from design, through operation and management, to rehabilitation and reconstruction; (ii) ensure equitable, reliable and sustained access to, and use and control of, water; (iii) address the gender dimensions in all stages.</p> <p>GS 11: Development of value chains, micro- and small enterprises (MSEs) From a social perspective, additional good practices for IFAD’s support to and promotion of value chain and MSE development might include among others: (vi) favourable working conditions within newly created green jobs throughout the value chain, including in local food systems; (vii) improving workplace safety and reducing community exposure to environmental hazards and public health risks; (viii) creation of specific employment and entrepreneurial opportunities for youth, for example in supply of information or support services to the value chain; (ix) harmonization with national and international labour standards; and (x) strengthened capacity for good practices, including employment opportunities for landless and other marginalized groups.</p> <p>Other IFAD policies that support and complement this principle are: Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Improving Access to Land Tenure Security Policy, Gender Equality and Women’s Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy. Moreover, IFAD has been supporting the Principle for Responsible Agricultural Investment (PRAI), the African Land Policy Framework and Guidelines, including the Guiding Principles on Large Scale Land-based Investments, along with other frameworks and guidelines aimed at the social and economic empowerment of poor rural women and men and social and economic equity more generally.</p>
<p>ESP 3 Marginalised and Vulnerable Groups.</p>	<p>Marginalized and Vulnerable Groups is a cross-cutting issue in all the 14 SECAP Guidance Statements. A robust SECAP process requires attention to social dimensions such as land tenure, community health, safety, labour, vulnerable and disadvantaged groups, and historical factors, particularly in relation to natural resource management. It not only looks at compliance (e.g. managing potential negative impacts), but expected positive impacts and ways to maximize opportunities. To assure a good contribution to the quality of SECAP, project design should assess the socio-economic and cultural profile, including key issues relating to disadvantaged or vulnerable groups, conflict, migration, employment and livelihoods. Consultation with communities and stakeholders must be maintained throughout the project lifecycle, especially in high-risk projects. For investment projects with a projected high sensitivity to climate hazards, IFAD requires a climate vulnerability analysis which can help to improve the targeting of investment actions to include the most vulnerable and least resilient target groups.</p> <p>GS 13 – Physical and economic resettlement. Specific attention should be given to maximizing opportunities, avoiding involuntary resettlement, enhancing gender equality and women’s empowerment and reducing vulnerability to risks/effects of climate change and variability and other project impacts. In any case, emphasis should also be on involving key stakeholders especially vulnerable groups and marginalized poor communities – including female-headed households, the elderly, or persons with physical and mental disabilities – in project design and implementation, and addressing public health concerns (e.g. HIV/AIDS). Should resettlement or economic displacement be envisaged, the FPIC and the do-not-harm principles – which are two pillars of IFAD’s Improving Access to Land Tenure Security Policy - – will be followed at all times and for all its beneficiaries for “any development intervention that might affect the land access and use rights of communities.</p>

	<p>GS 11: Development of value chains, micro- and small enterprises (MSEs). From a social perspective, additional good practices for IFAD’s support to and promotion of value chain and MSE development might include among others: (vi) favourable working conditions within newly created green jobs throughout the value chain, including in local food systems; (vii) improving workplace safety and reducing community exposure to environmental hazards and public health risks; (viii) creation of specific employment and entrepreneurial opportunities for youth, for example in supply of information or support services to the value chain; (ix) harmonization with national and international labour standards; and (x) strengthened capacity for good practices, including employment opportunities for landless and other marginalized groups.</p> <p>Other IFAD policies that support and complement this principle are: Improving Access to Land Tenure Security Policy, Gender Equality and Women’s Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy.</p>
<p>ESP 4 Human Rights</p>	<p>Human Rights is a cross-cutting issue in all the 14 SECAP Guidance Statements. Among the Guiding Values and Principles for SECAP, there is the principle to “support borrowers in achieving good international practices by supporting the realization of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work”.</p>
<p>ESP 5 Gender Equality and Woman’s Empowerment.</p>	<p>Gender Equality and Women’s Empowerment is a cross-cutting issue in all the 14 SECAP Guidance Statements.</p> <p>GS 11 – Development of value chains, micro- and small enterprises (MSEs) Well-designed value chain projects can drive improved natural resource management, climate resilience, gender equality, decent labor and working conditions, community health and safety, and poverty alleviation.</p> <p>Two key issues to manage in all value chain projects are (i) gender and (ii) food security (IFAD 2014). Different stages and functions of any value chain will be associated with gender-specific knowledge, assets, decision-making powers and responsibilities. Household food security and nutrition may be at risk in value chain designs that emphasize mono-cropping and commercial sales at the cost of local food access or labour demands. Additional good practices for IFAD’s support to and promotion of value chain and MSE development might include: (i) gender-sensitive approaches to vocational training, business skills development, small-scale processing infrastructure, contract development and other value chain innovations; (ii) corporate social responsibility strategies that improve women’s economic and decision-making position within value chains. Inclusion of youth is also a growing issue in value chains (UNIDO 2011), being carefully addressed in IFAD projects.</p> <p>Other IFAD policies that support and complement this principle are: Gender Equality and Women’s Empowerment Policy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Improving Access to Land Tenure Security Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy.</p>
<p>Principle 6 Core Labour Rights.</p>	<p>Core Labour Rights is a cross-cutting issue in all the 14 SECAP Guidance Statements. A robust SECAP process requires attention to social dimensions such as land tenure, community health, safety, labour, vulnerable and disadvantaged groups, and historical factors, particularly in relation to natural resource management. One of the guiding values and principles for SECAP is to minimize adverse social impacts and incorporate externalities. Avoid and mitigate any potential adverse impacts on health and safety, labour and working conditions and well-being of workers and local communities.</p> <p>GS 3 – Energy Gender-related differences and inequalities influence the outcomes of energy planning projects. Attention should be given to women’s time and labour constraints; women should be provided with opportunities to participate in decision-making regarding the development and adaptation of fuel-efficient technologies, and with the necessary technical skills to compete with men in green</p>

	<p>job opportunities. Giving women and men access to project participation can change overall gender inequality. The harnessing of rural renewable energy sources to create a rural energy market offers many opportunities for improving gender balance: field experience shows that many activities— such as commercial distribution, rural credit, marketing, training and agricultural work for securing feedstock for bio-energies – would benefit from increased entrepreneurship and leadership of rural women in the energy value chain.</p> <p>GS 11 – Development of value chains, micro- and small enterprises (MSEs) With large private agribusinesses, IFAD project design teams and project implementers can refer to IFAD’s principles under Private Sector Strategy (IFAD 2011a). These principles include ensuring that large and international companies that partner with IFAD comply with social and environmental standards, and are regularly assessed through due diligence during project preparation and implementation.</p> <p>Other IFAD policies that support and complement this principle are: Gender Equality and Women’s Empowerment Policy, Rural Enterprise Policy, Rural Finance Policy, Private Sector Strategy, Engagement with Indigenous Peoples Policy, Targeting Policy, Youth Policy Brief, Climate Change Strategy.</p>
<p>ESP 7 Indigenous people</p>	<p>According to SECAP, when impacting indigenous peoples, the borrower or the grant recipient must seek FPIC from the concerned communities, document stakeholder engagement and consultation process and prepare an indigenous plan (IP). Whenever FPIC is not possible during project design, the FPIC implementation plan should specify how FPIC will be sought during early implementation. The FPIC plan and related documents must be disclosed in a timely and accessible manner at the Quality Assurance (QA) or relevant stage during implementation. IFAD SECAP promotes the Indigenous Peoples Plan as a tool to ensure that the design and implementation of projects foster full respect for indigenous peoples’ identity, dignity, human rights, livelihood systems and cultural uniqueness, as defined by the indigenous peoples themselves. It also ensures that the affected groups receive culturally appropriate social and economic benefits, are not harmed by the projects, and can participate actively in projects that affect them.</p> <p>Other IFAD policies that support and complement these principles: Indigenous People’s Policy; Targeting Policy; Gender Policy; Climate Change Strategy</p>
<p>ESP 8 Involuntary Resettlement</p>	<p>Two Guidance Statements are related to Principle 8: GS 13 – Physical and economic resettlement; GS 8 – According to SECAP, when projects result in physical or economic displacement (affecting access and user rights to land and other resources), the borrower or grant recipient should obtain FPIC from the affected people, document stakeholder engagement and consultation process and prepare resettlement plans or frameworks. The documents must be disclosed in a timely and accessible manner at the QA or relevant implementation stage.</p> <p>Throughout the process of identification, planning, implementation and evaluation of the various elements of resettlement or economic displacement and their impacts, adequate attention will be paid to gender concerns: specific measures addressing the needs of female headed households, gender-inclusive consultation, information disclosure, and grievance mechanisms will be put in place in order to ensure that women and men will receive adequate and appropriate compensation for their losses and to restore and possibly improve their living standards.</p> <p>Other IFAD policies that support and complement this principle are: Gender Equality and Women’s Empowerment Policy, Engagement with Indigenous Peoples Policy, Targeting Policy, Land Policy, ENRM Policy, Youth Policy Brief, Climate Change Strategy.</p>
<p>ESP 9 Protection of Natural Habitats</p>	<p>Three Guidance Statements are related to Principle 9: GS 7 – Water; GS 1 – Biodiversity; GS 7 – Water:</p> <p>According to SECAP, Water-related projects requires projects to: (i) assess watershed protection needs and measures to preserve surface and underground water hydrology, and ensure water quality and supply within and adjacent to the project area; (ii) avoid detrimental changes in downstream water flow; (iii) limit erosion in watershed areas, intakes, waterways and reservoirs, including by designing all infrastructure to minimise scouring, sedimentation and stagnant water</p>

	<p>and to facilitate cleaning; (iv) Explore options for rewarding communities for watershed or ecosystem services (financially and non- financially) or benefit-sharing mechanisms.</p> <p>Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.</p>
<p>ESP 10 Conservation of Biodiversity</p>	<p>GS 1 – Biodiversity IFAD can protect biodiversity by designing its projects appropriately, ensuring that they are implemented sustainably with full community participation, and providing sound recommendations for improving borrowing countries’ agricultural policies, many of which are currently top-down. The following are the issues to be considered in this identification process: (i) Adopt an ecosystem perspective and multi-sectoral approach to development cooperation programmes; (ii) Promote fair and equitable sharing of costs and benefits from biodiversity conservation and sustainable use at all levels: local, national, regional and international; (iii) Encourage full stakeholder participation, including partnerships between civil society, government and private sector; (iv) Ensure that IFAD projects and programmes are consistent with the wider policy framework, and/or changes are made for supportive policies and laws; (v) Ensure that institutional arrangements are effective, transparent, accountable, inclusive and responsive; (vi) Provide and use accurate, appropriate, multidisciplinary information, accessible to, and understood by, all stakeholders; (vii) IFAD’s investments should be sensitive to, and complement, local and national structures, processes and capacities.</p> <p>Mitigation activities to eliminate or reduce the negative impacts of a project on biodiversity should follow the following order of preference: (1) Complete avoidance of adverse impact; (2) Reduction of impacts on biodiversity where unavoidable; (3) Restoration of habitats to their original state; (4) Relocation of affected species; (5) Compensation for any unavoidable damage.</p> <p>Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.</p>
<p>ESP 11 Climate Change</p>	<p>Climate change is a cross-cutting issue in all the 14 SECAP Guidance Statements. SECAP asks to incorporate climate change risk analysis into projects, which are subject to an environmental, social and climate risk screening, and are assigned a risk category for climate vulnerability (high, moderate, low).</p> <p>GS 7 – Water: In the case of water irrigation projects, the potential impacts of climate change on water availability should be thoroughly examined when designing any type of intervention – climate moisture index, local climate variability data and projections can be very useful in this regard. Projects in areas prone to floods, drought and other natural disasters often require explicit incorporation of climate change effects into economic analysis, including assessment of the cost of adaptation and measures for reducing vulnerability at the river basin or watershed level (World Bank, 2009). Multiple-benefit approaches or technologies that have positive impacts on climate resilience, yields and soil moisture, such as rainwater harvesting and conservation agriculture, should be promoted.</p> <p>GS 11: Development of value chains, micro- and small enterprises (MSEs): From a climate perspective, additional good practices for IFAD’s support to and promotion of value chain and MSE development might include: (i) development of early warning systems and contingency plans for climate shocks and extreme events across the full value chain including transport and storage; (ii) introduction of protective features and reinforcements into the design of critical infrastructure to handle higher maximum water run-off and higher temperatures; (iii) inclusion of climate criteria in corporate standards and protocols; (iv) financial channels to reduce risks associated with innovation (e.g. microfinance, small grants programs, index-based weather insurance); (v) renewable energy sources to cover changing requirements for grain processing, fish drying and other value-adding activities; (vi) use of hazard exposure and crop suitability maps to inform siting of processing facilities; (vii) harmonization with national climate change policies and international commitments; (viii) strengthened capacity for good practices, including building</p>

	<p>stronger knowledge systems and institutions for ongoing adaptation to progressive climate change; and (ix) incorporation of measurable climate change mitigation practices where relevant, that reduce greenhouse gas emissions, such as agroforestry, measures to increase soil carbon, and efficiency measures in the value chain that reduce output to input ratios for materials, energy and water (IFAD 2015). Reductions in greenhouse gas emissions should be measured where technically and financially feasible. The FAO EX-ACT tool is a good example already being used in some IFAD projects.</p>
<p>ESP 12 Pollution Prevention and Resource Efficiency.</p>	<p>Five Guidance Statements are related to Principle 8: GS 7 – Water; GS 1 – Biodiversity; GS 3 – Energy; GS 2 - Agrochemical.</p> <p>GS 2 – Agrochemicals. TRTP-Adapt will seek to minimise agrochemical use, but whenever an IFAD project includes the purchase, promotion or use of agrochemicals, environmental analysis should seek to address the following issues: (i) Identification of specific crops and their existing or potential pests requiring pest management; (ii) Identification of nationally approved and available pesticides, and management and application techniques for their judicious and effective use to protect human and environment health; (iii) Assessment of local and national capacity for the safe handling, use, storage, disposal and monitoring of agrochemicals; (iv) Development of an IPM programme for minimizing /optimizing pesticide application, including – if possible – provisions for monitoring residues on crops and in the environment; (v) Reduction of environmental impact.</p> <p>GS 7 – Water (Agriculture and domestic use) Issues to be addressed in the design phase:</p> <p>(a) Watershed protection: Preserve surface water and underground water hydrology, and ensure water quality and supply within and adjacent to the project area. Avoid detrimental changes in downstream water flow. Limit erosion in watershed areas, intakes, waterways and reservoirs, including by designing all infrastructure to minimize scouring, sedimentation and stagnant water and to facilitate cleaning.</p> <p>(b) Participation of target groups and equitable distribution of benefits: Consult all local water users, and involve beneficiaries in all stages of infrastructure development, from design through operation and management, to rehabilitation and reconstruction. Ensure equitable, reliable and sustained access to, and use and control of, water. Address the gender dimensions in all stages.</p> <p>(c) Climate change: Incorporate climate change risk analysis into projects; the potential impacts of climate change on water availability should be thoroughly examined when designing any type of intervention – climate moisture index, local climate variability data, and projections can be very useful in this regard. Projects in areas prone to floods, drought and other natural disasters often require explicit incorporation of climate change effects into economic analysis, including assessment of the cost of adaptation and measures for reducing vulnerability at the river basin or watershed level (World Bank, 2009). Promote multiple-benefit approaches or technologies that have positive impacts on climate resilience, yields and soil moisture, such as rainwater harvesting and conservation agriculture.</p> <p>Other IFAD policies that support and complement these principles are: Environment and Natural Resources Management (ENRM) Policy; Land Policy; Climate Change Strategy.</p>
<p>ESP 13 Human Health</p>	<p>GS 14: Human health. When community health is significantly affected, a health-impact assessment must be conducted and mitigation measures included in the project design.</p>
<p>ESP 14 Physical and Cultural Heritage.</p>	<p>GS 9 – Physical cultural resources (PCR). According to SECAP, the borrower will address PCR in programmes/projects financed by IFAD in the context of the environmental and social assessment (ESA) process established by IFAD's SECAP. The SECAP prescribes general steps for programmes/ projects that apply in cases involving PCR: screening; collecting data; assessing impacts; and formulating mitigating measures.</p> <p>Other IFAD policies that support and complement this principle are: Gender Equality and Women's Empowerment Policy, Engagement with Indigenous</p>

	Peoples Policy, Targeting Policy, ENRM Policy, Climate Change Strategy.
ESP 15 Lands and Soil Conservation.	<p>One Guidance Statements are related to Principle 15: GS 7 – Water (Agriculture and domestic use);</p> <p>IFAD has demonstrated a firm commitment towards land, soil and water conservation as detailed under ESP 15 in section III below.</p> <p>Other IFAD policies that support and complement these principles: Land Policy; Targeting Policy; ENRM Policy; Climate Change Strategy.</p>

III. Environmental and Social Impact Assessment.

Principle 1 Compliance with the law

227. No further assessment of potential impacts and risks is required for compliance with the law, since the project complies with all relevant national legislation and policies on agriculture, water management, climate change adaptation, employment, women's rights, among others. Section 'II-E' details the laws that the project is in compliance with as well as the few areas that require the compliance with the national technical standards, these are as follows.

- The project will be in full compliance with the Directive n° 2013-1308 (2013) that governs the use of olive oil mill wastewater as a fertiliser. This has been explained under section II-E and the project has integrated compliance measures into the ToT programme for the Service Provider to develop and train the CRDA/CTV extension workers who will be training both the SMSAs (that will function as intermediaries in buying and selling the 'marginés') as well as the beneficiaries that will be applying it on their crops. The demo plots will provide farmers with practical experience to demonstrate how to comply with the law. The project will also be in compliance with national and IFAD standards on general fertiliser use.
- The second and last legal technical specification that the project needs to comply with is the Decree N ° 87-654, April 28, 1987 - on the construction of public roads, even for climate-proofing. The issuing of permits for road construction is under the authority of the Ministry for Equipment and Housing (MoEH). The MoEH sets all the guidelines for the tendering of the technical drawings, and it reviews the and approves the application and the technical drawings based on which it issues relevant permits. The Regional Directorate of the MoEH will work in close collaboration with the CRDA at every step, hereby ensuring full compliance with national regulations.
- Section II-E furthermore lists the activities that under Tunisian Law require an Environmental Impact Assessment, of which the IESS-Adapt is exempt as the proposed project activities will not trigger any need for EIAs.
- The project will comply with the water code as it will not in any way extract water or promote activities that will pollute any water ways. The main objective is to reduce water losses in the agriculture sector, promote water table replenishment and raising awareness about the importance of sustainable water management, particularly as a means to build resilience to climate change.
- The project will comply with the constitution granting women equal rights by giving men and women equal opportunities and also set the target of women participation at 65 percent to reflect the level of female participation in the rural agricultural labour force.
- The project will comply with the 2014 constitution granting equal workers rights to men and women. The project will be in full compliance with the Tunisian workers' rights as well as international labour standards both as a responsible employer of the core PMU staff but also in the contracting of the Service Provider, consultants and anyone else otherwise employed for the implementation of the project.

Figure 17 List of laws to comply with.

Concern	Law Legislation	Responsible Agencies	Enforced Regulation / Item
Construction Permit	Decree (n ° 87-654 (April 28, 1987)	Ministry of Equipment and Housing	Issue of permit
Pesticides and Fertilisers	Decree n° 2013-1308 (2013)	Ministry of Environment and Ministry of Health	Monitoring and enforcement by CRDA/CTV

Principle 2: Access and Equity.

228. No further assessment of potential impacts and risks is required for compliance with access and equity since the project will not reduce or prevent communities in the targeted areas from accessing basic services. The project will take a number of transparent steps that will help ensure that the benefits of the project are being distributed fairly with no discrimination nor favouritism. Primarily, project targeting has been agreed with the government and comprises targeting criteria based on gender and age quotas. The project will advertise broadly through the mass media (radio, social media, town hall and village meetings, workshops etc.) for the implementation of an outreach/mobilisation strategy. Beneficiaries will be explained as they have been throughout the participatory and gender-balanced consultations during the design, that this is a project with a strong focus on women and youth, but that also adult men will also be eligible. The project will promote an extensive outreach programme that aims to be inclusive of the most vulnerable using the official registry of people recognised as being vulnerable by the Ministry of Social Affairs. The mobilisation / outreach strategy will be executed in a participatory consultative and gender-sensitive manner and the grievances procedure promoted to ensure everyone being included is entitled.
229. Following the revolution, there is a palpable sense of a need for social justice, a need for opportunities for the most vulnerable and equality of access has been expressed by all government institutions that the design team has met. This is addressed by publicly advertising and tendering all contracts including the staff and technical experts of the PMU as well as the Service Provider implementing outcome 2.2 and all the private contractors that will be involved in the designing and constructing of the roads and water infrastructure.

Principle 3: Marginalised and Vulnerable Groups.

230. There is no risk that the project will impose adverse impacts on marginalised and vulnerable groups as the entire focus of the project is based around the inclusion and lifting (or graduating) out of poverty of 2100 Families in Need (FIN) and 4200 Limited Income Families (LIF) households. The FIN and LIF are the first category of the project's target groups and are officially recognised and defined by the GoT as including the elderly, persons with reduced mobility, and persons with disabilities. The project will work with the lists of FIN and LIF provided it by the Regional Directorate for Social Affairs (DRAS) as well as actively verify their current status.
231. Three gender and targeting specialists were part of the IESS and IESS-Adapt design team, and did a poverty, targeting and gender assessment in the targeted governorates, based on which targeting strategies and presented in section I-A. The specialists collected information and undertook consultations with local social service officials and a number of marginalized and vulnerable members of the local communities – women, elderly people, young unemployed, to understand their socio-economic constraints, and identify the most suitable specific activities that can benefit these groups for the design of the graduation programme.
232. Poverty, environmental degradation, lack of opportunities, lack of healthcare, access to finance have all been identified as the main constraints and vulnerabilities of the FIN and LIF, and based on which the IESS and IESS-Adapt have developed the five-pillar approach to graduate out of poverty. Risks to the marginalised and vulnerable groups will be reduced through i) improved social protection (food security, access to health and sanitation); ii) environmental sustainability and climate resilience; iii) livelihood promotion of alternative income streams to support consumption, asset accumulation and economic empowerment, especially for women and youth; iv) financial inclusion (financial literacy training and access to Microfinance Institution (MFI) savings and credit services); and v) social empowerment (life skills training, social inclusion, five-pillar coaching and a commitment to gender equality).

233. **Non-discrimination of vulnerable people** applies to all vulnerable categories as mentioned above but also extends to the elderly and persons with disabilities. IFAD will at all times in all consultations ensure that no vulnerable people will be discriminated in any. Should any of the beneficiaries fall into this category, efforts will be made to facilitate access to the project's services, events, and any other activities related to the project.
234. **Household Monitoring.** The risk of disproportionate adverse impacts on marginalized and vulnerable groups will be further minimised through the graduation's monitoring programme. The lessons learned exercise that was conducted by the CNEA national research institute of the AfDB project that this project upscales, identified close monitoring and coaching as one of the main reasons for a high drop-out rate by the FIN and LIF under the Integrated Agricultural Development Project (IADP). Extensive monitoring and coaching will therefore be a fundamental element of the graduation programme. The 6,300 vulnerable households under outcome 1.2 will receive regular monitoring at the household level and will allow field staff to monitor the progress of each graduation participant in relation to their economic and social goals. Regular household visits, group discussions and registries will allow each household to see progress against its own goals. Challenges can be identified during regular household-level follow-up visits and processed before they become even greater barriers to achieving the graduation objectives.
235. **Coaching and Training Reinforcement.** Those FIN and LIF that will graduate to alternative climate resilient income grant recipients (output 1.2.3), will also be assigned to an AF supported animator and receive monthly home visits. During each home visit, the animator will review and reinforce the Life Skills Training that the participant received that month. The animator will also review the participant's booklet, which contains their business plan and key information on the household's finances (i.e. savings, profits, loss, asset value, etc.). The animator and the participant will then jointly assess the state of the alternative income generating activity, the participant's progress towards their goals and suitability to graduate as contributors to the rural value chain component of the IESS. This will enable them to link up with food processors through the farmer cooperatives ('*Société Mutuelle de Services Agricoles*' – SMSAs) and small and medium enterprises (SMEs).
236. **Free, Prior and Informed Consent (FPIC) Principle**³³. All consultations will be based on FPIC principle.

Principle 4: Human Rights.

237. No further assessment of potential impacts and risks is required for compliance with human rights since the project is designed to respect and adhere to the requirements of all relevant conventions on human rights in compliance with the ESP. Among the Guiding Values and Principles for IFAD's Social Environmental Climate Assessment Procedures (SECAP), is the principle to "support borrowers in achieving good international practices by supporting the realisation of United Nations principles expressed in the Universal Declaration of Human Rights and the toolkits for mainstreaming employment and decent work".
238. Tunisia has ratified eleven human rights Conventions and optional protocols including against torture; civil and political rights; the protection of all persons from enforced disappearance; the elimination of discrimination against women; racial discrimination; Economic, Social and cultural rights; rights of the child; and persons with disabilities. The last Report of the Office of the United Nations High Commissioner for Human Rights (OHCHR) Assessment Mission to Tunisia, 26 Jan – 2 Feb 2011, identified ten areas requiring the attention of national and international actors, in particular the Tunisian authorities, in the process of democratic transition and of the rebuilding of confidence in the state and its apparatus. These are as follows.
- I. Ensure that the governing structures and decision-making processes are participatory, fully inclusive and representative of the whole political spectrum and all segments of society, including youth and women, and that marginalized groups find a voice in shaping laws and policies in all spheres of life.
 - II. Bring the constitution, laws and institutions, including the judiciary, the National Human Rights Institution, public administration and the security apparatus, in line with international human rights standards; create a clear separation of powers between the executive, judicial and legislative branches; and ensure effective remedies are available for all human rights violations.

³³ Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People

- III. Sustain progress in ensuring freedom of expression and association and expand space for civil society action to ensure that civil society organisations are able to play their full role in the run-up to elections, in shaping the future of their country, and in providing an effective counterbalance to government.
 - IV. Ensure accountability for all human rights violations by immediately opening judicial investigations into all credible allegations of violations, prosecuting those responsible, and awarding reparations, including compensation, to victims; and take measures to secure evidence.
 - V. Strengthen the guarantees of independence of the three commissions on political reform, on human rights abuses since 17 December 2010, and on corruption by: giving them an adequate legal basis, clear Terms of Reference, adequate powers, an independent and adequate budget, immunity for their members and guarantees of protection for those who cooperate; and build their approaches and recommendations on fully inclusive and participatory processes.
 - VI. Establish a full and independent account of the events in the prisons during the period of unrest and take immediate remedial measures; address the dire situation in prisons by adopting a new penitentiary policy that assures humane conditions; and pay particular attention to rehabilitation and social reinsertion of detainees and former detainees.
 - VII. Adopt a comprehensive and inclusive approach to transitional justice, by holding national consultations which explore the most appropriate options for Tunisia, including truth, reconciliation and accountability mechanisms.
 - VIII. Take immediate and concrete steps to redress disparities in standards of living and access to and quality of health, education, employment and social support structures for women, children, youth and marginalized communities across the country.
 - IX. Ensure that development policies are the result of consultative and participatory processes putting the interest and rights of all Tunisians at the centre.
 - X. Enhance Tunisia's cooperation with the UN human rights system, including collaboration with OHCHR; issue an open invitation to Special Rapporteurs; and ratify and review reservations of human rights treaties.
239. The project will work towards addressing some of the recommendations of the OHCHR Assessment Mission to Tunisia, 26 Jan – 2 Feb 2011. Through its activities it will aim to redress the disparities in standards of living and access to quality, health, education, employment and social support structures for women, children, youth and marginalised in the governorate of Kairouan. It will furthermore ensure that all activities will be the result of gender-sensitive consultative and participatory processes even where these involve development policies. IESS and IESS-Adapt will furthermore focus on supporting the most vulnerable and marginal rural populations in Kairouan with the five-pillar approach through promoting social protection; environmental sustainability and climate resilience; livelihood promotion; financial inclusion; and social empowerment. Moreover, the project investments in climate-proof water infrastructure to ensure water supply to farmers and poor households.
240. These and other human rights issues have been an explicit part of consultations with stakeholders during the project formulation and identification and will continue to be during the further design and implementation of activities. The project implementation entity, together with other UN agencies present in Tunisia will report on any human rights violations throughout the targeted governorate.

Principle 5: Gender Equality and Women's Empowerment³⁴

241. The project has taken proactive measures to integrate gender focused development strategies that will ensure it will not pose a risk to the principle of gender equality and women's empowerment.
242. **Analysis.** Women's rights in Tunisia is one of the most advanced in the Arab world and UNDP Gender Equality Index (IIG) placed it 48th out of 185 countries. Gender equality was enshrined in the Tunisian constitution of 1959 (Article 6) and in the new one of 2014 (Article 21) following the revolution. Tunisia also lifted all its reservations to the Convention on the elimination of all forms of Discrimination Against Women (CeDAW) and on November 25, 2018, the cabinet of Tunisia approved

³⁴ Project gender screening is available in annex 5

a bill that would require that male and female heirs receive equal inheritance shares. Tunisia is the first among Arab countries to adopt such a bill that is now referred to the Tunisian Parliament for debate and voting. Women in Tunisia today enjoy favourable indicators of health and education, low maternal mortality rate and high antenatal coverage rates. The girls-to-boys school enrolment ratios were around 99 percent and 98 percent respectively and secondary education around 90 percent for both although average national illiteracy rates

243. **Constraints.** Women nevertheless still face multiple constraints. Women continue to face significant cultural, social and economic barriers that limit their economic prospects and access to decent pay and have the impact of reducing women integration into the labour market and formal economy. Primarily employers discriminate against women through being influenced by male-female professional stereotypes that create barriers against employment; girls appear also to be orientated towards sectors with low economic opportunities resulting in the Global Gender Inequality Index placing Tunisia 127th out of 145 countries. Women face barriers in access to microfinance to launch income generating activities (IGAs). Projects approved by the Small and Medium-sized Enterprise Finance Bank (*'Banque de Financement des Petites et Moyennes Entreprises'* - BFPME) showed that only 17% of the projects initiated were by women promoters (compared to 83% by men), with an average cost of 568,000 Tunisian Dinars (TDN) for women against 800,000 TDN for projects of male promoters (a difference of 40.8% in favour of men). Around 20 percent of women in agriculture have a personal income compared to 65 percent for men and 4 percent of women hold land titles and women.
244. **Design.** The IFAD's poverty targeting and gender sensitive design and implementation guidelines were applied for the design of the project. Three targeting and gender specialists were part of the design team, who did a poverty, targeting and gender assessment in the targeted areas³⁵. The design team conducted gender separated consultation groups that enabled women and men to discuss their primary concerns free of social pressure from the other group. This resulted in vulnerable and marginalised women and youth being given a central role in the project. In order to overcome any potential risks related to this principle, the project has developed a very proactive strategy for the participation of women in project activities. Specific gender objectives, activities, dis-aggregated targets and budget allocations have been defined, and the selection criteria for the service provider includes women staff to ensure outreach to women and integrate gender aspects.
245. **Inclusion.** In reflecting the 2014 census of Kairouan where 63 percent of agricultural labourers were women, the project will target 65 percent women. The project will also pilot the Gender Action Learning for Sustainability (GALS) methodology. GALS promotes a change in philosophy based on underlying principles of social and gender justice, inclusion and mutual respect. In particular it promotes women's human rights based on the United Nations Convention on Elimination of All Forms of Discrimination Against Women (CEDAW): freedom from violence; equality of property ownership; equality of decision-making; equality of work and leisure; and freedom of thought and association.
246. In order to promote gender equality and empower women, the project will aim to (i) promote economic empowerment; (ii) enable women and men to have equal voice and influence in rural institutions and organisations; and (iii) achieve a more equitable balance between women and men in the distribution of work and economic and social benefits. The project will challenge social norms that perpetuate inequalities between men and women. Women's economic empowerment will be promoted through access and control of productive assets and the home.
247. To undertake productive activities, efficiently and effectively, women will have access to access assets, inputs, technology and finance and will benefit from stronger links with profitable markets through the IESS project. They will also have access to economic services - extension, training, business activity - and the possibility of having "decent work".
248. Training will be adapted to the needs of women and the use of extension agents and female leaders will be encouraged. The combined IESS and IESS-Adapt projects will strengthen and ensure the representation and participation of women in local decision-making bodies. While awareness campaigns will be organised to increase the number of women in the GDAs and SMSAs, leadership training will also be given to encourage more women to hold leadership positions in these organisations. Similarly, women's groups and organisations will be supported to network the sharing of experience and advocacy. Each GDA and SMSA will have a gender and youth inclusion strategy with indicators for monitoring implementation.
249. The contribution of women to decision-making within the household or the community alongside that of men will be promoted. Awareness will be raised through campaigns for women, men, communities

³⁵ A gender checklist in annex 5 ensures that

and leaders of gender-based violence will be conducted; literacy classes promoted by the project will help to counteract discriminatory factors against women and unequal power relations by giving women access to other places of information and education, allowing informed decision and creating opportunities for income generation and socialization.

250. IESS and IESS-Adapt also aims to engage in a policy dialogue on how to help very poor families escape extreme poverty. The attention that the GALS approach gives to the gender issue will be an important dimension of the discussions.

Principle 6: Core Labour Rights.

251. The project will not negatively affect Core Labour Rights.
252. Tunisia has been a member of the ILO since 1956 and has ratified eight fundamental ILO conventions on forced labour; freedom of association and protection of right to organise; right to organise and collective bargaining; equal remuneration; abolition of forced labour; discrimination (employment and occupation); minimum age; and worst forms of child labour.
253. The 2019 Report of the Committee of Experts to the 180th International Labour Conference, on the Application of Convention and Recommendations reported on the Application of International Labour Standards in Tunisia. The recommendations can be summarised as pertaining to legislative amendments; the right of workers, to establish and join organisations; right of organisations to elect their representatives in full freedom; right of workers' organisations to organise their activities and formulate their programmes; amendments to the labour code; and right of workers' organisations to organise their activities and formulate their programmes without interference from the public authorities.
254. The ILO has also recently been providing technical assistance and made a series of recommendations in its efforts to make quality employment the goal of economic growth. It highlights a number of structural weaknesses including in quality job creation; a mismatch in the jobs being created and the skills of the labour force; low private investment; low wages; high emigration; persistent gender inequality; and social protection gaps. It further makes recommendations that efforts should be made in promoting employment rights through robust social dialogue; improving minimum wages; extending social protection; and better support to the unemployed.
255. IESS and IESS-Adapt in their consultations with national partners have integrated the recommendations made by the ILO through ensuring workers rights are respected at all times and upheld to international standards. In promoting social protection the project has designed the five-pillar graduation programme that the AF supports and aims to extend social protection namely through i) Social protection (food security, access to health and sanitation); ii) Environmental sustainability and climate resilience; iii) Livelihood promotion of alternative income streams to support consumption, asset accumulation and economic empowerment, especially for women and youth; iv) Financial inclusion (financial literacy training and access to MFI savings and credit services); and v) Social empowerment (life skills training, social inclusion and five-pillar coaching and a commitment to gender equality).
256. The Project will furthermore not engage child labour in any of its activities. The prohibition of child labour will be part of the agreement with the beneficiaries and will be a non-negotiable provision of the agreement. IFAD has a longstanding partnership agreement with ILO dating back to 1979. Furthermore, IFAD as part of IFAD's Rural Youth Action Plan 2019-2021 (RYAP), is one of the founding members and has an ongoing partnership with the International Partnership for Cooperation on Child Labour in Agriculture (IPCCLA). IFAD has been involved in collaboration with United Nations and non-United Nations entities to advocate against child labour in agriculture, and contributed to the preparation of a policy brief entitled "Breaking the rural poverty cycle: Getting girls and boys out of work and into school". IFAD is also an equal opportunities employer and as such it works to ensure that all its projects are free of discrimination in respect of employment and occupation. The project design ensures quotas for women and youth participation and transparent processes for recruitment as well as raising awareness raising about women and youth participation in decision making processes.

Principle 7: Indigenous People

257. As there are no indigenous groups in the Kairouan Governorate, the project will not involve any particular indigenous group. This aspect does not seem to be of relevance in terms of further assessment for ESP compliance.

Principle 8: Involuntary Resettlement

258. As no involuntary resettlement is foreseen in any circumstance during project implementation, this aspect does not seem to be of relevance in terms of further assessment for ESP compliance.
259. **Free, Prior and Informed Consent (FPIC) Principle**³⁶. All consultations will be based on FPIC principle. Should a situation of resettlement or economic displacement arise during the implementation of the project that was not anticipated during design, the implementers and IFAD will ensure that a consultation and negotiation process is undertaken with the potentially affected people, according to the FPIC and do-no-harm principles. In case no agreement is reached, the project implementers will modify the specific interventions associated with the affected people, or halt them if changes are not possible. In the case where project implementers fail to undertake a consultation and negotiation process with the affected people, according to the FPIC and do-no-harm principles, the conditions and terms of the loan or grant agreement could be considered to be breached and the loan could be suspended, following IFAD's normal procedures for loan suspension.

Principle 9: Protection of Natural Habitats

260. The project is not expected to have any negative impact on critical natural habitats including those that are (a) legally protected; (b) officially proposed for protection; (c) recognised by authoritative sources for their high conservation value, including as critical habitat; or (d) recognised as protected by traditional or indigenous local communities.
261. With the exception of the climate proofing rural access roads, the majority of the hard project activities will be confined to people's homes and their surroundings, seasonal water streams and government designated irrigated perimeters and the remaining of the activities will be soft components or IGAs aimed at income diversification. At the design stage it is not possible to define the specific intervention areas as these will be the result of a combination of targeting methodologies that will i) use the climate vulnerable map in section I-A (targeting) to identify vulnerable areas for road climate-proofing; ii) carry out feasibility studies for roads and water infrastructure; and iii) use the FIN lists from the Regional Directorate of Social Affairs (DRAS) to target the most vulnerable.
262. The project will benefit natural habitats through a multitude of approaches. Through the climate proofing of roads, the project will ensure that the surrounding natural soils are being protected against erosion; cactus planting will contribute to soil conservation and water retention; water table regeneration activities will help all flora and fauna in the watershed; and the demo plots will aim to increase soil fertility.
263. As the project locations will be determined as a result of the described approaches, once the project areas are defined, the PMU will screen for risks to natural habitats and report in the PPR. Any protected natural habitat in the project area will be mapped and risk assessed. Relevant mitigation measures will be proposed for their protection as well as an explanation as to why they cannot be avoided.

Principle 10: Conservation of Biological Diversity

264. The project is not expected to have any negative impact on critical biological diversity.
265. The project objectives and activities are designed to support water and soil conservation practices as means of adapting to the weather extremes that are increasingly being felt as a result of climate change and the project will also not knowingly introduce invasive species. At the design stage the specific project activity areas are yet to be defined. It is therefore not possible to identify i) the presence in or near the project area of important biological diversity; ii) any potential of a significant or unjustified reduction or loss of biological diversity. Preliminarily, the potential negative impact is assessed as being extremely low as the project will not be introducing known invasive species or otherwise negatively affect biodiversity. However, with regards to point i) and ii) the project will integrate screening and mitigation measures into the ESMP. It will identify and report in the PPR on the presence in or surrounding the project area of critical biological diversity. The project will monitor that project implementation will not encroach or affect them in any way and propose risk mitigation measures should there be an identified risk.

³⁶ Adapted from UN Permanent Forum on Indigenous Issues (UNPFII), 2005, Report on the International Workshop on Methodologies Regarding Free, Prior and Informed Consent and Indigenous People

Principle 11: Climate Change.

266. The project will not have any negative impact on climate change.
267. It is estimated that up to 75% of Tunisia is threatened by desertification due to climate change and land management (e.g. overgrazing and deforestation). The combination of higher temperatures and declining rainfall will further reduce water resources. Models suggest that conventional water resources will decrease about 28% by 2030. This decrease will mainly affect shallow aquifers with high salinity, coastal aquifers and non-renewable aquifers. A decrease in surface water of about 5% is also anticipated by 2030. Increased rainfall intensity will also cause increased damage to soils and accelerate soil degradation.
268. The project does not promote any drivers of climate change (energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management), it will therefore not contribute to climate change as it is based on the premise of assisting smallholders to adapt in a climate neutral fashion.
269. No further assessment of potential impacts and risks is required for compliance with the climate change ESP, since this is inherently an adaptation project with activities that are based on the adaptive priorities set out in the INDC and national adaptation strategies. These are listed below.
- i. Adapting irrigation in the central region;
 - ii. Adapting mixed farming-livestock production to climate change in vulnerable regions;
 - iii. Updating the agriculture map to take into account the impacts of climate change.
270. The project will support the National Climate Change Strategy. The NCCS promotes NAMAs (Nationally Appropriate Mitigation Actions) with a strong focus on water management and job creation and poverty alleviation as a means of climate change adaptation. The project will be aligned with the NCCS through the promotion of increased water availability, better water management and awareness by the farmers as well as the promotion of alternative livelihoods that help farmers better adapt to climate change.
271. The project will also support the implementation of the New Strategy for the Management and Conservation of Agricultural Land which is a key adaptive strategy. The strategy promotes:
- i. The protection and regeneration of soils;
 - ii. Combating gullyng;
 - iii. Using sustainable soil and water management to protect and add value to agricultural land;
 - iv. Utilising runoff water and increasing surface, soil and deep-water storage; and
 - v. Contribute to biodiversity conservation and promoting sustainable environmental management for adaptation to climate change.
272. The project is aligned to the strategies to adapt to climate change adaptation through protecting livelihood transport networks and surrounding landscape from erosion; the promotion of alternative IGAs to diversify incomes; cactus planting to slow down gullyng; enhancing water table regeneration; and the promotion of demo plots to teach farmers new climate adaptive techniques that will enhance soil fertility, reduce erosion and support soil biodiversity enhancement.

Principle 12: Pollution Prevention and Resource Efficiency

273. The project will not pose any significant risks to resource efficiency (water) or pollution risks and no further assessments will be required beyond the procedures already integrated into the project.
274. **Efficiency.** Tunisia is experiencing a water shortage and per capita water availability is below the poverty threshold. The annual renewable water resources at the level of the Governorate of Kairouan, are estimated at 325 million m³ of which 316 million m³ (97%) is extracted although the majority of the water tables are being utilised faster than they are being replenished. The project will directly address this by building 45 seasonal waterway structures that aim to slow down water and facilitate its infiltration. This will help reduce the rate of water table decline. The project will also expand the water table monitoring piezometer network to monitor the impact that the project activities will be having on reducing the rate of decline as well as train the GDAs on improved water management, irrigation infrastructure maintenance and efficient water use.
275. GDA studies have shown that the irrigation networks on the irrigated perimeters (IPs) are beyond their useful lives and leaking as much as up to 50% before it reaches the fields. Old pumping stations are

also inefficient as they cannot optimise the delivery of water that results in too much water being pumped vis-à-vis demand. This is highly inefficient and expensive to the users, causing the GDAs to go into debt as they burden the costs as poor farmers are not prepared to not pay more for the cost of water extraction. The project will directly address this with the renewal of the irrigation networks and pumping stations on a combined 769ha of irrigated land. It is estimated that the gains made in water efficiency will save 1,211,840m³ of water per year.

276. **Pollution.** The project will reduce waste resulting from the production of olive oil. The wastewater from the olive oil mills also known as ‘marginés’, is normally disposed of, but the project will promote waste reduction through the promotion of ‘marginés’ as a natural form of fertiliser. ‘Marginés’ are widely used in olive oil producing countries and like all fertilisers ‘marginés’ application needs to be regulated. In Tunisia, ‘marginés’ use has been regulated through Decree n° 2013-1308 (2013). The project will be in compliance with the Decree as it is the case with all standard procedures relating to fertiliser storage and use. The project will be training all relevant farmers and SMSAs in fertiliser storage, handling and application procedures that have been explained in section II – E. The project SP will also develop training curriculums that will include handling procedures for ‘marginés’ storage, handling and application. The CRDA is responsible by law to monitor the application of ‘marginés’ and other fertilisers and the CRDA/CTV will be fulfilling this responsibility.

Principle 13: Public Health

277. The project will not have negative impacts on public health.

278. The WHO³⁷ explains that many factors combine together to affect the health of individuals and communities. Whether people are healthy or not, is determined by their circumstances and environment. To a large extent, factors such as where people live, the state of their environment, genetics, income and education levels, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact. The main overarching determinants of health are:

- The social and economic environment,
- The physical environment, and
- The person’s individual characteristics and behaviours.

279. The project will improve all the determinants of health presented in the screening table below and as listed by the WHO. The project through supporting the IESS 5-pillar graduation programme and focusing on social protection, environmental sustainability / climate change, livelihood promotion, financial inclusion, social empowerment and water table regeneration, will make significant contributions towards improving health. The project is expected to have an overall beneficial impact on the public health with improved access to water, climate-proofed yields and increase quality of produce that will also provide improved food security and nutritional benefits.

Table 15 Health Risk Assessment

Determinants of health	Health Risks	Mitigation Measures	Impact on Health
Income and social status	Lower income and social status are linked to worse health.	The project will target the most vulnerable and marginalised to provide them sustainable avenues for livelihood development in terms of the five pillars, one of which is livelihood promotion. The project will reduce the risk on health through low income and social status.	Positive.
Education	Low education levels are linked with poor health, more stress and lower self-confidence.	The project will have a broad training and capacity building programme where the most marginal and vulnerable communities will be given skills that will enable inter alia their financial inclusion through financial literacy training and access to MFI savings and credit services. This will improve their	Positive.

³⁷ <https://www.who.int/hia/evidence/doh/en/>

		ability to interact with the community and broader society.	
Physical environment	Limited access to water reduces health	The project will target 300 of the most vulnerable and marginalised disadvantaged families that have no access to running water in their homes. The project will provide them with 50m ³ reservoirs that will help accumulate rainwater as well as enable them to purchase and store large volumes of water. This will reduce the burden on women to travel long distances in high temperatures to get water.	Positive.
Social support networks	Greater support from families, friends and communities is linked to better health	Through the graduation programme FIN and LIF will be engaging in community-based participatory approaches that will build community development and people will learn that they can benefit from depending on each other.	Positive.
Health services	Access and use of services that prevent and treat disease influences health	By supporting the graduation programme, the IESS-Adapt will be indirectly promoting access to healthcare. One of the pillars of the programme is to promote social protection through improved food security, access to health and sanitation.	Positive.
Land use	Changes in land use, soil quality, choice of crop have impact on health	The project will promote improvements in land use, soil quality and choice of crops. Through outcome 2.3 the project will implement a demonstration programme aimed at increasing the climate resilience of farmers through the introduction of techniques that will improve soil quality but also improve crop yields. It will also demonstrate new type of crops that are more climate resistant and will also improve yields and in turn health.	Positive.
Unsustainable farming	Unsustainable farming including chemical and energy use, biodiversity, organic production methods, and diversity of foods produced	The project will support sustainable farming through the demo plot training programme. This will result in improved biodiversity of soils and diversity of food produced that in turn will improve health.	Positive.
Water	Irrigation use and its impact on river/water-table levels and production outputs can have negative impacts on health.	The project will promote increased efficiency of irrigation networks on around 769ha of agricultural land and the saving of around 1,211,840m ³ of water per year. This will have a direct impact on reducing water table extraction rates and combined with the demo plot training, improve productivity and human health.	Positive.

Source: <https://www.who.int/hia/evidence/doh/en/>

Priority 14: Physical and Cultural Heritage

280. The project will not have negative impacts on the physical and cultural heritage of Kairouan
281. Tunisia ratified the Convention concerning the Protection of the World Cultural and Natural Heritage in 1975 and has seven UNESCO heritage sites namely: the Amphitheatre of El Jem (1979); the Archaeological Site of Carthage (1979); Dougga / Thugga (1997); the city of Kairouan (1988); Medina of Sousse (1988); Medina of Tunis (1979); and Punic Town of Kerkuane and its Necropolis (1985,1986).
282. The law n ° 94-35 of February 24th, 1994, promulgating the code of the archaeological, historical and traditional arts inheritance, protects all cultural heritage in Tunisia. The project will be in full compliance of the law in the protection of cultural heritage in Tunisia. However, as the specific project sites will be defined upon implementation, the project will therefore as part of the EMSP conduct a risk assessment to determine whether there are any national cultural heritage sites in the project areas. In the unlikely event there are, these will be mapped and reported on in the PPR. The project will then propose measures to avoid any alteration, damage, or removal of physical cultural resources, cultural sites, and sites with unique natural values recognised as such at the community, national or international level.

Priority 15: Lands and Soil Conservation.

283. The project will not have negative impacts on lands and soil conservation.
284. The project has been designed in a fashion that reduces any risk posed by it to the environment, it is also not expected to pose any risks to lands as well as promote soil conservation. Tunisia is a water insufficient country and it is estimated that up to 75% of Tunisia is threatened by desertification due to climate change and land management. The marginalised and vulnerable rural poor are almost entirely dependent on the natural environment for their livelihoods and are therefore disproportionately vulnerable to climate change. The project will directly aim to reduce the climate vulnerability of these marginal communities in multiple ways, one of which is through lands and soil conservation. The project has conducted a climate vulnerability mapping assessment based on rainfall intensity and slope angle to target areas for road climate-proofing that most at risk from erosion. Based on this assessment and technical feasibility studies, the project will aim to climate-proof 50km of rural access roads to reduce the damaging impact torrential rain has on livelihood transport infrastructure as well as protect surrounding lands and soils from erosion and degradation.
285. The project will furthermore carry out extensive vulnerability assessments through the graduation programme to identify areas of environmental degradation and climate vulnerability where it will promote the planting of 400ha of land with indigenous cactus aimed at consolidating vulnerable and degraded lands and protect them from gullying and erosion. The Adaptation Fund has also mainstreamed environmental management and climate change capacity building into the graduation programme to raise awareness about the importance of sustainable soil management to 6300 rural climate vulnerable and marginalised households. Through the demonstration plots, the project will also promote sustainable agricultural techniques that inter alia aim to enhance soil fertility and promote soil conservation.
286. Below is a summary EMSP management plan and reporting requirements.

Table 16 Monitoring and reporting overview

ESP	Management Plan and Reporting Requirements
ESP 9 Protection of Natural Habitats	<p>A) The project will identify:</p> <p>1) the presence in or near the project area of natural habitats, and</p> <p>2) the potential of the project to impact directly, indirectly, or cumulatively upon natural habitats.</p>

	<p>B) If critical natural habitats exist and there is a potential for the project to impact the habitat, the project will:</p> <ul style="list-style-type: none"> i. Describe the location of the critical habitat in relation to the project and why it cannot be avoided, as well as its characteristics and critical value. ii. For each affected critical natural habitat, provide an analysis on the nature and the extent of the impact including direct, indirect, cumulative, or secondary impacts; the severity or significance of the impact; and a demonstration that the impact is consistent with management plans and affected area custodians.
	<p>C) Reporting.</p> <p>The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.</p>
<p>ESP 10 Conservation of Biological Diversity</p>	<p>A) The project will identify:</p> <ul style="list-style-type: none"> i. The presence in or near the project area of critical biodiversity ii. The potential of the project to impact directly, indirectly, or cumulatively upon critical biodiversity.
	<p>B) If critical biodiversity exists and there is a potential of the project to impact it negatively, the project will:</p> <ul style="list-style-type: none"> i. Describe the elements of known biological diversity importance in the project area, using any relevant sources of information, such as protection status, status on the IUCN Red List of Threatened Species³⁸ and other inventories, recognition as a UNESCO Man and the Biosphere Programme reserve³⁸, Ramsar site³⁹. ii. Describe why the biological diversity cannot be avoided and what measures will be taken to minimize impacts.
	<p>C) Reporting.</p> <p>The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.</p>
<p>ESP 12 Pollution prevention and resource efficiency</p>	<p>A) 'Margine' fertiliser compliance.</p> <p>The project will ensure that the training of trainers developed in output 2.3 will include training on correct fertiliser handling, storage and application for both the buyers and sellers (SMSA) as well as the individual farmers.</p>
	<p>B) Monitoring</p> <p>The trained CTV extension services will by law provide ongoing technical advice and monitoring of correct fertiliser application.</p>
	<p>C) Reporting.</p> <p>The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.</p>

³⁸ United Nations Educational, Scientific and Cultural Organization, www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme

³⁹ Convention on Wetlands of International Importance, called the Ramsar Convention, www.ramsar.org

ESP 14 Physical and cultural heritage	<p>A) The project will identify:</p> <ul style="list-style-type: none"> i. The presence in or near the project area of areas of physical and cultural heritage ii. The potential of the project to impact directly, indirectly, or cumulatively upon areas of physical and cultural heritage.
	<p>B) If such physical and cultural heritage exist and there is a potential of the project to impact upon it, the project will:</p> <ul style="list-style-type: none"> i. Provide an inventory of the physical and cultural heritage present in the wider project area that enjoys recognition at community, national, or international levels. Describe the cultural heritage, the location and the results of a risk assessment analysing the potential for impacting the cultural heritage; and ii. Describe the measures to be taken to ensure that cultural heritage is not impacted, and if it is being accessed by communities, how this access will continue.
	<p>C) Reporting.</p> <p>The project will submit biannual progress reports; annual supervision reports to IFAD as well as the annual PPR to the Adaptation Fund; MTR and final evaluation and impact assessment.</p>

Consultation

287. **The design** for IESS and IESS-Adapt was conducted in two missions with the first one in March 2019 and the second in June 2019 during which a wide range of stakeholders have been consulted⁴⁰. The proposed project has worked closely with the CRDA, and was consulted throughout the design process with the project proposal having been developed through a gender and youth sensitive participatory approach. The field survey focus groups were instrumental in informing the development of project interventions and the activities were subsequently designed based on local community concerns and needs. During the field visits every effort was made to identify women groups and associations, however none of the stakeholders interviewed, including the Ministry for Women, Families, Childhood and the Elderly were able to identify any in Kairouan. The stakeholder consultations however have been very gender and youth focused with meetings being arranged with smallholders that were timed to be sensitive to their respective needs as well farmer's needs more generally. As reflected in the list of persons met in Annex 5, women were also interviewed separately from men, this produced the desired effect as women felt freer to open up about their issues, which otherwise would not have been possible.
288. **The main concerns** that emerged from the consultation process have been integrated into the project design. Women from the more isolated homesteads complained about the hardship they faced in having to travel 5 hours to collect water by donkey and a general lack of water for the household and irrigation. Beneficiaries interviewed in villages however did have tap water in their homes but complained of not having water for irrigation or their animals, as it is illegal to use tap water for this purpose. Women further complained about reduced access to land as land is not registered in their name and women farmers have highlighted the challenge of their long working hours due to their farming and domestic responsibilities. Women are predominantly used as farm labour because farmers are able to pay them half of what a man would be paid which was an issue that was raised repeatedly in the consultations. Both female and male and youth target populations that have been interviewed complained about few opportunities and high levels of unemployment.
289. Reports of ravines and erosion have been common among the rural beneficiaries that have been interviewed, although they demonstrated little awareness about adaptive and management measures that can be applied to address this problem. Farmers also raised concerns relating to heavy rains causing flooding and erosion and extensive mud causing periods of being unable to move. The beneficiary consultations in the irrigated perimeters (IP) also identified that while farmers are

⁴⁰ See annex 5 for the list of stakeholders met.

supported by the government to purchase drip irrigation, none were taught or explained that the pipes can be maintained for increased longevity and consequently typically last only two seasons before they are replaced.

290. **ESMP Consultations.** Project consultations will at all times be gender-sensitive and inclusive of vulnerable and marginalised groups, including as part of any screening and mitigation measures that could be needed for ESP 9,10, and 14. The project will have extensive consultations with beneficiaries throughout the project. Beneficiaries will be consulted as part of the graduation vulnerability assessment as well as the ongoing coaching and mentoring of the programme for 2100 FIN and 4200 LIF households. Furthermore, those vulnerable communities that graduate and take part in the alternative Income Generating Activities (IGA) will also be assigned an animator each and receive monthly home visits. During each home visit, the animator will review and reinforce the life skills training that the participant received that month. The animator will also review the participant's booklet, which contains their business plan and key information on the household's finances (i.e. savings, profits, loss, asset value, etc.). The animator and the participant will then jointly assess the state of the alternative income generating activity, the participant's progress towards their goals and suitability to graduate as contributors. The consultations will be extended beyond the graduation programme to include workshops and capacity building training programmes through the demo plots where 3500 people and around 61 producer organisations will be trained.

Grievance Mechanism

291. The proposed project will utilize the existing IFAD's grievance mechanism to allow affected to raise concerns that the proposed project is not complying with its social and environmental policies or commitments. The consultative process with the community and beneficiaries aims to ensure prevention of grievances that might arise from the project activities. However, if at all, there are any grievances, the below redressal mechanism is proposed:

- Grievance redressal mechanism would be shared with the community during the project inception workshop and subsequent meetings with the beneficiaries
- As part of the grievance redressal mechanism, the contact details of the project partners - Cluster Coordinator/ Project Manager would be made available to stakeholders including project beneficiaries and the community. Contact numbers would be displayed at common or predominant places along-with the project details. This is expected to promote social auditing of project implementation. The grievance mechanism will be available to the entire project intervention areas. However, the functionality of the mechanism rests with the beneficiaries considering that the project including the grievance mechanism is envisaged to be a bottom up approach.

292. Grievances are aimed to be addressed at the field level by the project team which will be the first level of redressal mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violation of any of the provisions of Environmental and Social Policy of the Adaptation Fund. All grievances received and action taken on them will be put up before the PMU and Steering Committee meetings and will also be included in the progress reports for reporting and monitoring purposes.

I. Monitoring and Reporting

293. As described in section III – D of the proposal, the project will have a comprehensive monitoring and reporting programme that will include quarterly reports, technical reports, annual project reports, the AF PPR tracking, annual IFAD supervision mission reports, a Mid-term Review and a final evaluation and impact assessment.
294. The monitoring and reporting of the ESMP will be commensurate with the limited ESMP required for the IESS-Adapt. As presented in table 15, ESP compliance for ESPs 9,10 and 14 will be reported on through the annual PPR and supervision missions to demonstrate whether there are any critical natural habitats, critical biodiversity and physical cultural heritage. The inclusion of measures to protect the environment and human health from the use of 'margins' in ESP 12 as fertiliser into the training programme will also be monitored through the PMU and supervision missions. It will be reported on in the annual supervision missions and PPR reports, the MTR and the final evaluation.

Implementation Schedule

295. The implementation schedule of ESMP will be as follows:

Activities	Time					
	PY1	PY2 ⁴¹	PY3	PY4	PY5	PY6
Development of technical guidelines for the project		Q1				
Capacity building of project team		Q1				
Environmental and Social Screening		Q1-4	Q1-4	Q1-4	Q1-4	Q1-4
Monitoring and reporting of ESMP		Q1-4	Q1-4	Q1-4	Q1-4	Q1-4

Cost for Screening and ESMP

296. The preparation and implementation of ESMP will have costs that have been built in to the project budget. The cost implications and their source of funds will be as follows:

ESMP related activity	Source of funding to cover costs
Capacity building of project team	Built-in the Project Execution Cost
Preparation of screening and ESMP	Built-in the Project Execution Cost
Screening and ESMP	Built in the Project Execution Cost
Mitigation measures	Built in the Project Execution Cost
Monitoring and reporting	Built in the Project execution cost

Institutional Arrangements and Capacity Building

297. The institutional arrangements include the distribution of roles and responsibilities in the preparation of Screening and in the implementation of ESMP. The key players and their responsibilities will be as follows:

Organisation / Designation	Responsibility
(IFAD/PMU) Adaptation Fund Climate Specialist - under the supervision of the PMU Director.	<ul style="list-style-type: none"> - Preparation of Screening and ESMP through desk studies and consulting with officials to obtain official lists of protected natural habitats, critical biodiversity and culture and heritage. - Creation of maps identifying areas of interest within the project area. - Proposal of mitigation measures (if in project area). - Preparation of the report to accompany the PPR.
PMU Field Staff (with support from Adaptation Fund Climate Specialist)	<p>Assist the Adaptation Fund Climate Specialist in identification of areas of interest and propose mitigation solutions.</p> <p>Presentation of Screening and ESMP in the meetings of the village councils. Implementation of the ESMP at the village level.</p>
CRDA/CTV	Monitoring of correct application of 'Margines' as required by law.

⁴¹ IESS-Adapt will become effective in PY2 of the IESS project.

PPR Accompanying report

Project Description

- 1.1 Description of the proposed operation
- 1.2 Maps and diagrams of the project site
- 1.3 Area that will be affected and impacted
- 1.4 Settlements that will be affected
- 1.5 Population that will be affected (attach list of households)

Baseline Condition

- 2.1 Description of existing environmental and social condition.
- 2.2 Attach maps and other data that has been collected.

Environment Impacts and Risks

The Screening will be in terms of: (a) Direct Environmental Risks; (b) Direct Environmental Impacts; (c) Indirect Environmental Risks; and (d) Indirect Environmental Risks on the compliance with the following ESPs:

- i. Compliance with the Law;
- ii. Protection of Natural Habitats;
- iii. Core labour rights;
- iv. Conservation of Biological Diversity;
- v. Climate Change;
- vi. Pollution Prevention and Resource Efficiency;
- vii. Public Health;
- viii. Physical and Cultural Heritage;
- ix. Land and Soil Conservation.

Social Impacts and Risks

The Screening will be in terms of: (a) Direct Environmental Risks; (b) Direct Environmental Impacts; (c) Indirect Environmental Risks; and (d) Indirect Environmental Risks on the compliance with the following ESPs:

- i. Compliance with the Law;
- ii. Access and Equity;
- iii. Marginalised and Vulnerable Groups;
- iv. Human Rights;
- v. Gender Equity and Women's Empowerment;
- vi. Core Labour Rights;
- vii. Public Health;
- viii. Physical and Cultural Heritage.

Analysis of Alternatives

Description of alternatives that were identified and their Screening in terms of: (a) Direct and Indirect Environment and Social Impact (b) Opportunities for enhancing environmental and social benefits

Recommendations

Risk Management options in terms of: (i) Preventing Risk (ii) Avoiding Risk (iii) Mitigating Risk (iv) Transferring Risk (v) Absorbing Risk.

Annex 5 Gender Sensitive Design Checklist.

Figure 18 Gender-sensitive design and implementation checklist

		IESS-Adapt Design
1.	The project design report contains – and project implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each project activity from the gender perspective to address any unintentional barriers to women's participation.	<p>The design is based on a detailed analysis of gender issues in the sectors concerned, and on gender- disaggregated poverty data available at the time (from government, development agencies, and research institutions).</p> <p>The project design had a team of three gender and targeting specialists that implemented a gender and youth sensitive participatory approach. The gender-separated field survey focus groups assisted the development of interventions and the activities were designed based on local community concerns.</p>
2.	<p>The project design report articulates – or the project implements – actions with aim to:</p> <ul style="list-style-type: none"> • Expand women's economic empowerment through access to and control over productive and household assets; 	<p>IESS-Adapt will develop women's economic empowerment through access and control of productive assets and the home. To undertake productive activities, efficiently and effectively, women will have access to and access to assets - inputs, technology and finance (through IGAs - with 65 percent going to women - and support for GDA and SMSA), and will benefit from stronger links with profitable markets through the IESS project. They will also have access to economic services - extension, training, business activity - and the possibility of having "decent work". Training will be adapted to the needs of women and the use of extension agents and female leaders will be encouraged.</p>
	<ul style="list-style-type: none"> • Strengthen women's decision- making role in the household and community, and their representation in membership and leadership of local institutions; 	<p>The use of the GALS approach will also be a very important contributor to women decision-making in the household. Literacy classes will help to counteract discriminatory factors against women and unequal power relations by giving women access to other places of information and education, allowing informed decision and creating opportunities for income generation and socialization.</p>
	<ul style="list-style-type: none"> • Achieve a reduced workload and an equitable workload balance between women and men. 	<p>The project will reduce women's workload and achieve a fair balance between the workload of women and men. Specifically, access to infrastructure and basic services such as water supply, and roads will be improved. Improved access to water sources will free up time for household work such as food preparation, and facilitate the sharing of roles and responsibilities between women and men.</p>
3	The project design report includes one paragraph in the targeting section that explains what the project will deliver from a gender perspective.	<p>The gender targeting strategy section clearly lays out what the project will deliver from a gender perspective. This will be in terms of targeting quotas of 65 percent; economic empowerment; access to the fruits of their labour; a stronger voice and influence in decisions affecting their lives; the contribution of women to decision-making within the household through education; reduce women's workload and achieve a fair balance between the workload of women and men; and a greater gender equity in the distribution of work within the household.</p>
4	The project design report describes the key elements for operationalizing the gender strategy, with respect to the relevant project components.	<p>Under outcome 1.2 the project clearly outlines how the 'Graduation Process' will be implemented within which the GALS plays a fundamental part. The project will conduct vulnerability assessments; life skills training; environmental management training; business skills training; livelihoods technical training; financial literacy training; household-level monitoring and regular coaching and training reinforcement.</p> <p>The project will also relieve the burden on women to collect water by building rainwater harvesting reservoirs and provide hoses</p>

		with solar powered pumps to irrigate small homestead production.
5	The design document describes - and the project implements - operational measures to ensure gender- equitable participation in, and benefit from, project activities. These will generally include:	
	5.1 Allocating adequate human and financial resources to implement the gender strategy	The IFAD project DiMMA will have a dedicated Gender Focal Point that will ensure the gender strategy for both DiMMA and DiMMAdapt are correctly executed. The responsibilities for gender mainstreaming are cross-cutting and the Gender Focal Point will have the support of the M&E officer in ensuring that all the Gender-disaggregated data is being correctly collected, as well as the project director who will provide oversight and direction in relation to the implementation of the gender strategy.
	5.2 Ensuring and supporting women's active participation in project-related activities, decision- making bodies and committees, including setting specific targets for participation	The project will help strengthen and ensure the representation and participation of women in local decision-making bodies; the contribution of women to decision-making within the household or the community alongside that of men will be promoted; awareness will be raised through campaigns for women, men, communities and leaders on gender-based violence; literacy classes promoted by the project will help to counteract discriminatory factors against women and unequal power relations.
	5.3 Ensuring that project/programme management arrangements (composition of the project management unit/programme coordination unit, project terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns	A gender focus will be integrated into all terms of references related to this project. This will be extended beyond the recruitment of the PMU staff to include all people being contracted by the project.
	5.4 Ensuring direct project/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited	The project outreach will comprise of 65 percent women to better ensure female representation. The Service Provider will also be contracted to encourage that their staff gender balance will also fulfil the gender target. All technical experts and extension workers that are hired for the project will aim to apply the gender target. The project will recruit sufficient field workers (65% women if possible) to implement the extensive outreach and vulnerability assessment campaign.
	5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue	IESS and IESS-Adapt aim to test the graduation model and engage in a policy dialogue on how to help very poor families escape extreme poverty. The attention that the GALs approach gives to the gender issue will be an important dimension of the discussions.
6	The project's logical framework, M&E, MIS and learning systems specify in design – and project M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.	The logical framework has gender disaggregated targets. The project Management Information System (MIS) and M&E framework will collect sex- and age-disaggregated performance data. This will be analysed and interpreted and reviewed during the Mid-Term review.

Annex 6 List of people met.


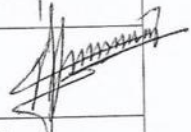
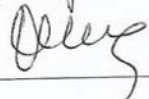
Name	Date	Position	Organisation	Email / Tel
Sebri Mehdi	18/06/2019	Regional Director	OEP Kairouan	+216 98236489
Jelliti Salah	18/06/2019	Chef d'arrondissement	Division for Water and Soil Conservation	+216 99562782
Dr Saidi Anissa	20/06/2019	Regional Commissioner	Ministry for Women, Families, Childhood and the Elderly	+216 92036816 saidi.anissa@hotmail.com
Mahdi Farhat	20/06/2019	Technical Assistant	Ministry for Women, Families, Childhood and the Elderly	+216 50846635
Ahmed Ben Salem	20/06/2019	Chef Service Genie Rural (GDA focal point)	CRDA	+216 50550986
Doutt Sghaier	20/6/2019	Social Worker	Local Unit for Social Protection (UPLS)	+216 97108531
Fraj Khameri	20/6/2019	Chef de la division de la Promotion Sociale Kairouan	Local Unit for Social Protection (UPLS)	+216 97324514 frajkhameri@yahoo.fr
Trabelsi Soumoya	20/6/2019	Chef de la division de la Promotion Sociale Kairouan	Local Unit for Social Protection (UPLS)	+216 94985645
Taoufic Sayedi	25/06/2019	Adaptation Fund Focal Point	Ministry of Environment	Taoufic.env@gmail.com
Issam Anatar	25/06/2019	Director General	Ministry of Agriculture Water Resources and Fisheries (MAWRF).	+216 671786833 anatarisaam@yahoo.fr
Batti Faouza	25/06/2019	Director of Research New Strategy for the Management and Conservation of Agricultural Land (ACTA)	Ministry of Agriculture Water Resources and Fisheries (MAWRF).	+216 97211109 batti.faouzi@yahoo.es


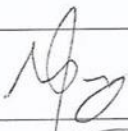


MISSION FIDA – PREPARATION D'UNE NOTE CONCEPTUELLE POUR LE FONDS
 D'ADAPTATION AUX CHANGEMENTS CLIMATIQUES - PROJET IEES KAIROUAN
 (25-29 Mars 2019)

Réunion de démarrage

LISTE DES PRESENTS

DG/FIOP le 25/03/2019

Nom & Prénom	Organisme	Fonction	Email/ Téléphone	Signature
Ben Mousse Riedh	DG/FIOP	Sous directeur	benmousseriadh713@gmail.com	
GOUCHA FATHI	FIDA-	Consultant départ. CR-	fathi.goucha2010@gmail.com	
RAFIK AINI	Cabinet AFRAP	Directeur	rafikaini1@gmail.com	

Nom & Prénom	Organisme	Fonction	Email/ Téléphone	Signature
COLYANT RENAUD	FIDA	Consultant	R. COLYANT@IFAD.ORG	
Nicolas Tremblay	FIDA	Spécialiste Environnement et Climat, NEU	n.tremblay@ifad.org	
Taoufik Mustapha	NALE	point focal, fond de l'adaptation	taoufik.env@gmail.com	
Jamaa Hagi jmel	DG F 102	Directrice	jemaliam@gmail.com	



Liste des Participants

Objet de la réunion : Projet FIDA (IESS)

Date et lieu : 26.03.2019

N°	Nom et Pénoms	Fonction	Nom de l'Institution	N° de Téléphone	Email	Signature
1	Ridha BEJI	chef ARE	CRDA Kair	98 55 78 06	ridhabejib@ismail.com	
2	Khalife Lotfi	chef AT/SOL	CRDA Kairouan	97 15 46 47	lotfikhalife@go24.com	
3	Ben Noun et Ned	CA / forêt	CRDA	95 33 84 37	benoun.ned@univ.la@univ.la@gmail.com	
4	Jelliti Salah	chef d'ALCES	CRDA Kairouan	98 56 27 82	jellitisalah1978@gmail.com	
5	Hplali Hajer	Ingenieur prim CES	CRDA Kairouan	96 20 85 66	hajer.halali@yaho.com	
6	Rabii Ammar	DI/EDA	CRDA Kairouan	98 28 29 96	rabii.ame@gmail.com	
7	Hammami Abdelhak	D / RPS	CRDA Kairouan	98 88 34 10	hammami1969@gmail.com	
8	B. Abdelali Kamel	chef Arrdt GR	CRDA Kairouan	97 27 58 51	benabdelali.kamel@yahoo.com	
9	Nastou Nohsen	chef service	CRDA Kairouan	2 98 06 33 7	nohsen.nastou6@gmail.com	



Liste des Participants

Objet de la réunion :

Date et lieu : 26/03/2019 à la salle de réunion .

N°	Nom et Pénoms	Fonction	Nom de l'Institution	N° de Téléphone	Email	Signature
1	AFZI Abdeljelil	CRDA Ker	CRDA	98 544305	afzi.abdeljelil@ifad.org	
2	Fathi GOUCHA	Directeur Gd. Infrastructure	Consultant FIDA	97634742	fathi.goucha2010@gmail.com	
3	HADDADI John	Dir. Vulgarisation	CRDA KAIROUAN	98213182	mohamed.haddaji28@gmail.com	
4	Aloui Kerim	Ch. d'Harmonisation de l'investissement et de la coopération	A/FE - CRDA KAIROUAN	98504158	karim.aloui@afad.fr	
5	Nicolas Tremblay	Spécialiste régional environnement-climat	FIDA	+201091654484	n.tremblay@ifad.org	
6	Renaud COLMANT	Environnement et Climat Consultant	FIDA	+39 327 864462	R.COLMANT@IFAD.ORG	
7	Selmi Abderrazek	chef Division BIO	CRDA	98.920865	selmi-abderrazek@gmail.com	
8	Hedrieli Khaled	chef DARE	CRDA KAIROUAN	54427913	khaledhedrieli@yahoo.fr	
9	meknezi Amel	chef A/ME	CRDA KAIROUAN	98609522	ameknezi@yahoo.fr	



Liste des Participants

Objet de la réunion : Mission FIDA (Finalisation des Actions proposées au projet IEES)

Date et lieu : 28.03.2019 CRDA Kairouan.

N°	Nom et Pénoms	Fonction	Nom de l'Institution	N° de Téléphone	Email	Signature
1	Rabhi Ammar	DIEDA	CRDA	98 282996	Rabhi.am@gmail.com	
2	Martem Nohse	chef service	CRDA	29806 337	mehsen martem 6@gmail.com	
3	GOVCHA FATHI	expert GR	FIDA	97 634 742	fathi.govcha 2010@gmail.com	
4	Ahmed Ben Salem	Cellule G-DA	CRDA - Kairouan	50550 986	ahmedbensalem86@gmail.com	
5	Hajji Itahib	A.P.I	CRDA	98591311	Hajji nousyame@gmail.com	
6	Rudabegi	chef AIRE	CRDA Kairouan	90 55 7866	rudabegi@outlook.com	
7	Renaud Belmont	FIDA expert CC Civi	FIDA	+39 327 6644202	R. BELMONT@GMAIL.COM	
8	Nicolas Tremblay	Expert agr. et d'ingénierie FIDA	FIDA	+20109165448	n.tremblay@ifal.org	
9	Jelliti Solati	chef J.AICES Kairouan	CRDA	99562 782	jellitisolati1978@gmail.com	
10						
11						

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté SMSA ELAMEN et Association A. K. A. D

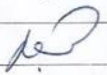
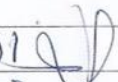

Date 13/06/2019

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	<i>Amal</i>	<i>secrétaire</i>	SMSA	<i>PAN</i>		28	F	20566721	<i>[Signature]</i>
2	<i>[Signature]</i>	<i>S. Gen</i>	<i>AKAD</i>			65	M.	98505660	<i>[Signature]</i>
3	<i>Haniine</i>	<i>Coordinatrice du projet</i>	A.K.A.D	—	—	24	F	51716332	<i>[Signature]</i>
4	<i>guizani</i>								
5	<i>Dahm Refka</i>	<i>STISA Aman</i>	<i>présidente</i>	<i>PAN, miel</i>		31	F	20145090	<i>[Signature]</i>
6									
7									
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16									

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté GDA , Secteur de El Behair

Date 13/06/2019

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	Latf Jabal	Agriculteur	GDA	Olives + Amandier	5 ha	50	M	97 107 249	
2	Hafeth Jabal	"	"	"	6 ha	44	M	95 578 401	
3	Bach Fekhem	"	"	"	7 ha	54	M	28 224 35 864	
4	Fleiti AbdellFalah	"	Président GDA	"	3 ha	50	M	41 557 30	
5									
6									
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14									
15									
16									

FEUILLE DE PRESENCE

Division of Hydrology + rural Equipment.

الإطار العام للجلسة :
الموضوع :

التاريخ : 2019 / 06 / 17

البريد الإلكتروني	الهاتف القار الهاتف الجوال الفاكس	الصفة	المؤسسة	الإسم واللقب
	97.634.742	Expert GR. in agro hydrologie	FIDA.	FATMI GOUCHA
	54423913	chef Division HER	CRDA Kairouan	Héophile Kermal
	+39 327 864422	FIDA. Consultant.	FIDA	Renaud Colmant
	+39 3656996390	IFAD Consultant.	-	Wietse Michiels.
	98 557866	chef AIRE	CRDA Kairouan	BEOL Adha.

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté Bou-Jebbens / Shikha Woman Group.

Date 20/6/19



#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	Dabbous Khabija					32		90355921	
2	Wafal Dabbous					19		93531887	
3	Sonia Seddik					36		97026272	
4	Aziza Seddik					25		55763130	
5	Sabrina Seddik					17		21384837	
6	Henda Seddik					44		24280557	
7	Zakia Seddik	Tech sup A. D				38		96224427	
8	Alef Seddik					27		95106653	
9	Ftima Seddik					42		92849012	
10	Hana Seddik					25		27607527	
11	Sonia Seddik					38		96468503	
12	Zakia Chikani					50		92826424	
13	Emma Seddik					17		93534365	
14	Houda mastouii					37		96739744	
15	Raouda dabbous					27		97393854	
16	Raouda Seddik					37		93365494	

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté Bou de bbous

Woman Group

Date 20/6/19

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	Boutheina Dabboussi					32		95 853 238	
2	Souheib dabboussi					50		97 390 733	
3	Ines seddik					19		28 696 525	
4	Najiba seddik					58		96 2244 27	
5	Randa seddik					30		95 778 123	
6	Sawsan dabboussi					20		23 635 116	
7	Mbarka seddik					52		25 700 638	
8	Rachida seddik					53		92 678 469	
9	Aouaf seddik					40		27 607 527	
10	Feyza dabboussi					23		94 299 355	
11	Ines seddik	Prof. Dip				24		96 685 205	
12	Galia seddik							96 987 433	
13	Azel seddik					25		93 596 588	
14	Aicha dabboussi					54		97 393 854	
15	Safia seddik					36		96 627 998	
16	Houba dabboussi					45		24 729 687	

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté Bou de bbaou s

Male Group.

Date 20/6/19

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	<u>Yeddik Lami</u>	<u>Diructeur école</u>				<u>38</u>		<u>96 224 427</u>	<u>[Signature]</u>
2	<u>Yeddik Belgalem</u>					<u>65</u>			
3	<u>Dabbouci Habbib</u>					<u>38</u>			
4	<u>Yeddik Bouhdjel</u>					<u>87</u>			
5	<u>Yeddik Mounmar</u>					<u>67</u>			
6	<u>Yeddik Omar</u>					<u>43</u>			
7	<u>Yeddik Otabrook</u>					<u>52</u>			
8	<u>Yeddik Dehmani</u>					<u>38</u>			
9	<u>Yeddik Wissem</u>					<u>26</u>			
10	<u>Yeddik Slim</u>					<u>30</u>			
11	<u>Yeddik Omar</u>					<u>62</u>			
12	<u>Yeddik Mohamed Bechir</u>					<u>67</u>			
13	<u>Yeddik Noumir</u>					<u>42</u>			
14	<u>Yeddik Abdelhakel</u>					<u>26</u>			
15	<u>Dabbouci Abli</u>					<u>58</u>			
16	<u>Dabbouci Helmi</u>					<u>26</u>			

- Seddik Eshakri 40
- Seddik Khalifa 67
- Seddik Haythem 26
- Seddik. jamel 25
- Dabboussi Yassine 33
- Seddik. Sahbi . 26
- Seddik. Felah. 25
- Seddik. wassama. 24
- seddik. Khaled. 26
- seddik. helmi . 25
- seddik. marwan 28
- seddik. Adel . 48
- Dabboussi Mohamed 30
- seddik. Farid . 38
- seddik. Moctez . 22
- seddik. Belgacem . 27
- Chrif. sabri . 40
- Seddik. Tansour . 25
- Dabboussi hosni 24
- seddik. Jaoufar 32
- seddik. Ahmed . 25
- seddik. Abdelwahab
- seddik. jameher . 24
- seddik. heni . 43
- seddik. Mohamed . 52
- seddik. bilal 32

- Seddik. Ali . 29
- Seddik Riadh . 30
- Seddik. wissem 32 .
- Seddik. Tayeb . 62.
- Seddik Ali . 33
- Seddik. Akrem 29 .
- seddik. Ayman 23 .
- seddik. Alala: 60.
- Seddik Aziz : 42 .
- seddik. Abdallah: 60
- Seddik Macar 44 .
- seddik. Nahdi 58
- seddik. Farid 41
- seddik Refkeh: 39 .
- Seddik. Kamel 38
- seddik slim 37
- Seddik jilani 36
- Seddik salah 42 .
- Seddik Rabrouk . 29
- Seddik Saïd 52 .
- seddik. Moeg 3f
- seddik Mouridine 4f
- seddik Ali 68 .
- seddik Majidi 36 .
- seddik Naher 26 .
- seddik Fathi 59 .

Continued - Boudabbous male group
P.V. 29/6/19

~~Seddik Eshakri~~
~~Eshakri~~

- Seddik. namel 36 .
- seddik. Fmed 39
- seddik. Moncef 35
- seddik Tchid 36

Seddik Eshakri

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan









Communauté Ngagta irrigated perimeter Male group (owners)

Date 22/6/19.

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	Chenengui belguy	Agriculteur		olive cultures maraich	3 Hectar	65 ans	mal.	95411283	
2	belghith Abderrahman	Agriculteur		olive cultures maraich	2/5 Hectar	59 ans	mal.	23974220	
3	belghith Abderrahman	Agriculteur		olive.	2 Hectar	56 ans	mal.	52793287	
4	borni belghith	Agriculteur		olive	2 Hectar	46 ans	mal.	58912659	
5	chenengui bechir	Agriculteur		olive	1 Hectar	19 ans	mal.	94270882	
6	Heolf Aminar	Agriculteur		vierge	2 Hectar	10 ans	mal.	28027502	
7	Tumini brahim	Agriculteur		tomate pomme	4 Hectar	59 ans	mal.	96327541	
8	chenengui rahmed	Agriculteur		olive	2 Hectar	59 ans	mal.	98969673	
9	chenengui Nocur	Agriculteur		olive	3 Hectar	56 ans	mal.	98997623	
10	chenengui shamele	Agriculteur		olive-	3 Hectar	45 ans	mal.	20050273	
11	Heolf Rachida	Agriculteur		olive	2 Hectar	67 ans	Femelle	28317125	
12	Heolf Abraik	Agriculteur		olive	3 Hectar	49 ans	mal.	96783052	
13									
14									
15									
16									

Liste de présence - Insertion économique, sociale et solidaire pour la résilience dans le Gouvernorat de Kairouan

Communauté Ngagta irrigated perimetre woman group (labourers) Date 22/6/19.

#	Nom	Profession	Organisation	Type de production	Surface de production	Age	Sexe (M/F)	Téléphone	Signature
1	habuba Rebu					54	F	✓	
2	majet chemingui					20	F	22 106 705	
3	hamen chemingui					25	F	26 693 590	
4	Neiba chemingui					20	F	27 786 994	
5	Wafa chemingui					22	F	21 262 322	
6	Dhouha chemingui					33	F	✓	
7	Rachida hajji					54	F	28 317 125	
8									
9									
10									
11									
12									
13									
14									
15									
16									

Wafa