



REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: Full-sized Project
THE Special Climate Change Fund (SCCF)¹

PART I: PROJECT INFORMATION

| | | | |
|--|---|------------------------------|----------|
| Project Title: Integrated Management and Innovation in Rural Settlements in Egypt | | | |
| Country(ies): | Egypt | GEF Project ID: ² | |
| GEF Agency(ies): | IFAD | GEF Agency Project ID: | |
| Other Executing Partner(s): | Ministry of Agriculture and Land Reclamation (MALR) | Submission Date: | May 2015 |
| GEF Focal Area (s): | Climate Change | Project Duration (Months) | 84 |
| Name of Parent Program (if applicable) | | Project Agency Fee (\$): | 742,140 |
| <ul style="list-style-type: none"> ▪ For <input type="checkbox"/> SFM/REDD+ ▪ For SGP <input type="checkbox"/> | | | |

A. FOCAL AREA STRATEGIC FRAMEWORK³

| Focal Area Objectives | Expected FA Outcomes | Expected FA Indicators | Trust Fund | Indicative Grant Amount (\$) | Indicative Co-financing (\$) |
|---------------------------|---|--|------------|------------------------------|------------------------------|
| CCA-1 (select) | Outcome 1.2: Livelihoods and sources of income of vulnerable populations diversified and strengthened | Indicator 3: Population benefiting from the adoption of diversified, climate-resilient livelihood options | SCCF | 1,604,120 | 5,067,692 |
| CCA-1 (select) | Outcome 1.3: Climate-resilient technologies and practices adopted and scaled up | Indicator 4: Extent of adoption of climate-resilient technologies/practices | SCCF | 3,260,790 | 23,850,042 |
| CCA-2 (select) | Outcome 2.2: Access to improved climate information and early-warning systems enhanced at regional, national, sub-national and local levels | Indicator 7: Number of people/geographical area with access to improved climate information services | SCCF | 702,980 | 612,968 |
| CCA-2 (select) | Outcome 2.3: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures | Indicator 9: Number of people trained to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures | SCCF | 1,961,450 | 8,601,898 |
| CCA-3 (select) | Outcome 3.2: Policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures | Indicator 13: Sub-national plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures | SCCF | 282,660 | - |
| Total Project Cost | | | | 7,812,000 | 38,132,600 |

B. PROJECT FRAMEWORK

Project Objective: to enhance farmland productivity and income diversification in the reclaimed lands through increasing by 40% the average incomes of 60% rural poor household engaged in livestock value chains, with 30% of the target smallholders participating actively in commercial farming and business development by the end of the project.

¹ This template is for the use of LDCF projects and SCCF Adaptation projects only. For other SCCF projects under Technology Transfer, Sectors and Economic Diversification windows, other templates will be provided.

² Project ID number will be assigned by GEFSEC.

³ Refer to the Focal Area Results Framework and LDCF/SCCF Framework when completing Table A.

| Project Components | Indicate whether Investment, TA, or STA** | Expected Outcomes | Expected Outputs | LDCF/SCCF Financing* | | Co-financing* | | Total (\$)(*000) |
|--|---|---|--|----------------------|-------|---------------|-------|------------------|
| | | | | (\$)(*000) | % | (\$)(*000) | % | |
| 1. An enabling policy environment for planning and implementing climate-resilient agriculture in the reclaimed lands | TA | 1.1: Climate change adaptation measures for agriculture production in reclaimed lands are mainstreamed into relevant policy frameworks and decision-making tools. | Relevant governmental staff is enabled to mainstream CC adaptation recommendations for the agriculture sector into policy documents and official reports responding to regional and global processes. An effective and sustainable Dynamic Agriculture Information and Response System (DAIRS) supports decision-making to mitigate climate risks in agriculture production in the reclaimed lands. | 941.0 | 62.12 | 573.8 | 37.88 | 1,514.8 |
| 2. Optimized irrigation water management at the tertiary and on-farm levels | INV | 2.1: Water users are enabled to design and implement optimal cropping patterns and climate-resilient irrigation plans 2.2: Investments in modernized water distribution and irrigation systems allow farmers' associations to make an optimized use of water | Optimized cropping patterns and irrigation plans are implemented by skilled farmers in the 4 target areas Cropping systems with efficient water use are implemented in the 4 target areas | 3,597.6 | 13.12 | 23,414.1 | 86.88 | 27,011.7 |
| 3. Climate proofing of crop value chains and diversification of local livelihoods | TA | 3.1: The adaptive capacity of local practitioners and organizations to mainstream CC adaptation along value chains is developed 3.2: Beneficiaries have improved agriculture production and market competitiveness through | Individual farmers and members of CDAs and ACs are trained on climate-resilient value chain technologies Local farmers (50% women) are trained as extension providers to support FFS At least 100 ACs and 200 women-led small enterprises report improved production, marketing and income | 2,901.4 | 19.23 | 12,186.3 | 80.77 | 15,087.7 |

| | | | | | | | | |
|----------------------------|--|---|-----------------|---------|-------|----------|-------|----------|
| | | investments in climate-resilient value chain technologies and diversification strategies. | diversification | | | | | |
| 4. Project management | | | | 372.0 | 16.06 | 1,958.4 | 83.94 | 2,330.4 |
| Total Project Costs | | | | 7,812.0 | | 38,132.6 | | 45,944.6 |

* List the \$ by project components. The percentage is the share of LDCF/SCCF and Co-financing respectively to the total amount for the component, ie. the percentage for each component will be added up horizontally to 100%.

** TA = Technical Assistance; STA = Scientific & technical analysis.

C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

| Source of Co-financing | Name of co-financier (source) | Type of Cofinancing | Cofinancing Amount (\$) |
|---------------------------|-------------------------------|---------------------|-------------------------|
| GEF Agency | IFAD | Grants | 5,753,600 |
| GEF Agency | IFAD | Soft-loan | 32,379,000 |
| Total Co-financing | | | 38,132,600 |

D. LDCF/SCCF RESOURCES REQUESTED BY AGENCY(IES) OR COUNTRY(IES)*

| GEF Agency | Fund Type | Country Name/ Global | (in \$) | | | |
|------------------------|-----------|-------------------------|---------------------|---------|------------|-------|
| | | | Project Preparation | Project | Agency Fee | Total |
| | | | | | | |
| Total Resources | | | | | | |

* No need to provide information for this table if it is a single country and single GEF Agency project.

E. PROJECT MANAGEMENT BUDGET/COST

| Cost Items | Total Estimated person weeks (GEF funded) | GEF (\$) | Other sources (\$) | Project total (\$) |
|---|---|----------|--------------------|--------------------|
| Local consultants* | 336 | 300,000 | 978,500 | 1,278,500 |
| International consultants* | | | | |
| Office facilities, equipment, vehicles and communications** | | | 592,500 | 592,500 |
| Travel** | | | | |
| Total | | 300,000 | 1,571,000 | 1,871,000 |

* Provide detailed information regarding the consultants in Annex C.

** Provide detailed information and justification for these line items.

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

| Corporate Results | Replenishment Targets | Project Targets |
|---|--|-----------------|
| 1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society | Improved management of landscapes and seascapes covering 300 million hectares | |
| 2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes) | 120 million hectares under sustainable land management | 26,000 |
| 3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services | Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins; | |
| | 20% of globally over-exploited fisheries (by volume) moved to more sustainable levels | |
| 4. Support to transformational shifts towards a low-emission and resilient development path | 750 million tons of CO _{2e} mitigated (include both direct and indirect) | |

| | | |
|--|--|---|
| 5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern | Disposal of 80,000 tons of POPs (PCB, obsolete pesticides) | |
| | Reduction of 1000 tons of Mercury | |
| | Phase-out of 303.44 tons of ODP (HCFC) | |
| 6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks | Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries | 1 |
| | Functional environmental information systems are established to support decision-making in at least 10 countries | 1 |

G. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

| Component | Estimated person weeks | GEF (\$) | Other sources (\$) | Project total (\$) |
|-----------------------------------|-------------------------------|-----------------|---------------------------|---------------------------|
| <i>Local consultants*</i> | 1400 | 1,063,050 | 1,743,300 | 2,806,350 |
| <i>International consultants*</i> | 256 | 323,500 | 445,300 | 768,800 |
| Total | | 1,386,550 | 2,188,600 | 3,575,150 |

* Provide detailed information regarding the consultants in Annex C.

H. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? (SELECT)

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF/NPIF Trust Fund)

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF⁴

A.1 National Strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

1. The Government of Egypt (GOE) has been pursuing this poverty reduction strategy through five main avenues: (a) economic growth for increasing income and employment through investment in productive sectors; (b) increasing the efficiency of the agriculture sector, particularly water and land utilization to enhance yields, income and food security for the poor, (c) human development of the poor for raising their capability through education, health, and local level organizations; (c) women's advancement and closing of gender gaps; (d) safety net measures for the poor, especially women, against anticipated and unanticipated income/consumption shocks through targeted and other efforts; and (e) participatory governance for enhancing the voice of the poor.
2. Agricultural policy in Egypt has gone through significant reforms since early 1990s. The Government has formulated a new *Sustainable Agriculture Development Strategy towards 2030* (SADS) in recognition of the fact that transformation of the agriculture sector is key for economic growth and development in Egypt. The objectives of the SADS towards 2030 are: (i) sustainable use of natural agriculture resources, (ii) increasing the productivity of both the land and water units; (iii) raising the degree of food security of the strategic food commodities; (iv) increasing the competitiveness of agriculture products in local and international markets; (v) improving the climate for agriculture investment; (vi) improving the living standards of the rural inhabitants, and reducing the poverty rates in the rural areas. Based on estimated population and agriculture growth rates, total agriculture investments needed for the achievement of the strategy objectives is estimated at about EGP 500 billion, with a projected annual growth rate of 4% until 2030.
3. The Government of Egypt acknowledges the importance and the potential of the horticultural sector. In this regard its agriculture strategy is focused on the enhancement of agriculture productivity in order to support competitiveness of agricultural products in the local and export markets. This will be achieved through a number of initiatives with focus on horticulture, particularly for crops requiring

⁴ For questions A.1 – A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question.

low water usage and/or with high potential for export. The Government is putting great emphasis on increasing the per capita consumption and modernizing its milk sector. The GOE also recognizes the main reasons why farm income in rural Upper Egypt is lower than it is in rural Lower Egypt. These are threefold: (a) agriculture in Upper Egypt is dominated by traditional low market-value crops and therefore generates less revenue per cropped area compared to Lower Egypt; (b) farmers in Upper Egypt are unable to finance the higher costs and greater risks of growing non-traditional crops; and (c) average farm holdings in Upper Egypt tend to be smaller than those in Lower Egypt. In addition, rural poverty is exacerbated by the lack of sufficient alternative employment opportunities.

4. The Government has established some alternative avenues for rural finance provision. With donor assistance, GOE has established the *Social Fund for Development* (SFD) and the *Agriculture Development Programme* (ADP)⁵. These provide financial services to rural areas and the agriculture sector through special directed credit lines. SFD is now a major player in the provision of micro-finance in the country and operates as a wholesaler of financial services through its Micro Finance and Small Enterprise windows. ADP is a fund owned by the Ministry of Agriculture and Land Reclamation (MALR) and managed by the Commercial International Bank on their behalf. It was created to consolidate the revolving credit fund provided to the Ministry in several European Union (EU) funded projects targeted at the agriculture sector. ADP operates through 12 affiliated commercial banks, which in turn, provide both individual and collective loans directly or through Agriculture Cooperatives and selected Associations. ADP has provided credit mainly to the small and medium sized enterprises⁶. Its added strength is that through its investment income, the ADP also provides technical assistance for research and development for the agriculture sector.
5. The Ministry of Agriculture and Land Reclamation (MALR) and the Ministry of Water Resources and Irrigation (MWRI) have set an integrated plan for land reclamation through several mega projects targeting about 1.4 million hectares to be reclaimed by 2017. This plan considers two types of mechanisms to procure the required water resources for reclaiming the targeted areas. The first entails increasing the efficiency of the current agricultural water use, minimizing irrigation water losses, while the second entails increasing non-conventional water resources share in agriculture. This plan probably includes a set of steps towards the adaptation to CC and the improvement of the CC resilience of the smallholder farmers that are the most vulnerable to climate hazards.
6. The Egyptian Environmental Affairs Agency (EEAA) encourages the use of cleaner technologies through environmentally friendly industrial zones and processes aiming at increasing the efficiency of the use of resources, including reuse, recovery and recycling in order to reduce the amounts of waste generated from production activities. However, investment offices in governorates are still needed to facilitate private sector participation. EEAA signed a protocol with the Federation of the Egyptian Industry (FEI) to promote cooperation for environmental protection in Egypt. EEAA has submitted two national communication reports (first and second National Communications) to the UNFCCC, and the third one is currently underway.
7. Egypt was among the first Arab countries to join the cooperative global efforts to confront climate change. Since the Rio de Janeiro Earth Summit in 1992, it has ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 and signed the Kyoto Protocol in 1999. Its First National Communication to the United Nations Framework Convention on Climate Change was published in 1999. The report pays extensive attention to the risks facing the country due to climate change and sea-level rise, mainly in relation to agriculture, water resources, human health, and the coastal zone (particularly the Nile Delta). It also includes economic loss estimates for sea level rise in several coastal cities. Moreover, a large range of adaptation options are identified, most of them "no-regrets". The report however appears to be weaker in terms of the implementation arrangements for the adaptation options.
8. To cope with CC risks at a national level, the Ministry of Water Resources & Irrigation (MWRI) has adopted in 2013 a national strategy of adaptation to CC. However, there has not been neither a thorough consultation process with the various partners nor a potential approval of the strategy. In addition to this national strategy, there are some strategic reflections at the sectoral level such as: (i) the "Egypt's gender and CC national strategy" developed by CEDARE in collaboration with the International Union for Conservation of Nature (IUCN); (ii) the Participatory Development Programme (PDP)/CC Adaptation and Resilience in Informal Urban Area, led by The German Cooperation Agency (GIZ).
9. For on-farm irrigation systems in Egypt, figuring out adaptation strategies is a high national priority. The current national plan for improving on-farm water management is an ambitious plan targeting 2

⁵ Formerly the Agriculture and Research Development Fund (ARDF).

⁶ About 80% of its financing is for SME financing.

million ha in 10 years. The implemented plan will increase irrigation efficiency by 50 to 75%, which is equivalent to water needs for reclaiming about 1.21 million ha.

10. Regarding the improvement of coastal resources management planning and protection against impacts of CC, the Egyptian National Assembly (ENA) has recently approved new regulations to include Integrated Coastal Zone Management (ICZM) into developmental plans. This makes it necessary to have a strong institutional monitoring capability. In fact, the mainstreaming of CC in the strategic planning process development (national and sectoral) is limited and not meaningful. In this respect, there are some interesting initiatives to mainstreaming CC which should be supported in order to achieve more structured and systematic mainstreaming methodological approach.
11. On the other hand, Egypt ratified Kyoto protocol on 12/1/2005 followed by establishing the Egyptian Designated National Authority for Clean Development Mechanism "DNA-CDM". Investment costs of initially approved 55 projects in 2009 are USD 1243 million. These projects will reduce GHG by almost 8.3 Million ton CO₂ equivalent. They include reduction of nitrous oxide emission from fertilizer industry, renewable energy, fuel switching, methane capture and flaring from waste and energy efficiency improvement.

A.2 Consistency of the project with LDCF/SCCF eligibility criteria and priorities.

12. The project has been developed in conformity with the SCCF eligibility criteria. The project proposal respects the principle of country ownership having been developed in consultation with national stakeholders, as well as by taking into account all the latest and relevant studies and reports available on climate change adaptation in Egypt. In addition, the project was has been designed to fully address the priority activities identified by the Government of Egypt in the SNC, CCAPF, National Strategy for Adaptation to CC and DRR, SADS, and it has been developed with the aim of ensuring sustainability and replicability beyond project completion. The project design criteria have been respected by including a list and description of the project components as well as by describing the added value of the GEF intervention (additionality). The GEF component will build directly on past and ongoing investment projects from IFAD and other agencies, and it will complement activities and achievements in light of the expected impact of climate change. Co-financing requirements are satisfied and cost-effectiveness aspects have been carefully considered. The project will be mainly investment-oriented and aims at encouraging replication and scaling-up at national level. The GEF and SCCF criteria for project design and financing have been respected: project management costs represent less than 10% of the total budget requested and co-financing ratio fulfils SCCF criteria.
13. The SCCF project follows the approach of country ownership and a focus on results, supporting investments that reflect governmental priorities for poverty reduction and climate change adaptation in agriculture. These investments seek to increase agriculture resilience to CC risks, boost rural income by improving agriculture productivity and access to markets, and enhance food security by expanding local food supply and creating new income opportunities.
14. The project has been proposed by Government and it is fully aligned with the COSOP's three strategic objectives, namely: (i) Improve the access of poor rural farmers to better quality services; (ii) Enhance the pro-poor sustainable use of natural resources, and; (iii) Strengthen the skills and organizational capacity of poor rural men and women to take advantage of rural on- and off-farm economic opportunities. The proposed project design was developed in close coordination with the Ministry of International Cooperation (MOIC) and the Ministry of Agriculture and Land Reclamation (MALR). The project supports the GOE's policy of integrated community development on the new lands, is aligned with the Government's Poverty Reduction Action Plan, its Sustainable Agriculture Development Strategy towards 2030 and its Water Resources Management Strategy (2009-2017), and responds to the priority measures for CC adaptation proposed in the SNC, the National Strategy for Adaptation to CC and DRR, CCAPF, and SADS.

A.3 The GEF Agency's comparative advantage

15. Environmental threats such as climate change are inseparable from IFAD's mission of helping poor smallholders. Climate change is multiplying the existing risks of IFAD's target group and IFAD is keen of turning these into opportunities. IFAD, through the implementation of its climate change strategy, is maximizing its impact on rural poverty in a changing climate. IFAD has been successful in doing so through supporting innovative approaches to helping smallholder producers – both women and men – build their resilience to climate change; helping smallholder farmers take advantage of available adaptation incentives and funding; informing a more coherent dialogue on climate change, rural development, agriculture and food security, as well as influencing relevant policies. Moreover, IFAD brings a good knowledge of natural resource management and a significant pool of knowledge and

experience in capacity building and the empowerment and sustainable agricultural production. The Fund's comparative advantage also lies in its ability to work at the grassroots, community level.

16. IFAD is a small donor in Egypt in terms of the volume of financial assistance it provides compared to others. However, its assistance is highly valued by the GOE and has been targeted very strategically to the agriculture sector and the smallholder farmer in particular. The organization has committed almost US\$322.73 million in loans to Egypt since 1981 to support agricultural development and reduce rural poverty, benefiting about 1.3 million poor rural households or 7 million people and covered 447,000 feddan (188,000 ha). In total, IFAD has invested in 11 agricultural development programs and projects designed in collaboration with smallholders, the government and other partners in Egypt. Eight of the projects have been completed, and three are ongoing. These investment support activities are aimed at improving the incomes and living conditions of small-scale farmers and their communities, and influencing public policy on land tenure and other land settlement systems.
17. The current result-based country strategic opportunities programme (RB-COSOP) covers the period 2011-2015. Its strategic objectives are aligned with the Government's Agricultural Sustainable Development Strategy 2030, developed in collaboration with IFAD. They are also aligned with the IFAD Strategic Framework 2011-2015. The country strategy is the outcome of a participatory process of consultation with key stakeholders, including government institutions, civil society, the private sector and donors. The two pipeline projects identified reflect government investment priorities in water-use efficiency and market linkage.
18. IFAD's comparative advantage lies in continuing to work closely for and with smallholder farmers and their organizations, small rural entrepreneurs and rural women. The development goal of the RB-COSOP is to contribute to the reduction of rural poverty and the enhancement of national food security in Egypt. This goal will be pursued through three strategic objectives. Gender equity and environmental sustainability will be pursued as crosscutting themes in the overall programme.

A.4 the baseline project and the problem that it seeks to address

Baseline project

19. The project "Integrated Management and Innovation in Rural Settlements in Egypt" has been designed as a component of the baseline "Support for small-scale farmers settling on reclaimed land in Egypt aids agricultural productivity and incomes" (SAIL), a new US\$86.8 million project that will help small-scale farming families who have settled on reclaimed land increase their incomes by strengthening their farmer organizations and building their capacity to connect to local and international markets.
20. A key sector in the Egyptian economy, agriculture provides a living for 55 per cent of the population, and directly employs about 30 per cent of the labor force. One of the greatest constraints hindering agricultural growth in Egypt is the limited availability of irrigated land in a country that receives hardly any rainfall. The situation is not likely to improve as climate change and population growth combine to increase pressure on limited natural resources. In addition, there is a critical need in Egypt to develop new lands to attract people away from overcrowded cities and regions. For decades, the government has been reclaiming desert land for agriculture while trying to create viable agricultural communities.
21. Building on the success of previous IFAD-supported work on land reclamation in the country, the new project will continue to work with small-scale farming families and unemployed youth to develop and promote their access to finance and markets, as well as improving their livelihood. The project is expected to reach some 280,000 people in 30 new settlements across Egypt. In addition to the continued development of irrigation systems, the project will work to improve agricultural practices and value chains over an area of 41,147 hectares of farmland.
22. The development goal of SAIL is to contribute to the reduction of poverty and increase food and nutrition security for poor rural women and men in Egypt. The development objective of the project is to enable smallholder farmers to enhance their incomes, increase profitability and diversify their livelihoods. The expected outcome of the project will be (i) strengthening smallholder institutions; (ii) improved agriculture production and marketing; (iii) improved capacity for employment and enterprise development.
23. The SAIL project will include three main components; (i) Community and Livelihood Development; (ii) Agriculture Production and Diversification; (iii) Financial Services Component, and (iv) Project Management. These components are designed to work in an integrated manner to provide the

essential inputs and services, which a community needs for its proper rehabilitation, intensive agriculture production and diversifying livelihoods. The total project cost of \$86.8 million is made up of an IFAD loan of \$63.2 million, an IFAD grant of \$6.4 million, and \$15.2 million from the government of Egypt. An additional \$2 million of co-financing will come from the rural women and men benefitting from the project.

24. The SCCF project is fully embedded in the SAIL baseline project in a synergetic fashion that will ensure that GEF funding covers additional costs associated with CC adaptation needs, in line with the governmental priorities on climate change. The planned duration of the project is 7 years starting in late 2015. The proposed project will assist the baseline SAIL supported households to increase agriculture profitability in the reclaimed lands, to select optimal cropping patterns with more water efficient crop types and varieties, and to make an optimal use of natural resources – water, soil, plant and animal species, renewable energy - to adapt the farming systems to CC predictions, ensure sustainability in natural resources management, and achieve the maximum net return per unit of water. This will be done by diversifying crop and livestock production, absorbing landless labor and youth, and creating opportunities for productive employment for women and contribute to poverty reduction, food security and gender equity.

Project rationale

25. Agriculture represents one of the most complex and important human activities in Egypt and it plays a significant role in the Egyptian economy. It is not only important in terms of national income, but is also vital in terms of employment, food and nutrition security and reduction of poverty in Egypt. Moreover, agriculture plays an important role in the social structures of rural areas in Egypt, and it is responsible for social stability in these regions. Egypt enjoys a significant comparative advantage in the production and export of high value horticulture products including herbs and medicinal plants. This comparative advantage is based on its favourable agro-climatic conditions, off-seasonal production capabilities and physical proximity to important markets like the Gulf countries and EU countries.
26. There is a close interrelationship between growth in agriculture and poverty reduction in Egypt. Growth in the agriculture sector can reduce poverty as well as stimulate growth in the rural non-farm sector as farm income can drive demand for the large, employment-intensive, non-tradable, rural non-farm sector. The extra job creation allows underemployed labor to be absorbed or real wages to rise with a concomitant and rapid decrease in poverty.
27. There is a critical need in Egypt to expand new areas of growth and settlement to attract people from the overcrowded old lands and provide them an opportunity for productive growth and diversification of livelihoods. Land reclamation has been pursued as an important strategy for growth and development since the 1950s by successive governments and has been adopted to achieve four policy objectives: (1) enhance agricultural production – the historical motive for reclamation; (2) decrease population growth in the Nile Valley and the delta; (3) generate employment; and (4) alleviate poverty. In the new lands, the Government provides settlers with land at nominal cost (which they can pay over thirty years and obtain title) and rudimentary housing facilities. More recently the land has been given to unemployed graduates and smallholders displaced from old lands for various reasons.
28. Egypt is located in the arid region and will be greatly affected by the adverse effects of climate change. Climate change will exacerbate the anthropogenic threats affecting agriculture production, namely the inefficient use of natural resources contributing to over-irrigation and salinity problems, the production losses due to lack of post-harvesting and marketing facilities, and the rapid population growth with higher pressure to convert agriculture land into urban areas which conflicts with the higher agriculture production needs.
29. According to the SNC (2010), climate change will most likely hit the rural communities severely due to their fragile socioeconomic conditions, their dependence on irrigated crops, a climate that is already too dry to support cropping systems, and the increasing water demands. The vast majority of crops in Egypt are irrigated from Nile water creating great vulnerability to reductions in the river flow. Furthermore, producing farmland in the Nile Delta faces the threat of inundation and salinisation due to sea level rise of 12% to 15% of the most fertile arable land. Climate change also increases crop evapotranspiration with an effect in yield reduction, which is predicted to decrease up to 20% (e.g. barley, wheat, maize)⁷. It will reduce the production of livestock and affect the productive potential of many agricultural zones in the country. The projected increase in temperature is expected to widen

⁷ Sustainable Agricultural Development Strategy Towards 2030. Ministry of Agriculture and Land Reclamation, Arab Republic of Egypt, October 2009.

the gap between water resources and demands, decrease the overall agriculture productivity, and increase competition over natural resources. Analysts expect a 7% increase in irrigation demand by 2060, with the additional need to improve water efficiency in irrigation up to 75%. Crop water requirements of the important strategic crops are expected to increase by a range of 6% to 16% by 2100. The high vulnerability of on-farm irrigation systems in Egypt is attributed to low efficacy and irrigation management patterns. Vulnerability of crops to changes in pest infestation and plant diseases is another potential impact of climate variability in the Country⁸.

30. Based on the success of the West Noubaria Rural Development Project (WNRDP), the GOE has requested IFAD for assistance in mainstreaming climate change adaptation in agriculture development in the reclaimed lands, through institutional development and capacity building to help all concerned actors - from the national to the local level – incorporate adaptation and climate risk reduction into decision-making and operations, as well as through innovative investments and the provision of services to help farmers shift from maladaptive rural development practices into climate-resilient crop and livestock value chains.
31. The proposed project will assist the baseline SAIL supported households to increase agriculture profitability in the reclaimed lands, to select optimal cropping patterns with more water efficient crop types and varieties, and to make an optimal use of natural resources – water, soil, plant and animal species, renewable energy - to adapt the farming systems to CC predictions, ensure sustainability in natural resources management, and achieve the maximum net return per unit of water. This will be done by diversifying crop and livestock production, absorbing landless labor and youth, and creating opportunities for productive employment for women and contribute to poverty reduction, food security and gender equity.
32. Enhanced resilience to climate change will hence have close resonance with responding to water scarcity, increasing land productivity and livelihood diversification. Adaptation measures on the supply-side include ways to improve irrigation techniques and know-how, introduction of tolerant varieties, introduction of renewable energy alternatives, as well as improving post-harvest facilities. In addition, investments in improved climate-risk reduction and long-term forecasting of climate extreme events impacting agriculture and livestock production is essential to enhance Egypt's ability to cope with prolonged heat waves and other climate change related hazards⁹. The proposed project will make investments that address some of these issues to reduce the vulnerability of target communities to climate change, including a Dynamic Agriculture Information and Response System (DAIRS).
33. Many of the irrigation channels, drainage structures and pumping stations are functioning at low capacity due to poor maintenance. The SCCF project will support the adoption of renewable energy equipment as an additionality to the baseline SAIL support for rehabilitating the irrigation and drainage systems, fix the broken pumps in close collaboration and participation of water user groups, etc. Prior to these investments, the project will work with the Agriculture Cooperatives in establishing the WUGs, train their members in proper operation and maintenance arrangements including establishing of a mechanism for collection of funds, for purchase of any materials and payment to guards, maintenance staff, etc.
34. Given the CC projections about available water reduction and higher irrigation demand, the project will also capitalize upon the opportunity of introducing innovative water and energy efficient technologies. The project will scale up the successful experience of WNRDP in which farmers were given access to credit for the introduction of efficient irrigation systems (studies in West Noubaria have demonstrated a reduction by 38 to 50% of the water consumption by shifting from flood to drip irrigation depending of the crops). This will help in increasing the efficiency of water use, increase area under irrigation and make the distribution of water more equitable. The introduction of more efficient irrigation systems such as drip irrigation significantly reduces the quantities of water used by the farmers, and reduces salinization problems. To help reduce energy costs, the project will introduce solar energy pumps, solar panels for lighting among groups of farmers and introduce biogas technology. Empirical studies of the agriculture sector confirm that the enhanced utilization of new agricultural technology can play a crucial role in increasing total factor productivity, increasing labor and agricultural wages.
35. The project will make important investments in strengthening the baseline SAIL effort to increase the farmer's capacity to improve crop and livestock productivity through the piloting and dissemination of a number of adaptive agronomic systems and technologies, as well as crop types/varieties and livestock breeds. The project will build on a number of successful experiences on conservation

⁸ Egyptian Environmental Affairs Agency, 2014.

⁹ FAO, 2014.

agriculture, efficient irrigation systems, organic farming, soil-less hydroponic production, etc, implemented by IFAD and other partners in the reclaimed lands of Egypt, and in some neighboring countries.

36. Various donor-funded programs, including WNRDP, have proved that Agriculture Cooperatives (ACs) can be organized and trained to better manage irrigation infrastructure, farm equipment and undertake collective marketing activities. Agriculture Cooperatives can group to form Marketing Associations (MAs) with the capacity to engage in accessing better price for their produce through collective marketing by meeting Global-GAP and organic certification requirements. Besides they can become service providers for their members and exercise peer pressure among members to foster compliance with agreements, production practices and delivery schedules. In recognition of this fact, the Government has given considerable importance to establishing small producer organizations in its new Agriculture Strategy (SADS). The baseline SAIL project will provide significant support to ACs development that will integrate CC adaptation into decision-making and value chain development and investments – from production to post-harvesting, processing, product diversification and marketing – through the SCCF interventions.
37. The project will put in place participatory decision-making systems for CC adaptation planning and demand driven processes for building the adaptive capacity and strengthening all concerned actors, institutions and organizations. The proposed project will build on the successful experience of the WNRDP project in establishing and strengthening rural institutions especially Community Development Associations (CDAs), Agriculture Cooperatives and within them Water User Groups (WUGs) and FMAs. There is also need to improve the corporate governance of these rural institutions, strengthen their leadership, enhance transparency, and accountability. Investment in these rural institutions is instrumental given that the Government is planning to reform the agriculture cooperative law which will give them much greater flexibility to function as independent, farmer owned, profit-oriented organizations.
38. The project will focus in particular on women CDAs who are virtually excluded from the Agriculture Cooperatives, and youth who lack any type of institutional membership. The CDAs will be responsible for management of services such as literacy classes, basic health services, initiation of savings groups and provision of loans in areas where these services are missing and also engage the more enterprising youth in innovative opportunities for economic and social enterprise. The WUGs and MAs will be formed from within the Agriculture Cooperatives to assist in the operation and maintenance of irrigation infrastructure and engage in collective marketing in collaboration with the private sector. The experience of WNRDP with strengthening water users and market associations and helping farmers with contract farming with the private sector will be scaled up.
39. The project will capitalize upon the experience of some on-going regional grants to provide additional technical assistance and services to the target group in the newly settled lands. The proposed project will disseminate the research results financed through some regional grants to ICARDA¹⁰ to demonstrate the experience with changing crop rotations for enhanced agriculture productivity to increase farmers' income, decrease soil degradation, build soil fertility and sustain crop production. The project will also use the results from an IFAD research grant to CLAC to test CC adaptation agronomic systems and technologies to enhance the adaptive capacity of rural communities to climate change¹¹. The project will also capitalize on the investments made by previous and on-going IFAD projects. The project will include, as an important resource, the farmer market associations established by the WNRDP and learn from the experience of the Upper Egypt Rural Development Project (UERDP) and the On-Farm Irrigation Development on Old Lands Projects (OFIDO) through country level workshops and exchange visits. The Promotion of Rural Incomes through Market Enhancement Project (PRIME) has only recently been initiated. Where opportunities exist for leveraging some of the financial resources from this project through SFD or ADP, this will be capitalized upon to provide additional financing resources to smallholders on the new lands.

A.5 Incremental/Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project.

40. The SCCF intervention will be a blended project, fully integrated into the IFAD-supported baseline project SAIL, and will help mainstream a climate-resilient approach into the IFAD baseline

¹⁰ Improving Livelihoods of Rural Communities in the Nile Valley and Sub-Saharan Africa Region: Sustainable Crop and Livestock Management".

¹¹ Improving smallholder farmer livelihoods in Sub-Saharan Africa Region through transforming research outcomes to create commercial opportunities. Options.

interventions. IFAD's unique and incremental contribution to the agriculture and off-farm sector through this project will be a clear focus on its six principles of engagement. IFAD's focus on targeting will ensure that the poor rural people who have the capacity to take advantage of the economic opportunities provided by the new project include women, vulnerable households and unemployed youth. This focus is sometimes overlooked during implementation even if it is included in design. The project is especially designed to empower poor rural people in new lands, and will assist them in building their individual assets, knowledge, skills, collective organizations and assist women and youth as well as assist their organizations develop their skills and knowledge required to engage with markets. The project will be innovative in its strengthening of rural institutions, modern technologies, provision of marketing linkages and rural financial services. The project expects to catalyze effective partnerships between the smallholder farmers and the private sector and financial institutions.

41. The SCCF intervention will also incorporate climate-resilience into capacity development for public extension agents and organizations, and for the aggregation of project beneficiaries in environmentally sound and economically viable farmers' organizations. The approach to technology transfer and promotion will be through a combination of participatory planning of adaptation needs and options, demonstrations, training and exchange events, and systematic assessment and provision of services requested by farmers.

42. The incremental value of the GEF/SCCF funding will substantially expand the scope of SAIL investments. Project demonstration actions will become models for replication and upscaling in the agriculture areas that will benefit SAIL investments beyond the project life (over the next 10-15 years).

43. The table below summarizes the added value of the GEF intervention in comparison to the baseline:

Baseline components and "with"/"Without" GEF interventions

| SAIL Baseline Components | Without GEF Intervention | With GEF Intervention |
|--|---|---|
| Component 1: Strengthened Smallholder Institutions | <ul style="list-style-type: none"> • 30 CDAs and 20 youth CDAs established and trained. • 99 Social infrastructure facilities rehabilitated/constructed (e.g. drinking water, clinics, schools, nurseries, youth centres, solid waste management and solar lighting). • 42 ACs and 5 FMAs formed and trained | <ul style="list-style-type: none"> • 24,000 producers are trained on CC adaptation agronomic systems and technologies; • The members of at least 50 CDAs and CAs are trained on climate-resilient VC technologies; • 40 farmers (50% women) are trained as providers of services to support FFS and provide extension services to local farmers. • 4,200 members of WUGs are trained on optimal cropping patterns and efficient irrigation plans for selected VCs. |
| Component 2: Improved agriculture production and marketing reported by at least 24,000 smallholder farmers | <ul style="list-style-type: none"> • 17 pumps on lifting stations rehabilitated reaching 11,067 households (HH) and benefiting 29,026 feddans. • 50,000 meters of mesqas constructed and drainage system improved covering 4,800 HH and 6,185 feddans. • Drainage improved for 10,134 feddans benefiting 3,839 HH. | <ul style="list-style-type: none"> • Irrigation schemes become climate-proof thanks to the adoption of solar water pumps and other modern technologies. • 7,000 feddans are irrigated with efficient micro-pressurized irrigation technologies. • 24,000 HH have access to climate-proof irrigation systems and technologies. • 22 hydroponic and aquaponic pilot farms are established. • 60% beneficiaries report improved production and marketing based on climate resilient technologies. • An early warning system (DAIRS) and weather stations are installed to monitor climate-risks. |
| Component 3: Improved employment and enterprises development | <ul style="list-style-type: none"> • 2000 people received vocational, income generation and enterprise training. • 12,000 smallholders (5,000 women) access agriculture loans for livestock and agriculture production and marketing. | <ul style="list-style-type: none"> • 100 ACS access grants for climate-resilient production, processing and diversification. • 200 women-led small enterprises access funding for climate-resilient income diversification opportunities. |

Expected Adaptation Benefits:

44. The GEF project represents an opportunity to increase the scope of the poverty reduction and food security objectives pursued through the IFAD SAIL baseline project in light of the predicted negative impacts of climate change on agriculture and livestock production in Egypt. The GEF financing will aim at increasing the climate resilience of agriculture and livestock value chains in the reclaimed

lands through the introduction of renewable energies in the water pumping systems and the post-harvesting and processing equipment, the adoption of efficient irrigation technologies, the piloting of soil-less hydroponic and aquaponic technologies, the recycling and use of waste through composting and bio-gas technologies, and the promotion of climate-resilient agronomic systems, cropping patterns, livestock breeds and crop types and varieties. The GEF project will invest significant effort in enhancing the adaptive capacity of all concerned institutions, organization and actors, from the ministerial level, to the local beneficiaries and other value chain actors, with special emphasis on the women population, benefiting a total of 40,000 households in 30 villages of 5 Governorates.

45. An estimate of the adaptation benefits produced by the GEF project interventions is the following: (i) by the end of the project, at least 60% of the target farmers will report yield increases between 25%-40% and at least 40% income increases from climate-resilient value chains; (ii) 24,000 HH will be trained in climate-resilient irrigation and agronomic systems, and 4,200 members of WUGs will be trained in the efficient management of irrigation water; (iii) the efficiency of the water irrigation systems will increase by at least 80%, with water savings between 35% and 50% in the use of water to irrigate crops in 7,000 feddans; (iv) soil-less hydroponic and aquaponic farms will be piloted and operational; (v) 100 agriculture cooperatives will have accessed grants for climate-resilient value chains and 200 women-led small enterprises will have accessed grants for income diversification based on climate-resilient development activities.
46. The project adaptation benefits will also have a national-wide impact at the policy level, through: (i) the training of at least 20 staff members from MALR, EEAA, EMA, CLAC, CCICRE on CC downscaling methodologies applicable to the agriculture and livestock sectors; (ii) the production of relevant policy documents mainstreaming CC adaptation in the agriculture sector (e.g. the CC Adaptation Technical Needs Assessment; the CC adaptation strategy for agriculture development in the reclaimed lands); (iii) and the support to MALR for the development of a Dynamic Agriculture Information and Response System (DAIRS) at the national level, to facilitate early warning access to critical information about climate-related risks through media information and communication technologies (MICT) such as SMS message services to support decision-making by farmers and other practitioners in the effective planning, preparedness and response to climate-related risks affecting agriculture and livestock production.
47. The institutional development and training of at least 50 CDAs and ACs on CC adaptation systems and technologies for agriculture and livestock VCs will enable farmers' organizations, especially women and youth associations, with responsibility for operation and maintenance of water harvesting equipment and infrastructures, for the marketing of diversified agriculture and livestock products based on climate-proof technologies, including solar energy equipment.

Expected adaptation benefits from SCCF activities

| SCCF Activity | Expected Adaptation Benefit |
|--|--|
| Optimized irrigation water management at the tertiary and on-farm levels | <ul style="list-style-type: none"> • Improved water distribution, increased water availability in the reclaimed lands, reduced water losses, increased water use efficiency by 80%, and 35% to 50% water saving in irrigated crops; • Reduced water demand and fertilizer application, reduced water evaporation losses (as evaporation increases at higher temperatures), increased crop yield and quality. Also, conditions may be less favorable for the onset of diseases, including fungus. • 80% to 90% reduction in the use of water in soil-less farming systems. Improves livelihoods of farmers where the land has lost productivity, provides nutrients for the crops from production of fish. The productivity of the crops thus is faster and better and provides nutritional security. • The introduction of solar pumps will generate environmental benefits through a decrease in fuel consumption and thus CO₂ released. This can be was economically quantified using the CO₂ price on the voluntary market (around USD 7/ton). The related benefits at full project development are USD 78,000 per year. The financial benefit on the household's budget with the reduction of fuel expenditures is included in the crop models through lower irrigation costs. • Reduced energy costs and GHG emissions from fuel pumps by shifting to solar pumping equipment. |
| The adaptive capacity of local | <ul style="list-style-type: none"> • Increases between 35% and 50% of crops yields; • Soil erosion reduction by 60-90% in the intervention areas; |

| | |
|---|--|
| practitioners and organizations to mainstream CC adaptation along value chains is developed | <ul style="list-style-type: none"> • The GEF project will scale up the WNRDP composting unit experience. Composting has a high contribution to carbon sequestration and improving the soil fertility in many ways. Compost for instance, is able to reduce erosion and nitrate leaching due to the increase in soil aggregate stability and water holding capacity of farm-land. Even degraded soils can be restored with the aid of compost. With its content of plant nutrients such as nitrogen, phosphorus and potassium, compost is a valuable fertilizer due to its suppressive effect on plant pathogens and has the capacity to control plant diseases. All these features account for the high rating of composting projects for the land resource criterion and are particularly important for agriculture in developing countries where crop inputs such as chemical fertilizers and pesticides are not readily available or hazardous to use without proper training. Flexi-biogas units provide locally accessible renewable energy for households, Reduces solid waste and creates organic fertilizer for improved soil fertility and sustained productivity, and reduces chronic pulmonary diseases by replacing the burning of wood with biogas. • Reduced workload of women as a result of innovative technologies and improved farming systems, with more time available for education, training, and the development of small businesses. |
| Income diversification through a mixed economy based on livestock-cropping production and marketing | <ul style="list-style-type: none"> • Generation of jobs and a range of auxiliary business in the crop value chains, with special focus on women and youth. • The members of at least 50 CDA and ACs are trained on climate-resilient VC technologies. • 24,000 practitioners have improved production and marketing based on climate-resilient technologies. • 100 agriculture cooperatives access grants for climate-resilient production, processing and diversification equipment. • 200 women-led small-enterprises access grant funding for climate-resilient income diversification opportunities. |
| An enabling policy environment for planning and implementing climate-resilient agriculture in the reclaimed lands | <ul style="list-style-type: none"> • At least 20 staff members from relevant governmental institutions and departments have acquired knowledge on CC issues and methodologies. • Relevant policy documents on CC and agriculture are prepared, and concerned policy frameworks have mainstreamed CC adaptation in the reclaimed lands. • A Dynamic Agriculture Information and Response System (DAIRS) to support farmers in effective planning and preparedness to overcome climate-related risks is operational at the national level. |
| Gender and youth inclusiveness | <ul style="list-style-type: none"> • Minimum quotas established to ensure participation of women (at least 50%) and youth (at least 40% men and women younger than 30 years). • GEF & baseline project staff and service providers trained on gender and CC issues; service providers with proven capacity to work with women, including the use of female facilitators; • The project will organize groups of producers, with emphasis on women/youth groups. Females would be targeted through women and rural development structures as these institutions facilitate independent access to land, farm equipment, credit and training for their members. • The project will develop strategic partnerships with national youth and women associations to strengthen their capacity on CC adaptation issues. |

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objective(s) from being achieved and outline risk mitigation measures

48. The main potential risks threatening the SCCF intervention can be grouped under the following categories:

- A policy environment not amenable to enhancement and limited coordination among institutions;
- Significant civil unrest and natural disasters in the project area;
- The complexity of the chosen approach;

- Risks stemming from social norms and existing behaviours, and low level of buy-in from the final beneficiaries.

Risks and proposed mitigation measures

| Risk | Rating | Proposed Mitigation Measures |
|---|--------|--|
| Policy and institutional risks: coordination among national institutions is often problematic and their capacities are limited. | Medium | The intervention will contribute to addressing these issues through a sustained capacity building/development and engagement effort. Policy dialogue will give priority to emphasize the criticality of increased commitment to increase strategic planning and climate proofing the value chains to decrease climate change vulnerability, increase productivity, generate revenues, and contribute to food security. |
| Temporary Social unrest risk related to the current economic crisis and lack of working opportunities. | Medium | This risk will be mitigated through a coherent and continuous participatory approach ensuring full permeability between communities and institutions. The approach will therefore allow communities to be at the centre of their development ensuring arable land and job opportunities. |
| The ability of the existing institutional and policy/legal context to drive a successful wider implementation of the up-scaling efforts that the project is aiming at. | Low | This risk will be mitigated by putting significant efforts to create an enabling environment for mainstreaming and up-scaling the introduced innovations to value-chain development and planning. The successful examples at the national level and beyond will be built upon. The private sector and policy makers will be targeted in awareness campaigns and involved in the planning of investment choices in order to ensure a buy-in at all levels. The creation of businesses will ensure sustained contribution to food security |
| Complexity of the chosen approach: the participatory development approach that drives the intervention is highly dependent on the quality of the staff deployed in the field teams, the provision of adequate incentives and the participation of women in the process. Cultural traditions may prejudice the project's attempts to give women a greater voice. | Medium | The intervention will build on effective and efficient project management units established during the previous IFAD projects. The trust and relationships built with communities in the target would increase the likelihood of success in achieving the project' objectives. The approach of seeking win-win situations with investments that can clearly benefit all concerned users will be an incentive for dialogue and conflict resolution among different segments of the rural communities. |
| Elite capture by large commercial farms existing in the vicinity of the project area. | Medium | The best way to protect against this risk that the smallholders may sell out their land to other more profitable farmers is to make the smallholders profitable and sustainable enterprises, which is the main purpose of the project. |
| The project fails to capture the interest of final users at the community level. | Low | Key strategies such as awareness raising, the institutional development, training and technical support of CDAs and ACs, the training of trainers programme supporting community members – women and men – to become facilitators and providers of extension support to the project beneficiaries, and a soild learning by doing (FFS) capacity building programme, coupled with ensuring that economic incentives are well developed. |
| The project fails to expand women's access to and control over fundamental assets. | Low | The Project is specifically targeting women groups to enhance their access to capital, physical assets, support services and knowledge. The project will therefore ensure the highest participation of women |

| | | |
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| | | and women organizations in order to ensure the most accurate representation of all gender needs and its perception of needs to be addressed. |
|--|--|--|

A.7 Coordination with other relevant/GEF financed initiatives

49. IFAD will coordinate with all UN agencies wherever possible, and attempt to partner particularly with UNIDO and other government and non-government institutions in identifying and deploying innovative technologies and solutions. Partnerships with regional donors including the World Bank, the African Development Bank (IsDB) and Arab Funds are being nurtured and will benefit from IFAD's framework for cooperation with IsDB for project financing. The project will coordinate with active EU and other bilateral donors active in the sector and areas of intervention ensuring as well distribution of the collected data through the appropriate research institute.
50. The GEF intervention will complement other relevant GEF-financed initiatives in Egypt such as UNIDO/"Promoting Low-carbon Technologies for Cooling and Heating in Industrial Applications in Egypt" and UNDP/"Grid-Connected Small-Scale Photovoltaic Systems in order to ensure the use of the most advanced technologies in Agriculture" (i.e. water pumping, post-harvest techniques, storage rooms). Additionally the project will ensure coordination and synergy with UNESCO, UNDP12, WFP13, GIZ14 and UNEP15 in sharing all lessons, experiences and produced data necessary to enhance and consolidate the regional Climate Change forecast models.
51. Collaboration will be sought with other institutions and UN agencies, mainly UNIDO, in identifying and deploying innovative technologies and solutions, as well as capturing successful experiences that could benefit the target communities.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE

B.1 Describe how the stakeholders will be engaged in project implementation.

Project Implementation Arrangements

Project coordination and supervision

52. IFAD will be responsible for the coordination and supervision of SCCF, in accordance with GEF standards and procedures. Supervision and implementation support will be a continuous process, involving ongoing communication and engagement with MALR, the project team, the managers of the baseline project, and other relevant stakeholders.
53. At inception, IFAD will review and update the Logical Framework of the project during a SCCF start-up workshop with the participation of representatives from all stakeholder groups, prepare the Overall Work Plan & Budget and fine-tune the first Annual Work Plan & Budget (AWPB), and prepare a supervision plan for the project's first 12-18 months. Thereafter, the project team will prepare each year a consolidated AWPB incorporating the five State AWPBs generated by SIUs for review and approval by the PSC, to be submitted in advance of the GoS annual budgeting process to ensure that sufficient counterpart funds are made available,
54. The project will be directly supervised by IFAD. The approach to supervision will be one of implementation support and assistance. Given that the project is dispersed in different regions of the country and it might not be feasible to visit each area every time, several special features are proposed in the supervision arrangements. The first of these is to have, on ground, a local rural finance specialist who will provide guidance to the project on an on-going basis and assist in removing any implementation bottlenecks in discussions with the various implementing partners under this component. This is all the more important given that rural finance is a major component of the project and that in the past rural finance components have been slow to disburse because of lack of on-ground support and discussions with the implementing agencies in a timely manner to identify the constraints and propose solutions.

¹² Active projects: Adaptation to Climate Change in the Nile Delta

¹³ Active projects: Enable poor communities in rural Upper Egypt and border governorates to adapt to climate change and market shocks, reduce agricultural losses through supporting national efforts to create sustainable livelihoods;

¹⁴ Active projects: Agricultural water productivity as a way of adapting to climate change and Adapting to climate change in the water sector in the MENA region.

¹⁵ Active projects: Green Economy Initiative.

55. The second approach, used cost-effectively, in some countries, is to adopt a country programme approach to supervision and field technical specialists to the country who will supervise certain elements common to all on-going projects such as gender and poverty targeting, participation of youth, monitoring and evaluation, financial management and strengthening of rural institutions, etc. In addition, a supervision mission will be fielded after every six months in the initial period and thereafter every year. The supervision mission will comprise technical specialists as required. The participation of Government representatives such as from the MALR, MOIC and other implementing partners will be encouraged in the supervision process. There is also a strong case for SAIL to have increased budgetary resources for supervision given its importance in Egypt's country programme and the NEN portfolio.

Implementation Arrangements

56. The delivery mechanism envisaged in the SCCF Project will rely on the project implementation arrangements established in the SAIL baseline project: a mix of public, private sector and community led institutions. The implementation approach will envisage a high degree of stakeholder participation and grassroots involvement in order to bring villagers, including women, youth and the less advantaged into an effective force for change and self-reliance. A diagnostic process will be adopted to work in close collaboration with rural households through their institutions such as the Community Development Associations, ACs, WUGs and FMAS. The Project approach will tailor project activities and services to the needs of the target beneficiaries and ensure their capacity to operate and manage the services for long-term sustainability. The Project will ensure close partnership with rural institutions in a manner that clearly identifies the roles and responsibilities of each implementing partner from the outset.
57. Project Steering Committee: A high ranking inter-ministerial Project Steering Committee (PSC) will be set up for overall policy decisions and guidance at the national level. The PSC will be chaired by the Minister of MALR or his representative, with members representing EEAA, the Ministry of International Cooperation, Ministry of Irrigation, representatives from the relevant line ministries such as Education and Health and Participants Financial Institutions (PFIs). The PSC will meet biannually, and on an ad-hoc basis when necessary. It will have the primary responsibility of guiding the Project implementation activities and in all matters of policy regarding the Project. Specifically, the PSC will: (i) ensure that Project activities are in compliance with the Government's policies; (ii) approve consolidated Project AWPB; (iii) allocate the microfinance funds to PFIs; (iv) oversee the effective coordination and synergy between the different components; (v) ensure that Project interventions are coordinated with other development programmes and Projects; and (vi) oversee and monitor the systematic implementation of the Project and recommend changes where necessary in coordination with IFAD.
58. Project Management Unit: The PMU will be headed by an Executive Director appointed by the Minister of MALR and acceptable to IFAD. The PMU will report to the Minister and to the Project Steering Committee. The PMU will be based at the International Centre for Development and Training (ICDT) in Amriya and will be in close proximity to the National Office of the Graduates on Newlands, which is also based in Noubaria. The PMU and the RPMU will have the main task for implementing and overseeing all project components with technical assistance and support from selected implementation partners. The PMU/RPMU will be responsible for the implementation of the Community and Agricultural Development Components, as well as oversee the implementation of the Rural Finance Component and be responsible for the Project Management and Coordination.
59. SAIL will capitalize on the existing capacities and experience of WNRDP staff housed at ICDT, which will also ensure a quick start-up of Project activities in the Kafr-EI-Sheikh area. The PMU will provide implementation support for certain Project functions such as financial management, procurement, monitoring and evaluation. The PMU will provide technical assistance, training and orientation to the newly recruited PMU/RPMU staff based on their experience in WNRDP. As an essential step towards ensuring continuity of staff during the project period, most of the Project staff will be recruited from the Project target area itself.
60. The PMU staff will comprise a Project Manager, a Community Mobilization Specialist, Civil Works Engineer, Marketing Advisor, Agricultural Extension Advisor, Gender & Poverty Targeting and Youth Advisor, National Credit and Enterprise Facilitation Specialist, Financial Manager, M&E Officer, Accountant and support staff. GEF funding will cover costs for a CC Adaptation Specialist who will be part of the PMU staff. All new Project staff will be recruited through open competition and be assigned to the Project on a full time basis. The Project will capitalise upon the experience of WNRDP by seconding qualified staff from the project to the SAIL Project.

61. The PMU will be responsible for coordination and liaison with implementing partners, the Government and Participating Financial Institutions, as well as overall Project programming, preparation of AWPBs, financial management including disbursement, procurement, preparation for audits, etc.), monitoring/evaluation and knowledge management.
62. The PMU will be responsible for ensuring the systematic collection of baseline data, monitoring and evaluation, progress reporting and liaison with the Government. It will also be responsible for providing logistical and administrative support to supervision missions, mid-term reviews and Project completion reports.
63. Where required, services of technical specialists and agencies will be recruited for specific tasks such as governance, strategic management and planning training as well as vocational and enterprise training. The PMU will recruit technical assistance based on performance-based contracts and oversee and supervise their work.
64. Regional Project Management Units: Three RPMU will be established in Lower, Middle and Upper Egypt that will coordinate and implement Project's activities in the selected settlements. Given its proximity to the ICDT, the RPMU for Lower Egypt will be based in the PMU. The RPMUs will have the primary responsibility for preparation of regional level AWPBs, identifying farmer organizations and strengthening them, ensuring participation of women, working closely with technical assistance, manage Project funds at the governorate level, monitoring and evaluation, reporting and providing support to supervision missions.
65. RPMUs will report to the PMU. Each unit will comprise a Regional Project Manager, who will be an specialist with relevant experience, authority and good networking capability with the farming community and other Project implementing partners. Other staff will include Agriculture Extension Officer, Livestock Specialists, Community Specialists and women and men Community Mobilisers, NRM Officer, Local Engineer, Market Facilitation Officer, M&E Officer, Regional Credit and Enterprise Facilitation Specialist, technical assistance for overseeing participation of women, accountant and support staff. Other short term staff might be recruited based on the Project's needs. RPMUs will send progress report to the PMU and maintain direct contact and interactions with relevant local level GOE agencies, private sector and civil society organizations involved with Project implementation.
66. Grant funding mechanism: the process of awarding grants to agriculture cooperatives and women-led enterprises will have to fulfill specific criteria as defined in the Project Implementation Manual (PIM). The manual will define procedures, criteria and procurement conditions for the project grants, addressing climate resilience and gender requirements. Grant funding will facilitate the generation and introduction of innovative climate-resilient technologies for agriculture production and will support the delivery of environmental services resulting from the crop value chains and diversification of livelihoods.
67. A competitive scheme for applications will focus on investments in equipment and technologies that are aligned with the project objectives to increase climate-resilience, addressing eligible farmers who participated in the capacity building programmes. The Project will also follow IFAD's "Gender Equality and Women's Empowerment policy" to increase the project's impact on gender issues –i.e. improve gender rating for grants' design; the proportion of matching grants for women organizations or households headed by women. Specific indicators will be defined to measure the gender impact of the grants, such as: (i) increase in the proportion of grants with climate-resilience and gender-specific objectives supported by clear budget allocations; (ii) improvement on climate-resilience and gender ratings for grant portfolio and completion; (iii) increase in the number and quality of climate-resilient value chain and income diversification grants supporting gender equality and women's empowerment; (iv) USD value of grants to women-led small-enterprises supporting climate-resilient equipment and technologies; etc.
68. The PMU/RPMU will prepare ToRs and conditions for applicants that will be published in local mass media and online. Following current basis for the country IFAD's operations, the applications submitted will follow a two-step selection process of pre-qualification and qualification through a field review and final scoring by an Application Evaluation Committee (AEC). All the goods shall be procured through National Competitive Bidding (NCB). The project team will screen and evaluate all applications, and successful grantees will receive the required technical assistance to make an efficient use of the new equipment and technologies, following climate-resilience principles. The project's support to innovative approaches will not only help small farmers increase the returns and income from agricultural production, but will also increase the number of farmers engaged in climate-resilient agriculture and income diversification beyond the training programmes and demonstration FFS.

69. The Project will provide training to the staff and committees involved in the grant portfolio to ensure their capacity to assess and monitor the climate-resilience and gender criteria of the grants' portfolio. Training will be delivered prior to processing the first applications and after finalization of the PIM. Ad hoc or refresher training may also be provided.

B.2 Describe the socioeconomic benefits to be delivered by the project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environmental benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF).

70. The GEF project, in alignment with the mandates of GEF and SCCF, focuses on identifying, implementing, modeling and transferring best practices in adaptation to the effects of climate change. With funding from GEF, SAIL as a whole will become an innovative programme in which climate change resilience and adaptive capacity among rural communities is put into practice by means of experimental pathways, including economic ones, closely shared with the beneficiary populations.
71. To help reduce energy costs, the project will introduce solar energy pumps, solar panels for lighting among groups of farmers and introduce bio-gas technology. Empirical studies of the agriculture sector confirm that the enhanced utilization of new agricultural technology can play a crucial role in increasing total factor productivity, increasing labour and agricultural wages. The project will provide technical assistance in the selection and installation of appropriate solar pumping systems that will vary with the geographical location and specific site. Collective systems will be provided to groups of farmers for about 20 feddans. The formation of clusters and shared solar systems will be expected to lower the initial capital costs. The project will ensure that the private sector suppliers of the new technologies provide appropriate technical training to people from within the community to ensure proper operation and maintenance of the systems.
72. The change from diesel and electric pump sets to solar powered pumping units is expected to save between 25~30 MW/day from the national grid. The pumping units are envisaged to be direct DC submersible pumping units, which are more cost efficient and work on variable voltages. The system will cater for field requirements of night pumping which is necessitated due to the rotational availability of water for limited days in a week. Automatic power converter modules can be integrated in the system to allow for auto switching from solar, to utility grid or even to a gen-set as may be required. The project will provide a loan facility for farmers who opt to replace their old inefficient diesel pumps with new units integrated with efficient irrigation systems.
73. An integrated waste management programme will be implemented under the project. While the solid waste management (refer Community Development Component) will support employment generation through recycling and promote safe disposal of waste at the community level. The waste will be sorted at the household level into recyclable and organic waste. The composting unit established under WNRDP has been a great success and similar experiences are quoted in several developing countries¹⁶. The key is integration with the solid waste management initiative, community mobilization, an effective pricing model and marketing linkages for the end product¹⁷. The composting units will be established after a detailed business and marketing plan has been prepared and will be preferably managed by the women and youth in the rural community. Investment under the project will be a mix of grants, loan and community contributions. The end product can be sold to the farmers or marketed as a high value product after appropriate packaging as has been the experience in India.
74. Training in new technologies will be provided to ensure sustainability. Under the project, training by appropriate specialists from the private sector will be provided to community groups in each settlement. Over the life of the project, training in solar technology will be provided to about 4500 persons and for bio-gas and composting to about 2700 persons. Overall, in each of the 30 villages, two days training will be provided twice a year for five years on solar technology and for three years on bio-gas and compost production respectively. Training will facilitate development of locally skilled cadre of youth trained in installation, maintenance and repair of efficient irrigation systems, solar systems, construction and maintenance of bio-gas units, maintenance of solar dryers, electricians, plumbers and other related skills. This will help the youth to gain marketable skills and become engaged in productive livelihoods.

¹⁶ D. Hoornweg et.al, "Composting and its Applicability in Developing Countries", The World Bank, 1999.

¹⁷ R. Linzner, et.al, Recirculation of local organic waste in urban and rural agriculture – the impact on soil functions in Guinea/West Africa, March 2007.

75. Groups of progressive farmers from the three regions will be afforded the opportunity to learn about new emerging soil-less technologies such as, hydroponics, automated irrigation systems and fertigation techniques through on-field exchange visits within Egypt and or neighboring countries. Each group could comprise of 4~6 farmers. Special attention will be given to farmers from Lower Egypt and some villages in Upper Egypt who are having increasing problems with salinity, rendering their lands less favourable for cultivation.
76. The project will support farmers to capitalise on the comparative advantages in their respective regions for getting the local and external markets. Cooperatives in Lower Egypt will be directly linked to the FMAs already established under the WNRDP. The regions of Middle and Upper Egypt have several comparative advantages that the project will capitalize on. These include a climate that favours harvesting of crops much earlier than other parts of Egypt or Europe, thus providing a favourable market window. These regions also have good soil and water quality with low level of salinity and pollutants relative to the delta region. They also have relatively low labour costs.
77. Experience in the IFAD WNRDP project and the UERDP as well as various value chain assessments and studies indicate that all project areas have significant advantages and open market windows for a large number of fresh vegetables, fresh fruits, herbs and spices, frozen vegetables and dried vegetables. The project will provide access to finance as well as capital grants for ACs to establish climate-proof post-harvest infrastructure to reduce losses in quantity and quality of produce as well as to enhance the control of the cooperatives over the market price. These include collection centres, drying and processing structures and equipment, sorting and packing stations, solar dehydration units, cold storage facilities, quality and food safety systems, among other issues that are essential to set-up an effective produce export supply chain etc. The selection of the type, size and specifications of such facilities will be based on production capacity and market assessments and will follow specific selection criteria that will be related to the productive and managerial capacity of the cooperative, the type of processed material required by the market (dried, fresh, distilled, frozen, juice, etc.), the quantities produced or required by the market, etc. The ACs will also be provided training in the management, as well as operation and maintenance of the facilities. The market associations from WNRDP will be used as a training resource for the SAIL project.
78. The household budget analysis shows an increase by 38% of the net agricultural incomes with a large share generated by the increase in the livestock revenues (in the logframe, target of 40%). This is consistent with the statistics of the importance of livestock in the farmer incomes. After introduction of the net benefits from health and education, the net increase in the household's income would be around 49%.
79. The theme of vulnerability to the effects of climate change will be addressed by prioritizing an approach to climate change adaptation with the direct involvement and active participation of rural communities (Community Development Associations) in specific assisted activities, to build their resilience and the adaptability of their productive and economic activities to the effects of climate change. The approach selected by the GEF project is based on several principles: (i) strengthen reflection, coordination and exchanges on strategy around climate change adaptation issues and the mountain zones; (ii) territorial integration of value chains, taking into account problems in the zone in relation to the value chains adapted to climate vulnerability and local conditions; (iii) promote exchanges and scaling up among various areas; and (iv) seek out co-financing and develop synergies among donors to reinforce actions in the field and meet demand.
80. The GEF Project has developed a very proactive strategy for the participation of women in Project activities especially recognizing that women are highly vulnerable to CC, and play a key role in agriculture and domestic activities but are the faceless and voiceless farmers of Egypt. The Project will have specific gender disaggregated targets and budget allocations, appropriate gender balanced staffing, gender action plans and conduct periodic gender audits and integrate gender aspects in all reports. Each of the components will have an approach to encourage the inclusion of women and specific targets have been identified for women. Most of the activities to be undertaken by the CDAs will be designed keeping in mind women's priorities and needs. The identification of enterprises and employment opportunities will be required to address opportunities of relevance for women. In the agriculture diversification Component greater participation for women will be facilitated by their participation in Agricultural Cooperative or special groups within these forums.
81. The project is innovative in ensuring full integration of the private sector and cooperatives in a process that will support a transition from business as usual to climate adaptation by diversified and optimized agriculture, leveraging and intensifying IFAD's investment.

B.3 Explain how cost-effectiveness is reflected in the project design.

82. The project is mainly investment-oriented with a view to maximize the impact per GEF dollar. Project management and M&E costs are maintained at the lowest possible level. Investments in a sector that is significantly affected by climate change exacerbated risks, such as drought, heat waves and land degradation, through well-targeted investments in climate-resilient irrigation plans in modernized water distribution and irrigation systems to allow farmers' associations to make an optimized use of water. The development of the adaptive capacity of local practitioners and organizations to mainstream CC adaptation along value chains and the improved agriculture production and market competitiveness through investments in climate-resilient VC technologies and diversification strategies will increase the capacity of beneficiaries – especially women - to operate autonomously without external economic aid, leading to stronger agriculture sector with higher return and improved food security.
83. The Project will support a number of efficient irrigation technologies (e.g. drip irrigation, hydroponic and aquaponic), with a climate change adaptation and mitigation focus, as proposed by MALR in the Integrated Plan for Land Reclamation. The project will build on the successful results from ICARDA regional projects, as well as from other experimental demo-plots implemented by MALR research centres and private agriculture companies in Egypt, that have demonstrated the cost-effectiveness of integrated technology packages that combine improved varieties, efficient irrigation cropping systems, and institution building. Field trials and on-farm demonstrations in Egypt and neighbouring countries have reported excellent results from crop varieties and improved land and water management methods requiring less irrigation water (e.g. no-till, drip irrigation), less fertilizers, and lower fuel needs, resulting in high yields, disease resistance, and grain quality¹⁸. For instance:
- With drip irrigation, farmers can achieve higher yields over larger areas with less water and labour, and simple and uniform fertilizer application.
 - Although hydroponic systems require an initial investment in materials, in the mid- and long-term are quite cost-effective producing higher crop yields and product quality (e.g. a well-maintained system will use water more efficiently than plants grown in soil, and in ideal conditions farmers will save money on soil preparation, pesticides and losses that occur in normal conditions due to water-related problems like drought or flood, soil-borne pests and weeds).
 - Aquaponic systems are very cost-effective for growing vegetables and raising fish, allowing farmers contribute to overcoming water and food shortages requiring little water and no fertilizer. Once established, aquaponic requires very little effort and time to run the system.
84. The Project will support solar-powered water pumps that have long been used in remote poor rural areas for reliable water delivery, where the price of diesel for generators is frequently highest and the supply most unreliable, increasing the cost-effectiveness of agriculture development in the reclaimed lands. Solar-powered water pumps help reduce the costs for farmers (e.g. cheaper than diesel, with very low ongoing operation and maintenance costs), are more reliable (e.g. much easier and cheaper to keep a solar-powered system going than it is a diesel engine), are simpler requiring unskilled labour to keep the running, while at the same time reduce pollution and carbon emissions.
85. Water-use efficiency systems will significantly reduce environmental risks. A well-designed drip irrigation system will lose practically no water to runoff, deep percolation or evaporation. It will minimize irrigation-induced erosion problems linked to conventional surface irrigation systems, while at the same time will significantly reduce the soil salinization problems of surface irrigation. Soilless agriculture offers an alternative to areas with serious soil and water problems (e.g. soil and water salinity, lack of fertile soil, Chemicals residues in soils) that create difficulties in traditional soil-based production.
86. Cost-effectiveness will be further analysed during project inception and implementation. The project proposal has been developed with the aim to ensure cost-effectiveness and sustainability also after the project completion. In spite of costs for adopting new equipment, the shift to solar power for water pumping and the innovative irrigation technologies allow for a highly efficient performance, as they provide a more efficient use of water and energy, higher soil water infiltration and greater soil moisture-holding capacity the help minimize the effects of drought and run-off erosion, helps reduce the impact of soil extreme temperatures in crops, and improves soil health conditions resulting in higher yields and crop diversification with a positive effect in food security. The use of renewable

¹⁸ For example, In Egypt's El-Sharkia governorate, techniques tested – improved varieties, planting on raised beds to improve water-use efficiency, and reducing application of nitrogenous fertilizer – showed yield increases of 30% over farmer practices. Wheat yields increased by 25% in El Sharkia Governorate, and 17% in Assiut Governorate, and farmers in El Sharkia used 20% less irrigation water. Low pressure, low cost efficient irrigation system has been developed and being demonstrated at Farmer's fields. An important and recent development is the invention of 4-row Wheat Bed Planting Machine, which has now been upgraded to Multi Crop Bed Planter. Raised Bed Technology using this machine is being promoted at farmers' fields and it has shown about 50% irrigation water saving as compared to flood irrigation with yield increase of 25% for all major crops i.e. wheat, cotton and maize. (See more at: <http://www.icarda.org/features/new-technologies-food-security-arab-countries#sthash.cO7xIU14.dpuf>)

energies will reduce perishability and energy costs, while providing means to diversify production, including the use of part of the agriculture waste for bioenergy production. Operational and maintenance costs are low, due to estimated 60-70% lower fuel use, 20-50% lower fertilizer and pesticides use, 50% reduction in machinery and labour requirement.

87. Long-term sustainability will be sought through a broad CB programme under Component 3 of the SCCF intervention, designed to create a critical mass of efficient practitioners, will integrate participatory elements to fully address issues that affect the long-term sustainability of natural resources and the welfare of local communities.
88. Replicability will be ensured with the dissemination of the lessons learnt produced by the project, through broad knowledge-sharing and communication actions targeting individual farmers, farmer organizations, and cooperative/small-enterprise members in the two target areas, and by including the good practices developed by the project into the relevant policy documents and frameworks that will guide the financing of new agriculture adaptation projects in the targeted areas and elsewhere in Egypt.
89. The implementation of climate-proof water and energy infrastructures and the optimization of the use of water will contribute to reduce CC-related risks and improve environmental services needed for sustainable agriculture production in the long-term. Furthermore, the introduction of solar dryers and hydroponic and aquaponic technologies, and the promotion of composting will increase economic opportunities for smallholders, and especially for women, while reducing environmental risks.
90. The sustainability of the project is also guaranteed by the full involvement and empowerment of all actors throughout the multi-stakeholder processes in the various components of the project, mainly through the development of climate-resilient adaptation plans in the targeted communes. Smallholders and farmers' organizations (e.g. water users organizations, producers' organizations and cooperatives) will be the main targets of the awareness raising and capacity building programme, and they will be the main beneficiaries of the components on production/processing/marketing improvement and the provision of new technologies. Partnerships among VC actors will strengthen each individual actor in the VC and will facilitate the investments in climate-resilient technologies, and the production, processing and marketing of high quality products.
91. The SCCF intervention addresses the adaptation priorities identified by the Ministry of Water Resources & Irrigation (MWRI) through the 2013 a national strategy of adaptation to CC, as well the sectoral strategic reflections in the "Egypt's gender and CC national strategy" developed by CEDARE in collaboration with the International Union for Conservation of Nature (IUCN) and the Participatory Development Programme (PDP)/CC Adaptation and Resilience in Informal Urban Area, led by The German Cooperation Agency (GIZ).
92. The project will seek synergies and cooperation with relevant initiatives, mainly the UNIDO/"Promoting Low-carbon Technologies for Cooling and Heating in Industrial Applications in Egypt" and UNDP/"Grid-Connected Small-Scale Photovoltaic Systems in order to ensure the use of the most advanced technologies in Agriculture". The project will be linked to ongoing regional and global programmes to ensure exchanges and dissemination of information at a wider scale using the IFAD website, UNFCCC, GEF and other platforms for experience sharing.

C. DESCRIBE THE BUDGETED M&E PLAN

Monitoring and Reporting

93. **Role of M&E in results-based project management.** The main objectives of M&E are: (i) to provide timely and accurate information on implementation progress and constant feedback into the Management Information System (MIS) for decision-making and addressing potential plan deviations and problem areas; (ii) to evaluate the performance of implementing agencies and service providers; and (iii) to assess achievements at the levels of outcomes and impact. Project monitoring and evaluation will be conducted in accordance with established IFAD and GEF procedures. In line with the GEF/SCCF operational principles, the SCCF M&E activities will be country driven and provide for consultation and participation in a decentralized manner, actively involving target groups and service providers, who will be duly informed about the plans, implementation and the results of evaluation activities.
94. The main objective of the proposed SCCF project will be to lessen the impact of climate change on vulnerable rural groups as well as on the natural resources critical for crop and livestock production, thereby increasing food security. The project will undertake a baseline assessment and participatory

resource mapping exercise in village, including a rapid vulnerability assessment, to define the baseline status prevalent before the initiation of the project activities in the project areas. Basic data and information relevant to the project will be collected, and project indicators will be measured at this stage.

95. The M&E system will be designed to offer comprehensive and reliable information to improve planning and decision-making for results-based management. The logical framework will constitute the basis for results-based M&E. The M&E system will have a three-tier structure: (i) output monitoring with focus on physical and financial inputs, activities and outputs; (ii) outcome monitoring assessing the use of outputs and measure benefits at beneficiary and community levels; (iii) impact assessment assessing project impact for the target group in comparison with objectives. All M&E data, analysis, and reporting will be disaggregated by gender. All M&E activities will be based on IFAD's Guide for Project M&E.
96. The SCCF intervention will be fully blended with the IFAD baseline operations (SAIL Project) so they will share the monitoring and evaluation system. The overall responsibility for M&E activities will rest with the M&E Officer, based at the Project Management Unit (PMU), and reporting to the Project Director. The M&E Officer will establish a data collection, analysis and reporting system to track physical and financial performance and emerging impact.
97. The Project will conduct, at its onset, a Start-up Workshop, with the aim of sensitizing and training the MOIC, MALR, the PMU/RPMUs, and other potential implementing partners. The project's logical framework will be reviewed at a Start-up Workshop. The Project team will fine-tune the progress and performance/impact indicators of the project at the Inception Workshop with support from IFAD and project partners. Specific targets for the first year of implementation, progress indicators, and their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.
98. Periodic monitoring of implementation progress will be undertaken by IFAD. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. A part of the participatory M&E will be devoted to ascertain the extent of women's participation in project activities, constraints faced, benefits gained, aspirations met and impact on women's status in the family, their involvement in community affairs and the climate-proofing of their agriculture. Measurement of impact indicators related to adaptation benefits will occur according to the schedules defined in the Inception Workshop. The measurement of these will be undertaken through subcontracts or retainers with relevant institutions, or through specific studies that are to form part of the projects activities, or periodic sampling.
99. **Reporting.** Harmonized project progress reports will be produced quarterly, semi-annually, and annually. Reporting progress will be made available for each of the five target States as well as consolidated for the whole project area.
100. Two Mid-Term Reviews will be undertaken in PY3 and PY5 covering: (i) physical and financial progress in comparison with the annual work plans and budgets (AWPB); (ii) performance assessment of service providers; (iii) institutional and national policy changes arising from project activities; (iv) opportunities for deeper integration of implementation within national systems; and (v) overall progress towards the achievement of project objectives. At the end of the project, a Project Completion Report will be prepared by the Government, with IFAD support, to examine the overall project performance, taking into account a broader and longer-term perspective.
101. The project will use locally adapted RIMS (IFAD Results and Impact Management System) surveys at baseline, mid-term and completion, as the main quantitative survey tool to provide information on three levels of results: (1st) project activities and outputs; (2nd) project outcomes, reflecting changes in beneficiaries behaviour, improved performance and sustainability of groups, institutions and infrastructure; (3rd) project impact on child malnutrition and household living standards. Ad hoc surveys, qualitative case studies and thematic reviews will be outsourced to independent institutions to verify results and draw lessons on themes such as climate resilience and adaptation, market access, community empowerment, infrastructure development and food security improvement.
102. **Learning and Knowledge Management.** The SCCF operations will create valuable knowledge in climate resilience and adaptation on natural resources management, crop and livestock management, income diversification, community empowerment, infrastructure development and food security improvement, which will be captured by the PMU/RPMUs and utilized to generate lessons and

best practices to be shared with public institutions, the IFAD country team, partners and others. In terms of Knowledge Management, operational experiences will create valuable knowledge in the target areas, which will be captured and utilized to generate lessons and best practices to be shared with beneficiaries, public institutions, the IFAD country team, partners and others.

103. The project will promote: (i) knowledge networking through periodic seminars/workshops; (ii) publication of 'how-to' leaflets, and (iii) audio-visual material that capture lessons learnt and impact. Special emphasis will be placed on knowledge regarding climate change adaptation and climate-risk reduction. The vulnerability assessments to be undertaken at village level will be the basis for that, ensuring it guides adaptive long-term planning regarding development work in the reclaimed lands. Main anchoring points for knowledge management will be identified, including research institutions, civil society, regional KM networks and specialised service providers. The project will also promote: (i) in-country knowledge networking through periodic seminars/workshops; (ii) regional knowledge networking, such as the regional network on Knowledge Access for Rural Inter-connected Areas (KariaNet) for the management and sharing of knowledge, information and experience in agriculture and rural development in the Middle East and North Africa (MENA); and (iii) regional research networks including those supported by IFAD grants.

Evaluation

104. Mid-term Evaluation - An independent Mid-Term Evaluation will be undertaken at the end of project year 3 and project year 5 of implementation. The Mid-Term Evaluation will take the form of a qualitative study to determine the progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the project's term, including the revision of indicators if needed. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by IFAD.
105. Final Evaluation - An independent Final Evaluation will take place three months prior to the terminal tripartite review meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by IFAD. The final evaluation will be carried out in a synergetic and coordinated fashion with Final Impact Evaluation that will be carried out for the baseline project SAIL to assess: (i) Project effects and impact; (ii) sustainability of those effects; (iii) potential for upscaling Project activities; (iv) lessons learned from implementation and recommendations for follow-up interventions; and (v) SAIL's outcomes and impact contributing to the achievement of national objectives in the rural sector.

Monitoring and evaluation plan and budget

| Type of M&E activity | Responsible Parties | Budget US\$ (SCCF contribution) Excluding project team Staff time | Time frame |
|--|--------------------------------------|---|--|
| Inception Workshop (IW) and report | GEF Coordinator/ PMU/SIUs | USD 10,000 | Within first two months of project start up |
| Annual Progress Report (APR) and Project Implementation Report (PIR) | Project Team IFAD | | Annually |
| Tripartite Review (TPR) and TPR report | Steering Committee Project team IFAD | | Every year, upon receipt of APR |
| Steering Committee Meetings | Project Coordinator IFAD | | Following Project IW and subsequently at least once a year |

| | | | |
|---------------------------|--|------------|--|
| Two Mid-term Evaluations | Project team IFAD External Consultants (i.e. evaluation team) | USD 25,000 | At the mid-point of project implementation. |
| Final External Evaluation | Project team, IFAD External Consultants (i.e. evaluation team) | USD 25,000 | At the end of project implementation |
| Terminal Report | Project team IFAD External Consultant | | At least one month before the end of the project |

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


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

(Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

| NAME | POSITION | MINISTRY | DATE (MM/dd/yyyy) |
|--------------------------------|-----------------------------|---|-------------------|
| ENG. AHMED ABOU EL SEOUD AHMED | GEF OPERATIONAL FOCAL POINT | MINISTRY OF STATE FOR ENVIRONMENTAL AFFAIRS | 27 July 2014 |
| | | | |
| | | | |

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

| Agency Coordinator, Agency name | Signature | Date (Month, day, year) | Project Contact Person | Telephone | Email Address |
|--|---|----------------------------|--|------------------|--|
| John McIntire Associate Vice President, Programme Management Department IFAD |  | 25-5-15 | Rami Abu Salman, Lead Climate and Environment Specialist, Environment and Climate Division IFAD | +39 06 5459 2291 | r.salman@ifad.org |

ANNEX A: PROJECT RESULTS FRAMEWORK

Logical Framework

| Narrative Summary | Key Performance Indicators | Means of Verification | Assumptions/ Risks |
|---|--|---|--|
| Project Goal | | | |
| <i>Increase food security and incomes for poor rural women and men through climate resilient agriculture.</i> | <ul style="list-style-type: none"> 60% HH have increased climate resilience. 40% HH have improved asset ownership index compared to baseline (RIMS). | <ul style="list-style-type: none"> RIMS baseline and impact surveys. UNICEF/WFP food security surveys. Government statistics. | <ul style="list-style-type: none"> Stable political and security situation. Macro-economic conditions improve. |
| Project Development Objective | | | |
| <i>Enhance farmland productivity and income diversification in the reclaimed lands.</i> | <ul style="list-style-type: none"> Average income of 24,000 target HH increase by 40% at Project completion. At least 40% farmers reporting production/yield increase at Project completion. | <ul style="list-style-type: none"> RIMS, baseline survey, mid-term and completion assessments. Governmental surveys and reports. | <ul style="list-style-type: none"> Conducive government policies. Stability in agriculture prices. |
| Component 1: An enabling policy environment for planning and implementing climate resilient agriculture in the reclaimed lands/ Contributes to CCA-1 and CCA-3 Total GEF Budget: USD 941,000 | | | |
| Outcome 1.1: CC adaptation measures for crop production in reclaimed lands are mainstreamed into relevant policy frameworks and decision-making tools. | <ul style="list-style-type: none"> 20 staff members from relevant governmental institutions and departments (MALR, EEAA, EMA, CLAC, CCICRE) have acquired knowledge on CC downscaling methodologies to analyze CC impacts and adaptation needs on agriculture and irrigation water use in the target areas. Relevant policy documents (e.g. CC Adaptation Technology Needs Assessment) and progress reports to Regional Initiatives for CC impact assessment on water and agriculture prepared by EEAA in collaboration with other relevant institutions, and based on project results. Relevant MALR policy frameworks have mainstreamed CC adaptation for land and water management in agriculture production in the reclaimed lands. A Dynamic Agriculture Information and Response System (DAIRS) to support farmers in effective planning and preparedness to overcome climate-related risks is developed by MALR, tested in the target areas, and become operational at the national level through a sustainable public-private partnership agreement. | <ul style="list-style-type: none"> National and State level statistics and inventories. Policy documents and strategies. MoU between MALR and private institution for management of DAIRS. | <ul style="list-style-type: none"> All key public and private stakeholders are willing to engage in development and implementation of measures for vulnerability reduction. DAIRS embedded and budgeted properly in Government services. |

| Narrative Summary | Key Performance Indicators | Means of Verification | Assumptions/ Risks |
|--|---|--|--|
| Component 2: Optimized irrigation water management at the tertiary and on-farm levels / Contributes to CCA-1 and CCA-2 Total GEF Budget: USD 3,597,600 | | | |
| Outcome 2.1: Water users are enabled to design and implement climate-resilient irrigation plans. | <ul style="list-style-type: none"> Optimal cropping patterns and efficient irrigation plans are developed for selected VCs in the 4 target areas. 7,400 farmers are trained on the designing and implementation of climate-resilient cropping patterns and irrigation plans. 4,200 members of WUGs are trained in new irrigation technologies and management systems. | <ul style="list-style-type: none"> Baseline reports and rangeland productivity records. Field questionnaires. | <ul style="list-style-type: none"> Key concerned stakeholders are willing to engage in the project activities. Adequate knowledge, expertise and tools are available. |
| Outcome 2.2: Investments in modernized water distribution and irrigation systems allow farmers' associations to make an optimized use of water. | <ul style="list-style-type: none"> 24,000 HH have access to rehabilitated/modernized irrigation schemes. Efficient irrigation systems established by 1,400 HH in 7,000 feddans (2,940 ha). 22 aquaponic and hydroponic pilot farms are established in the 4 target areas. | <ul style="list-style-type: none"> HH income surveys. Interviews/focus groups. Project monitoring reports. | <ul style="list-style-type: none"> Target HH and other key actors are willing to become involved. The project can secure the required technical capacity. Suitable technologies are available in the country. |
| Component 3: Climate proofing of crop value chains and (income improvement) diversification of local livelihoods / Contributes to CCA-1 and CCA-2 Total GEF Budget: USD 2,901,400 | | | |
| Outcome 3.1: The adaptive capacity of local practitioners and organizations to mainstream CC adaptation along value chains is developed. | <ul style="list-style-type: none"> 24,000 practitioners are trained on CC adaptation agronomic systems and technologies. The members of at least 50 CDA and ACs are trained on climate-resilient VC technologies. About 40 farmers (50% women) are trained as facilitators and extension providers to support FFS. | <ul style="list-style-type: none"> Training evaluation forms. Interviews/focus groups. Project M&E system | <ul style="list-style-type: none"> All concerned actors are willing to engage in development and implementation of capacity building and to participate in FFS. The project is able to provide relevant TA. |
| Outcome 3.2: Beneficiaries have improved agriculture production and market competitiveness through investments in climate-resilient VC technologies and diversification strategies. | <ul style="list-style-type: none"> 60% beneficiaries report improved production and marketing based on climate-resilient technologies. 100 agriculture cooperatives access grants for climate-resilient production, processing and diversification equipment. 200 women-led small-enterprises access grant funding for climate-resilient income diversification opportunities. | <ul style="list-style-type: none"> Interviews/focus groups. Companies register books. Project M&E system. | <ul style="list-style-type: none"> No major conflicts in the villages to prevent the communities from collaborating with each other. Suitable equipment and inputs are available in the country. |

ANNEX B: RESPONSES TO PROJECT REVIEWS (FROM GEF SECRETARIAT AND GEF AGENCIES, AND RESPONSES TO COMMENTS FROM COUNCIL AT WORK PROGRAM INCLUSION AND THE CONVENTION SECRETARIAT AND STAP AT PIF).

| STAP Comments | GEF Responses |
|---|--|
| 1) Clarify the structure of the proposal and connectivity among components | <ul style="list-style-type: none"> • The connectivity among project components has been clarified in the GEF Full Project Document: <ul style="list-style-type: none"> (i) Component 1 addresses the development of enabling policies that facilitate and enhance the adoption of the climate-resilient agronomic systems and technologies promoted under Component 2 and Component 3 in the reclaimed lands; Moreover, Component 3 will support the development of a Dynamic Agriculture Information and Response System (DAIRS) that would help improve long-term forecasting to enhance the farmers' capacity in the reclaimed lands to cope with and respond to climate change related hazards. (ii) Component 2 addresses all aspects related to the project supported agriculture value chains, in terms of climate-resilient systems and technologies for production (e.g. Conservation and organic agriculture systems; IPM; composting for organic fertilization; etc), post-harvesting and processing (e.g. solar technologies for drying several agriculture products), and marketing (e.g. supporting the Farmers marketing associations accessing the organic agriculture market opportunities). Climate-proof technologies for selected value chains will also allow reduce the perishability of the produce and the diversification of production (e.g. production of fresh and dry tomatoes; production of dry herbs and medicinal plants; etc) increasing farmers' resilience to climate shocks. (iii) Component 3 addresses all aspects related to climate-resilience in the efficient use of water in agriculture, both on-farm efficient irrigation systems and technologies in areas where soil conditions are suitable for agriculture, and soil-less cropping systems (e.g. hydroponic and aquaponic) in areas where soil conditions may prevent agriculture practices due to soil salinization, etc. The fact that agriculture in Egypt in general, (and namely in the reclaimed lands) is fully dependent on irrigation explains why there is a first project component addressing key water-related issues promoting water use efficiency and water saving technologies compatible with the CC projections of the Nile flow reduction and with the need to balance water supply for agricultural and human consumption. |
| 2) Clarify how assisting farmers' association in marketing contributes to CC adaptation | <ul style="list-style-type: none"> • The project will support the development of climate-resilient value chains, in terms of adoption of systems and technologies for CC adaption in production (e.g. Conservation and organic agriculture systems; IPM; composting for organic fertilization; etc), post-harvesting and processing (e.g. solar technologies for drying several agriculture products), and marketing (e.g. supporting the Farmers marketing associations accessing the organic agriculture market opportunities). • To encourage the private sector participation in the project, it will also be given access to financial services under the project. This relationship will be further strengthened where speciality products such as certified produce, organic products and high quality products can guarantee a premium. • The project's emphasis on disseminating principles of good agricultural practices, soil health and organic production, as well as the use of renewable energies and waste management systems, |

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| | <p>will all contribute to a much more sustainable system of land use, higher quantity and quality of crop production, and to more diversified products accessing a wider range of market opportunities, all in all increasing farmers' resilience to CC.</p> |
| <p>3) Clarify how CC would be integrated into what policy and which planning process</p> | <ul style="list-style-type: none"> • Staff from relevant governmental institutions and departments (MALR, EEAA, EMA, CLAC, CCICRE) will acquire knowledge on CC downscaling methodologies to analyze CC impacts and adaptation needs on agriculture and irrigation water use in the target areas. • The project will support the preparation of relevant policy documents (e.g. CC Adaptation Technology Needs Assessment) and progress reports to Regional Initiatives for CC impact assessment on water and agriculture by EEAA, in collaboration with other relevant institutions, and based on project results. • The project will support the mainstreaming of CC adaptation in relevant MALR policy frameworks for land and water management in agriculture production in the reclaimed lands. • A Dynamic Agriculture Information and Response System (DAIRS) to support farmers in effective planning and preparedness to overcome climate-related risks will be developed by MALR, tested in the target areas, and become operational at the national level through a sustainable public-private partnership agreement. |
| <p>4) Take into account the diverse needs for water (agriculture and human use)</p> | <ul style="list-style-type: none"> • The baseline SAIL will finance substantial investments in drinking water, health and education infrastructures and related services will be developed around them. The provision of <u>potable drinking water</u> would also reduce some illness (labour time lost), water-borne diseases especially for the under-5, and the time spent in water collection. <u>Nutrition</u> would be enhanced through the diversification of the agricultural crops and the development of livestock. The construction of schools and the literacy classes would enable <u>education benefits</u> in terms of improved literacy and increase the job opportunities for the educated children although these benefits are not quantified in the EFA. • The GEF investments in water efficiency and water-saving technologies will take into consideration both CC adaptation needs and balancing water supply for the different agriculture and human consumption needs. |
| <p>5) Provide evidence of positive outcomes from previous projects focused on resettling population, and how this evidence will be applied in designing</p> | <ul style="list-style-type: none"> • Based on the success of the West Noubaria Rural Development Project (WNRDP) in reclaimed lands, the GOE has requested IFAD for assistance in helping to design a new investment in some of the newly settled lands. The proposed baseline SAIL project was designed to scale up the successful experience of the WNRDP project in establishing and strengthening rural institutions especially Community Development Associations (CDAs), Agriculture Cooperatives and strengthen the arrangements for water management and establish farmers' market associations (FMAs). The experience of West Noubaria with strengthening market associations and helping farmers with contract farming with the private sector will be used for scaling up. Investment in these rural institutions is of paramount importance given that the Government is planning to reform the agriculture cooperative law which will give them much greater flexibility to function as independent, farmer owned, profit- oriented organizations in the future. • Various donor-funded programmes, including WNRDP, have proved that Agriculture Cooperatives can be organized and trained to better manage irrigation infrastructure, farm equipment and undertake collective marketing activities in reclaimed lands. Agriculture Cooperatives can group to form Marketing Associations (MAs) with the capacity to engage in accessing better price for their produce through collective marketing by meeting Global-GAP |

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| | <p>and organic certification requirements. This will entail signing contract farming arrangements where appropriate.</p> <ul style="list-style-type: none"> • The proposed project will be designed to scale up the successful experience of the WNRDP project in establishing and strengthening rural institutions especially Community Development Associations (CDAs), Agriculture Cooperatives and within them Water User Groups (WUGs) and FMAs. There is also need to improve the corporate governance of these rural institutions, strengthen their leadership, enhance transparency, and accountability. The project will put in place participatory and demand driven processes for establishing and strengthening these institutions. Investment in these rural institutions is instrumental given that the Government is planning to reform the agriculture cooperative law which will give them much greater flexibility to function as independent, farmer owned, profit-oriented organizations. • Many of the irrigation channels, drainage structures and pumping stations are functioning at low capacity due to poor maintenance. The baseline SAIL project will provide resources for rehabilitating the irrigation and drainage systems, fix the broken pumps in close collaboration and participation of water user groups, etc. Given the water scarcity in the targeted areas and the CC projections about future reduction of the Nile water flow, the GEF project will also capitalise upon the opportunity of introducing innovative water and energy efficient technologies. The project will scale up the successful experience of WNRDP in which farmers were given access to credit for the introduction of efficient irrigation systems. This will help in increasing the efficiency of water use, increase area under irrigation and make the distribution of water more equitable. To help reduce energy costs, the project will introduce solar energy pumps, solar panels for lighting among groups of farmers and introduce bio-gas technology. Empirical studies of the agriculture sector confirm that the enhanced utilization of new agricultural technology can play a crucial role in increasing total factor productivity, increasing labour and agricultural wages. • The introduction of more efficient irrigation systems such as drip irrigation significantly reduces the quantities of water used by the farmers, e.g. increase the water productivity. Currently, most of the farmers of the visited target areas are using flood irrigation, which is highly inefficient. Studies in West Nubaria have demonstrated a reduction by 38 to 50% of the water consumption from flood to drip irrigation depending on the crops. Substantial gain of water can thus be expected as drip irrigation spreads in the project area, associated with water users groups and improved infrastructure. In the WNRDP, an impact study estimated that the area under drip irrigation increased by 375% over 8 years. • The GEF project will also build on successful experiences in Egypt on soil-less hydroponic and aquaponic technologies, such as the private enterprises "Egyptian Hydrofarms" and "Makar Farms". |
| 6) Define further the adaptation benefits and the additional cost reasoning | <ul style="list-style-type: none"> • Already addressed in the GEF Full Project Document and CEO Endorsement. |
| 7) Increase village selection criteria beyond poverty | <ul style="list-style-type: none"> • The proposed targeted villages will be selected from the sites that the Government has allocated for settlement and rehabilitation over the last 15 to 20 years, with considerable investments in terms of housing, road infrastructure, primary and secondary canals and drainage infrastructure. These lands are located in Upper, Middle and Lower Egypt. The GEF will focus on the new lands where the land is suitable for agriculture, which have been slow to develop but could provide an important source of livelihood |

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| | <p>to poor and vulnerable households. The GEF will represent an opportunity to reduce vulnerability to CC and prevent mal-adaptive practices in the reclaimed lands that are cropped for the first time and reduce risks of salinity, etc, etc...</p> <ul style="list-style-type: none"> • The GEF will put special focus on women population, because they are especially vulnerable to CC (higher workload due to the migration of men population; higher investment of time in child education and health, looking for water and energy; lower access to finance and land tenure; etc). However, women tend to focus more on practical and innovative improvements such as seeking alternative water supplies, protecting local assets, planting new crop varieties or supplementing traditional incomes through the diversification of activities, all in all using resources more efficiently, and environmentally friendly than men. The project will include some villages that are especially vulnerable and disadvantaged such as El-Samaha village comprising solely of widows and divorced women. Experience of IFAD's investments in West Noubaria tells us that women graduates, as well as women from small farmer households, play a critical role in the development of the new lands. Women are keen to participate in community activities, participate in opportunities for learning and engaging in enterprises such as baking, tailoring, fruit processing, kitchen gardening, livestock and poultry keeping and finding other employment opportunities, etc. There are virtually no facilities for the young in these new communities for higher learning, entrepreneurship, employment or recreation. Thus, the youth will be an important target group in the new project. |
| 8) Better reflect the already existing base of information on regional climate projections and how it is being used for agriculture planning and decision-making | <ul style="list-style-type: none"> • The GEF project will invest in the installation of weather stations and the development of a Dynamic Agriculture Information and Response System (DAIRS) that would help improve long-term forecasting to enhance the capacity to cope with and respond to climate change related hazards. This system takes into consideration the most updated regional climate projections (see GEF Full Document Annex 5) to carry out the modeling and delivering early warning to extreme events (heat waves, frost, cold waves, storms, epidemic outbreaks of pests and diseases...) as well as provide response advice relevant to extreme events; accurate irrigation scheduling that reduces the cost of irrigation and minimizes water overuse; early pest and disease forecast and advice to allow suitable time for taking necessary actions and; proper calculation of sowing and harvest dates to maximize production. |
| 9) Explain the GEF CC adaptation contribution to value chains beyond baseline interventions | <ul style="list-style-type: none"> • See point 2) |
| 10) To what extent diversification is possible? | <ul style="list-style-type: none"> • The project will provide grants on a competitive basis to groups and individuals for starting small businesses that promote diversification and help in enhancing their adaptive capacities. At least 100 grants in kind will specifically target poor women, women headed households, landless women and youth, and in particular, the most vulnerable who do not qualify for loans. • The project will arrange for vocational and enterprise development training through specialist service providers. Prior to providing the training, a market review will be conducted to ensure that these skills and vocations can generate employment. • The training opportunities will include providing young men and women appropriate skills and vocations to become plumbers, electricians, masons, bakers, tailors, barbers, butchers, etc. |

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| | <ul style="list-style-type: none"> • New employment and income diversification opportunities related to the project CC adaptation interventions will be investigated and identified in discussion with women and young beneficiaries, such as the processing of fruit, vegetables, herbs and medicinal plants, recycling of waste, composting, maintenance of drip irrigation, solar panels and pumps, bio-gas units, etc. • Solar dryer units for the processing of fruits, vegetables, herbs and medicinal plants, will specifically target women CDAs where they show an interest or Agriculture Cooperatives. In order to ensure sustainability, the dryers will be provided after a detailed business plan is prepared including development of a marketing plan and establishment of linkages with the private sector. The CDAs/Agriculture Cooperatives will have to evolve to a level where they can ensure effective management of not only the technology but also the ability to manage the required volumes of herbs, aromatic plants, or vegetables that are to be processed. Extension services in technology and marketing will be provided through a training programme to the selected CDAs/Agriculture under the project. This initiative is expected to be introduced once the CDAs/Agriculture Cooperatives have been mobilized and strengthened and where production levels justify their use. • The private sector suppliers of irrigation systems and solar energy will also be invited to participate in training the youth in the new techniques, looking at establishing local businesses around the maintenance of the new climate-proof equipment. |
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ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS¹⁹

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

| PPG Grant Approved at PIF: | | | |
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| <i>Project Preparation Activities Implemented</i> | <i>GEF/LDCF/SCCF/NPIF Amount (\$)</i> | | |
| | <i>Budgeted Amount</i> | <i>Amount Spent To-date</i> | <i>Amount Committed</i> |
| 1. Team Leader and Climate Adaptation Specialist | 38,400 | 38,400 | 38,400 |
| 2. Mapping and Vulnerability Assessment Specialist | 8,800 | 8,800 | 8,800 |
| 3. Environmental Specialist | 8,000 | 8,000 | 8,000 |
| 7. Travel ** | 8,727 | 7,782 | 7,782 |
| 8. PPG management | 6,073 | 6,073 | 6,073 |
| TOTAL | 70,000 | 69,055 | 69,055 |

¹⁹ If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)