# PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

## PART I: PROJECT/PROGRAMME INFORMATION

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|---|---|
| Project/Programme Category: | Regular Project |
| Country/ies: | Egypt |
| Title of Project/Programme: | Building Resilient Food Security Systems to Benefit the Southern Egypt Region- Phase 2 |
| Type of Implementing Entity: | Multilateral Implementing Entity |
| Implementing Entity: | United Nations World Food Programme |
| Executing Entity/ies: | Ministry of Agriculture and Land Reclamation |
| Amount of Financing Requested: | US$ 3,094,962 |

# *1.* PROJECT / PROGRAMME BACKGROUND AND CONTEXT:

## *A. National Background:*

The Arab Republic of Egypt has an area of 1,001,450 sq km, extending 1,572 km SE–NW and 1,196 km NE–SW. It has a population of 92.2 million and a population growth rate of 2.4% in 2017. Due to its large desert regions, the country's population is concentrated along the Nile Valley and Delta and along its coasts with only about 3% of the territory inhabited.[1]

*Socioeconomic development context*:
Despite being classified as a middle-income country, Egypt ranks 111 on the Human Development Index with an income poverty rate of 28 percent and extreme poverty rate of 5.3 percent[2]. According to the national Household Income, Expenditure and Consumption Survey (HIECS), 15.9 percent of the population have poor access to food, while the Food Security Index of the Economist Intelligence Unit (EIU) shows that Egypt is moderately food secure.

[1] http://www.nationsonline.org/oneworld/egypt.htm#Business
[2] Household Income Expenditure and Consumption Survey, Central Agency for Public Mobilization and Statistics (CAPMAS), Jan-Dec 2015.

To address the structural and financial imbalances and promote sustainable growth out of an economic slowdown that followed the January Revolution of 2011, the government launched a series of bold policy reforms in 2016[3]. Among the reforms was the floatation of the Egyptian Pound in November 2016, resulting in increasing inflationary pressures on food and non-food prices. Inflation in the overall Consumer Price Index reached 29.6 percent at the beginning of 2017, while inflation in the Food Price Index reached a historic peak of 38.6 percent, all leading to increasing pressures on households to meet their basic needs of food and non-food items[4]. Additionally, unemployment rates remain persistently high at 12.5 percent[5].

In line with the 2030 Agenda, in March 2016, Egypt launched its strategy for sustainable development, "Egypt's Vision 2030". Built on economic, social, and environmental dimensions, this strategy aims to achieve sustainable development that would enable Egypt to possess a competitive, balanced and diversified economy that is dependent on innovation and knowledge. Justice, social integrity, participation are key guiding principles of the strategy, while the right to secure access to food and nutrition is a priority in the strategy[6].

In spite of its ambitious SDS 2030 Vision, Egypt still faces significant challenges that impede sustainable development in all three dimensions, social, economic, and environmental. At the national level, the high population growth rate of 2.4 percent significantly increases levels of malnutrition and food, water and energy insecurity, and of increased urban migration within Egypt. In addition, it poses a burden on job creation efforts, leading to high unemployment rates, especially among youth and women. Other issues related to mitigation and adaptation to climate change, such as water shortages, soil salination, extreme weather events – particularly temperature changes - also present a critical challenge that must be addressed.[7]

In line with the Constitution, the Government has launched the National Strategy for Women's Empowerment under the leadership of the National Council for Women (NCW) as a pioneer strategy globally for women's empowerment. This Egyptian Women's Strategy is devised to enact women's constitutional rights that foster principles of equality and non-discrimination, economic empowerment, and protection. The Government recognizes that social justice and inclusive growth will only be realized when women are enabled to benefit and contribute as equal citizens to Egypt's sustainable development. Moreover, the developed Women Empowerment Strategy aims to respond to the real needs of the Egyptian women particularly those living in rural areas in Upper Egypt, the poor, female-headed households, the elderly and disabled women. There are however still barriers, such as access to education and independent sources of income, which impede women and girls from realizing their potential as powerful agents of social and economic progress.

The Egyptian economy relies heavily on the agricultural sector for food, feed, fiber and other products. It provides livelihood for about 55% and employs around 26% of the labour force, contributes approximately 12% of the GDP and 20% of all foreign exchange earnings[8]. To further promote large-scale production, the Government of Egypt has lately offered financial incentives to attract investments

[3] The Financial Monthly Bulletin, Ministry of Finance in Egypt, February 2017.
[4] Quarterly Labour Survey, CAPMAS.
[5] Quarterly Labour Survey, CAPMAS.
[6] WFP Draft Country Strategic Review, 2017
[7] Government of Egypt. Voluntary Review. Sustainable Development Goals, July 2016.
[8] FAO Statistical Yearbook-Egypt, 2017

in the sector. As a result, around USD 520 million were invested in agriculture in 2016/2017, making up to 25.4% of the total private sector investments in the country.[9] There are also various governmental projects attempting to address the widening food gap in the country through production at scale. Among these is the national 1.5 Million Feddans10 project that aims at reclamation of 1.5 million feddans in the desert areas of 17 Governorates and the Ghalyoun Pond Project for Aquaculture on an area of 3500 feddans in the Nile Delta.

In spite of the sector's prominence, along with the government's commitment to achieve food security and attract private sector investments, productivity of the agricultural sector has not kept pace with the country's growing population. Egypt is thus suffering from an acute food deficit, estimated at around 60 per cent of its strategic food needs. It is barely self-sufficient in fruit, vegetables, potatoes and eggs, and it has to import 70 per cent of its needs in wheat and fava beans, 32 per cent of its sugar needs, all its food oil, lentils and yellow corn feed needs, 25% of its fish and 60 per cent of its needs of red meat, butter and powdered milk.

Being one of the highest per capita wheat consumption rates in the world, Egypt has topped the list of the world's major wheat importers since 2005. Imports are foreseen to further increase to cater for increasing needs that are attributable to the population growth. According to US Department of Agriculture, Egypt's wheat production for 2018-19 is estimated at 8.45 million tonnes, the same as the previous year, while imports are projected at 12.5 million tonnes, up from 12.3 million tonnes in 2017-2018. Likewise, Egypt's import of corn in 2018-2019 are estimated at 9.5 million tonnes, up 1 percent from the previous year, ranking it the fourth largest yellow corn feed importer[11]. It is also the seventh largest food oil importer, at the rate of three million tons per year. This reliance on wheat and cereal imports to feed an ever-growing population makes Egypt especially vulnerable to international price volatility and supply shocks.

A large portion of Egypt's food gap is connected to the country's shortage of water resources and the agricultural land needed to expand food production. As it has no effective rainfall except in a narrow band along the northern coast, Egypt's agricultural sector relies almost completely on irrigation from the Nile. The Nile accounts for more than 97 percent of both Nile and groundwater sources together, of which 85 percent is used in agriculture. With only 62 billion m3 per year of fresh water resources, Egypt is classified among the countries suffering from "water scarcity". The per capita share of these resources has fallen below the minimal level of water needs, estimated at 1,000 m3 per year, to 680 m3. Further, and according to Sustainable Agricultural Development Strategy Towards 2030 (SADS, 2009) the per capita fresh water is expected to decline from 711.0 $m^3$ in 2008 to 550 $m^3$ in 2030. With regard to land, only 3.5 percent of Egypt land area is arable with the total cultivated land reported as 8 million acres of "old" land in the Nile Valley and 2 million acres of reclaimed land[12]. At the same time, this is exacerbated by supply chain losses as high as 50 percent for fruits and vegetables and about 30 percent for wheat. All are factors contributing to increasing risks of shortages in food availability in the country.

The most common crops that are cultivated in Egypt include wheat, maize, rice, sugar cane, sugar beet, tomatoes, potatoes, aborigines, onions, green pepper, and green haricot beans. Agriculture yields increased rapidly between 1980 and 2007 but, in the past decade, for the majority of crops, rates have stagnated. The majority (around 70%) of Egyptian farmers are smallholders. They rely mainly on traditional practices that do not comply with internationally recognized standards. For example, farmers tend to overuse and misuse agricultural chemicals and use outdated technologies and tools for land

[9] Speech of Minister of Agriculture and Land Reclamation in Egypt's World Food Day Celebration, October 2018.
[10] A Feddan is An Egyptian unit of land equivalent to 0.42 hectares
[11] Global Agriculture Information report for the U.S. Department of Agriculture, September 2018.
[12] Ministry of Agriculture. National Strategy for Climate Adaptation in Agriculture. August 2010.

preparation, irrigation, and harvesting. As a result, farmers experience increased production costs, reduced yields, decreased soil fertility, and limited marketing opportunities. They are further constrained by lack of cold storage infrastructure, transportation systems, and market information.

*National challenges:*

Egypt is one of the world's most exposed countries to the risks of climate change. Besides an anticipated sea level rise in the Northern region, the country is also vulnerable to climate change due to the sensitivity of the Nile River and crop yields to temperature and precipitation changes. The number of extreme weather events is already on the rise, with smallholder farmers being particularly hit by the sudden changes in temperature. It is estimated that climate change can decrease the national food production anywhere from 8.32 percent to a maximum of 47 percent[13].

In light of persistence of the scarcity and fragmentation of arable land, the dwindling per capita share of Nile water, rapid population growth and climate change, enhancing the productivity of key crops, improving their resilience to shortages in water and climate change, and reducing supply chain losses remain priorities that require direct intervention as highlighted in several national strategies and plans such as the Sustainable Agricultural Development Strategy 2030, The National Adaptation Strategy in Agriculture, and the National Adaptation Plan.

Within Egypt, Upper Egypt[14] is the most vulnerable. It is home to 37 percent of Egypt's population and 45 percent of the country's rural population[15]. Forty percent of the Egyptian poor, and 66 per cent of the country's extreme poor live in Upper Egypt. With a poverty incidence of 41.2 per cent in Upper Egypt, almost the double of national average, Upper Egypt is the poorest region in the country. Within Upper Egypt, the percentage of poor and near poor in the rural areas is 75 percent against 49 per cent for Rural Lower Egypt[16].

Similar to poverty indicators, food security analysis indicates that Upper Egypt is the most food and nutrition insecure region in Egypt. According to 2016 calculations by the World Food Programme[17], 31.7% of the households of Upper Egypt has poor access to food. This is almost double the national rate of 15.9%. The situation is particularly worse in the rural areas of Upper Egypt, where the recorded figure is 38.7%. Regarding nutrition, Upper Egypt is home to 56.2% of the country's households with poor dietary diversity and 64.8% of the households with deficiency in calorie consumption.

Upper Egypt relies predominantly on agriculture. It accounts for 63% of the zone's employment and contribute 40% of its rural income. While it is a source of income for 85% of the zone's rural households, it is a sole source of income for 60% of its rural households. Overall, it secures 40% of the food needs of the zone[18.] Around 90% of Upper Egypt farmers are smallholders living off the little they get from land holdings of less than 3 acres. Barriers between the land plots represent a major cause of land loss and makes any new productivity enhancing intervention difficult.

[13] WFP Draft Country Strategic Review, 2017

[14] In this proposal, Upper Egypt refers to an area Southern of Cairo and comprised of Middle Egypt (the Governorates of Giza, Beni Suef, Fayoum and Menia) and Southern Egypt (the Governorates of Assuit, Sohag, Qena, Luxor and Aswan)

[15] Egyptian National Agricultural Adaptation Strategy, May 2010
Egypt Human Development Report (2010). Ministry of Planning and UNDP

[16] Egypt Country Analysis Report (2016). The United Nations.

[17] Calculations made by the Vulnerability Assessment and Mapping Unit, World Food Programme-Egypt Country office in 2016 based on data from the bi-annual National Household Income, Expenditure and Consumption Survey of 2015.

[18] Upper Egypt—Challenges and Priorities for Rural Development, World Bank Policy Note, 2006

Due to its foreseen impacts on food production in the area, climate change will further increase Upper Egypt's vulnerability[19].

## *B. Background on Southern Egypt*

Southern Egypt (see Figure 1) is the Southern- most part of Upper Egypt. It is comprised of five Governorates, namely, Assiut, Sohag, Qena, Luxor and Aswan and has a population of 15.7 million, of which almost 11.7 million live in rural communities. It has a cultivated area of 1.13 million acres, constituting 14% of the county's agricultural land. It is home to 16 percent of Egypt's population and 21 percent of the country's rural population[20]. With 45.8% of households living under the national poverty line, more than twice the rate elsewhere, and 15.6% of its population designated extreme poor, Southern Egypt region is the poorest region in the country[21].

Figure 1: Southern Egypt


Agriculture of Southern Egypt is dominated by smallholdings of less than 0.75of an acre.

[19] WFP Analysis based on anticipated impacts of Climate Change on food production.
[20] Egypt in Figures, CAPMAS, March 2019
[21] Egypt Human Development Report (2010). Ministry of Planning and UNDP.

Smallholders of Southern Egypt's rural communities are vulnerable for many reasons. Firstly, they live off the little they produce in areas of less than 0.4 hectares. Secondly, they are challenged by significant water scarcity and diminishing land tenure, where irrigation water decreased from 41.0 billion $m^3$ in 2006 to 36.8 billion $m^3$ in 2015 and the total agricultural land in rural areas decreased by two hundred million acres, a 3.1% decrease in 2015 comparing to 2001. As a result, they are increasingly having to over-exploit water and increase fertilizer usage to enhance their productivity and safeguard their livelihoods in the face of land quality deterioration. This drags them into a vicious cycle, where on one hand they are attempting to increase their income, while on the other they are irreversibly impacting the sustainability of their resource-based livelihoods in a way that will pull them deeper into poverty.

## *C. Impacts of climate change on food security in Southern Egypt*

Egypt is one of the world's most vulnerable countries to the potential impacts of climate change, with Upper Egypt (including Southern and Middle Egypt) being particularly vulnerable. Studies conclude that this whole region will be subject to a temperature rise of 1.5-2 degrees by 2040. On top of that, there is an evident increase in intensity and frequency of extreme weather events. Heat waves and chill waves as well as strong wind episodes are the most common.

Figure 2 below shows Egypt's vulnerability to temperature rise by 2040, with Upper Egypt expected to witness the highest rise.

Figure 2: Expected temperature rise by 2040 in Egypt

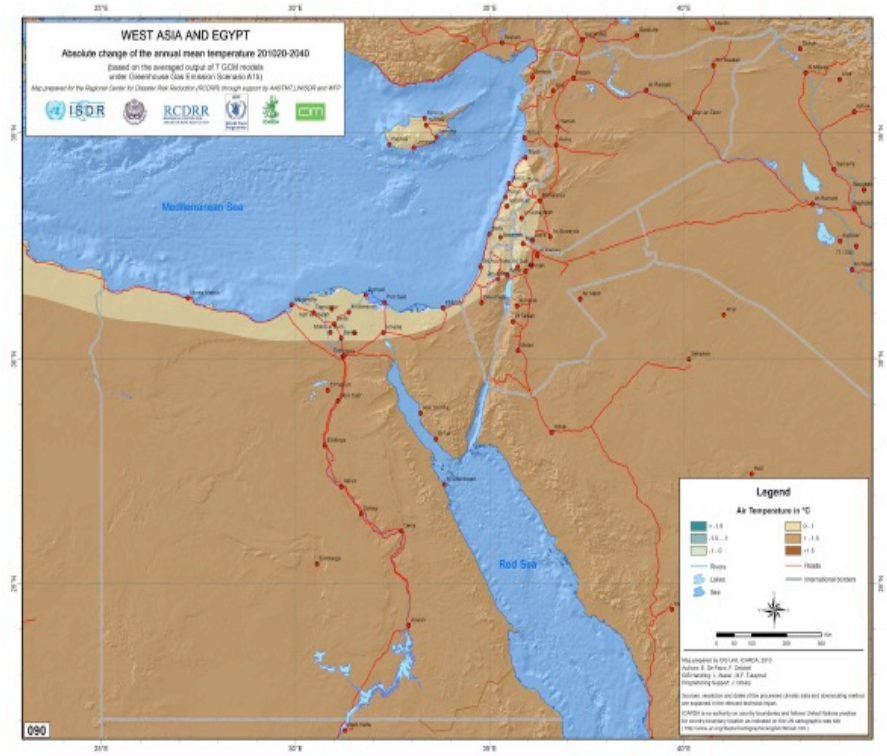



Table 1- expected change in Crop Yield by 2060

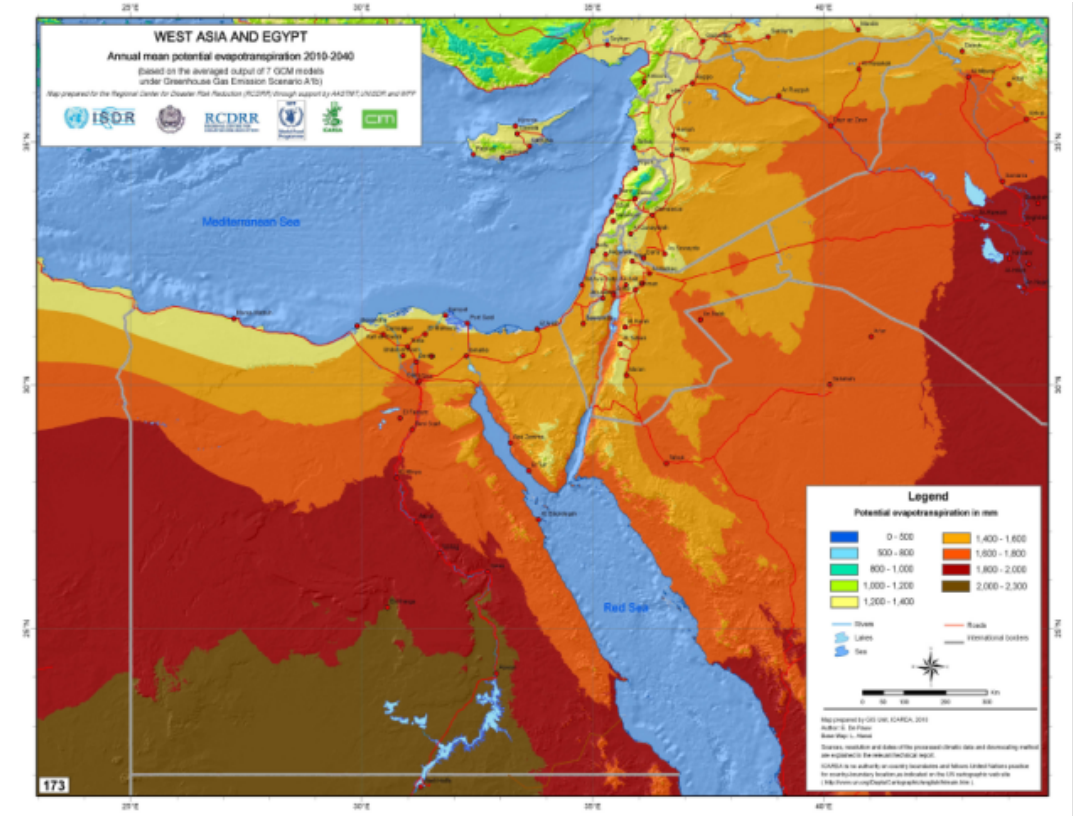
| Crop | % change in yield in 2060 due to Climate Change |
|---|---|
| Wheat | -19.2 |
| Maize | -15.2 |
| Clover | -15.2 |
| Vegetables | -28 |

*Stress in water resources:*

Climate change is expected to increase stress on water resources in Southern Egypt's.

Projected temperature rise is likely to increase crop-water requirements and decrease crop water use efficiency. In this regard, crop water requirements of strategic crops of the area are expected to increase from 6 to16 percent at temperatures increases of 2 and 4 degrees respectively. As depicted in the map below (Figure 3), Southern Egypt is also prone to more (200-400 mm) evapotranspiration than elsewhere in the country by 2040, posing more demand for water resources in the zone.

Figure 3: Evapotranspiration Rates (2010-2040)




Furrow irrigation is the most practiced means of irrigation in Southern Egypt, which leads to increased water stress. Average water use per acre is 50 cu. m. per day, which is high. Furthermore, most farmers engaged in the consultations done for this project indicated that they experienced problems such as

logging and leaching in mud canal, leading to insufficiency of water resources that affects crop productivity. Farmers downstream the irrigation canals are particularly affected, finding increasing difficulties with regards to water availability.

*Rising crop pests and disease levels:*

Higher temperature results in rising crop pest levels that negatively affect crop productivity. During consultations, farmers reported that *Tuta absoluta* appeared in recent years. This is supported by research on this topic, indicating that the spread of *Tuta absoluta* is linked closely to temperature rise, where the incidence of this infestation is expected to be higher in warmer months compared to relatively cooler months.

Downy mildew infestation was also reported to be more severe by the farmers in focus groups. Wheat leaf rust and stripe rust disease are also increasing due to rising temperature.

*Increasing intensity and frequency of Extreme Weather Events:*

Farmers engaged in the consultations for this project indicated they are already witnessing such extreme weather events. During the winter seasons of 2016/2017 and 2017/2018 the temperature rose unexpectedly and led to a reduction in wheat productivity by about 40%. Likewise, in 2013/2014 and 2015/2016 seasons, a sudden rise of 5-7$^{o}$C inflicted losses of 25-30% in maize.

*Reduced livestock productivity:*

Blue Tongue disease and Rift Valley Fever, have increased in Southern Egypt, with links made to climate temperature rise. The International Union For Conservation Of Nature – Regional Office For West Asia reported similar findings, attributing harmful stress impacts on animals' productivity to temperature increases. In the field, farmers engaged in the consultations mentioned that "fever outbreaks in cattle spread recently in their villages'. Likewise, women complained about that their poultry chicks die because of their low tolerance to hot weather. Similarly, studies indicate that high temperatures increase mortality rates of laying hens, while reducing the number and quality of their eggs. Increases of 1-2 degrees have also been reported to reduce metabolic and growth rates as well as evidently reducing birds' reproduction rates due to semen characteristics and retardation of testicular development.

Fodder availability is expected to be negatively affected due to adverse impacts of climate change on its productivity rates. Farmers expressed their dissatisfaction due to stunted growth of clover subjected to cold waves at early stages.

In conclusion, increases in temperatures subjects Southern Egypt to a minimum of 30 percent reduction in its food production by 2040 as a result of climate variability impacts, including losses due to extreme weather events, reduced crop and livestock productivity, increasing crop-water demand and reduced water use efficiency, increase in pest and disease infestations, etc. This will compound its already economically stressed and food –insecure state of the vulnerable smallholders of the area and their households.

In addition to the above, some barriers limit the ability of communities in Southern Egypt to adapt to climate change. Smallholders of Southern Egypt have limited access to means such as diversified livelihood opportunities, financial and technical support and knowhow of loss reduction, where their losses in main crops such as wheat are recorded to reach up to 15%[22]. Further, their access to value addition techniques and market links that can improve their income generating capacity is very poor[23].

[22] Meeting with Prof Mories Twaflos, Head of Wheat Sector, Egyptian Agriculture Research Center, November 2017
[23] National Agriculture Strategy 2030

They are also prone to external factors such as sharp rises in prices of agricultural inputs, decline in prices of their produce.

While farmers are already hit by climate change and are in need for techniques that would help them to adapt, their limited financial capacities and access to technical support limits their ability to try out such techniques and bear risks that such techniques might bring about.

There are other institutional barriers that currently impede wide spread of adaptation within Southern Egypt. Among those is the limited capacity of civil society organizations at local level. While these organizations have a very important role in anchoring and sustaining adaptation interventions within communities, capacities of these organizations in most cases is not strong enough for them to undertake the responsibilities of this role.

Despite this Governmental recognition and demands among farmers for replication, several financial developments currently impede the wide dissemination of several of the interventions by the Government throughout Southern Egypt. On one hand, and following the floating of the Egyptian pound in 2016, the Government's ability to allocate funds to support smallholders in adapting to climate change is limited by increasing pressures on importing food and non-food commodities, a fiscal deficit of US$17.7 billion, an external debt of US$67.3 billion and an internal debt of US$166 billion[24]. In light of such a financial situation, the government was able to allocate only US$298 million dollars to the agricultural sector in the 2017-2018 budget. Of this, 96.6% is already directed to the purchase of staple crops namely wheat, sugar cane and maize from farmers. The remaining 3.4% is pegged to land reclamation, research, extension and vet services. This narrow fiscal space does not allow the government to invest heavily in replicating or upscaling adaptation interventions. On the other hand, the project interventions are replicated by farmers that see the positive results. This naturally limits replication to only neighboring villages, where for each of the project villages, farmers from 1-2 neighboring villages would hear of the interventions and have the financial capacity to visit and discuss with their peers in the project villages.

## *D. Climate Adaptation in Southern Egypt*

The Ministry of Agriculture and Land Reclamation (MALR) started its response to climate impacts on agriculture and livelihoods of Upper Egypt in 2013 through the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project. Funded by the Adaptation Fund, this project is implemented by the Government of Egypt in collaboration with the World Food Programme and aims to improve the adaptive capacity of the Southern zone (5 governorates) in the face of climate-induced reduction in food production. This project is to be completed in April 2020.

The 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project proved to be a highly successful model for the support of vulnerable villages in Upper Egypt. First of all, it is considered by the Government of Egypt as a major contribution to its efforts to build smallholders resilience to climate change. The Government is also integrating the project interventions as key pillars of the updated National Climate Change Adaptation Plan that is currently being developed. Secondly, the project external mid-term evaluation ranked it as 'Highly Satisfactory'.

Adoption by farmers was another indicator of success. At the onset of the project in 2013, farmers were reluctant to participate in the different activities. This resistance to change was transformed into

[24] 2017-2018 State Budget, Ministry of Finance.

keenness to participate when farmers witnessed the concrete and substantial results achieved. This eventually led to a rapid surge in numbers of farmers requesting to be engaged in project activities.

The Adaptation Fund recognized the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project as one of its groundbreaking efforts in building climate resilience of vulnerable groups worldwide. In April 2017, the Fund fielded a portfolio monitoring mission to the project. The Fund's decision to select this project for the mission came for a number of reasons including that it would:

- help learn from several adaptation options in response to climate threats affecting water management and agricultural production in drylands;
- help learn from successful awareness raising strategies, participatory approaches to adaptation and community ownership;
- allow drawing lessons from the project's approach to gender-related issues

Further, and in recognition of the project as one of its successful models, the Adaptation Fund featured an article about the project in its 10th Anniversary publication.

Within WFP, the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project is recognized as a model from which several best practices and lessons learnt were drawn to guide design and implementation of climate resilience activities globally. For example, the project's model of stakeholders engagement and ownership building was documented by WFP through a global initiative called C-ADAPT, focusing on identifying best practices of climate adaptation in the food security and agriculture sector. Success stories from the project beneficiaries and activities were also featured on WFP knowledge platforms such as the WFP website and WFP social media channels, while the Egypt Country office was invited to share experiences from the project and, guide other Country offices and provide inputs in corporate knowledge products and strategies on resilience building on several occasions.

# 2. PROJECT / PROGRAMME OBJECTIVES:

In order to address the barriers mentioned above, the overall objective of this project is to build resilience of Southern Egypt farming communities in the face of climate change and variability risks to food security. The project will, in line with the results of the Adaptation Fund (as highlighted in section III F below), help vulnerable communities to increase their adaptive capacity by promoting solutions to 1) increase productivity of their staple crops such as wheat and maize; 2) diversify their production through intercropping, animal and fish production and agro-processing; 3) increase production through protected agriculture; 4) support the management of their water resources through low-cost water saving techniques and 5) loss reduction in extreme weather events through early warning. The project will also build institutional capacities of the diversified stakeholders engaged in climate resilience building to upscale and sustain the different solutions introduced by the project.

Building on the success of the project 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region', this proposal comes as a second phase that will further extend climate resilience among vulnerable smallholders' communities in the region. In this regard it will replicate interventions that have proven successful in building climate resilience in 15 new villages throughout the Governorates of

Southern Egypt, namely Assuit, Sohag, Qena, Luxor and Aswan. The target villages will be selected in districts not covered by Phase 1, this will widen the outreach and allow for further replication increasing the impact potential of the intervention.

The project will also leverage the trust and capacities that phase one has managed to introduce new adaptation interventions that would widen the scope of resilience and contribute to strengthened adaptive capacity within the zone. These include intensifying production through plastic-covered tunnels and diversifying production through introduction of aquaculture that will be introduced in both the old villages covered under phase 1 as well as new villages where the phase 2 is going to expand to.

In parallel, the project would generate more knowledge, document new lessons learnt and best practices on climate resilience building and enhancing food security of vulnerable communities in the face of climate threats that would be added to those achieved under phase 1. This will further sustain replication in the region and ensure sustainability of the intervention in the long run.

Overall, the project is expected to reach 33,850 men and 32,700 women beneficiaries. Numbers of beneficiaries for the different outputs (estimated based on the average population, number of smallholders and landholdings in the project villages and considering figures achieved under phase 1 i.e. realistic figures that ensure achievability) is in annex 1.

To fulfil the objectives, the project will have two components as follows:
**Component 1. Enhancing Resilience of Southern Egypt Communities**

Through this component, the project aims to enhance the adaptive capacity of communities in Southern Egypt through technology transfer. Activities under this component will include replication of proven interventions and introduction of new interventions that would further enhance climate resilience.

**Component 2. Building institutional capacity for replication**

Through this component the project aims to build institutional capacities of the diversified stakeholders engaged in climate resilience building to upscale and sustain the different activities introduced under component 1.

# 3. PROJECT / PROGRAMME COMPONENTS AND FINANCING:

Table 2. Project components and financing

| Project/Programme Components | Expected Concrete Outputs | Expected Outcomes | Amount (US$) |
|---|---|---|---|
| **1. Enhancing Resilience of Southern Egypt Communities** | 1.1. Community mobilization and planning | Enhanced resilience of target rural communities in Southern Egypt inf the face of anticipated climate-impacts on food production through knowledge and technology transfer | **135,000** |
| | 1.2. Climate Information Centers and early warning system established | | **100,000** |
| | 1.3. Introduction and use of water saving irrigation | | **916,228** |
| | 1.4. Water-saving techniques are introduced and used | | **652,186** |
| | 1.5. Livelihood diversification is supported through animal production | | **225,000** |
| | 1.6. Intensified Horticulture Production | | **205,000** |
| | 1.7. Introduction of aquaculture production | | **252,186** |
| **2. Institutional capacity building for replication** | 2.1. Capacity building of governmental staff and local academic institutions | Climate adaptation institutionalised in government and non-governmental stakeholders' practices | **75,000** |
| | 2.2. lessons learned, and best practices documented and disseminated | | **45,000** |
| 6. Project/Programme Execution cost | | | **246,900** |
| 7. Total Project/Programme Cost | | | **2,852,500** |
| 8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) | | | **242,462** |
| **Amount of Financing Requested** | | | **3,094,962** |

# 4. PROJECTED CALENDAR:

Table 3. Project Milestones

| Milestones | Expected Dates |
|---|---|
| Start of Project/Programme Implementation | July 2020 |
| Mid-term Review (if planned) | N/A |
| Project/Programme Closing | June 2023 |
| Terminal Evaluation | October 2023 |

## PART II: PROJECT / PROGRAMME JUSTIFICATION

**A.** Describe the project / programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

The proposed project will enhance climate resilience in the Southern governorates of Aswan, Luxor, Sohag, Assuit and Qena. Building on the success achieved by the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region" project, the proposed initiative will upscale interventions that have proven successful in building climate resilience in additional 15 villages throughout the five governorates. It will also leverage the trust and capacities that the current project has managed to build over time to introduce new adaptation interventions that would widen the scope of resilience and contribute to strengthened adaptive capacity within the zone. In parallel, it would generate knowledge, document lessons learnt and best practices on climate resilience building and enhancing food security of vulnerable communities in the face of climate threats.

### *Component 1.*

Interventions to be implemented under Component 1 are A) a replication of successful adaptation interventions undertaken under phase 1 of the "*Building Resilient Food Security Systems to Benefit the Southern Egypt Region*" in new communities and B) introduction of new adaptation interventions in the old communities of phase 1 as well as new communities to be reached by phase 2.

In 2013, the *"Building Resilient Food Security Systems to Benefit the Southern Egypt Region"* started its activities in 14 villages in the Governorates of Luxor, Aswan Sohag and Assuit and Qena. Most farmers in these villages are smallholders that relied heavily on little income generated from longstanding agricultural practices. Fear of loss at the end of the season made them reluctant to shift to practices that they have not applied before. Even if these practices would generate more income, their stressed financial capacities limited their abilities to bear risks that new practices might bring about. To overcome this, the project started by demonstrating the positive results of the different interventions during the first year. These results, along with the accumulating experiences, enabled the project to attract increasing numbers of farmers within the 14 villages, by the end of the second year, expand to new

villages. By the end of 2018, the project reached 49 villages. Within the different villages, many of the interventions of the project are being replicated by new farmers with their own resources.

Under the proposed phase 2, this component will leverage the "*Building Resilient Food Security Systems to Benefit the Southern Egypt Region"* project experiences and proven interventions to extend climate resilience to additional villages in the Southern zone. It will replicate these successful interventions in 15 new villages, 3 in each of the 5 Governorates of the zone. In line with the objective of widening the geographical outreach, these villages will be in districts where phase one has not reached. Within these districts, the villages will be identified based on economic vulnerability[25]. This component will also introduce new interventions namely aquaculture and intensified crop production to help the smallholders diversify and increase their production to be able to better face anticipated reductions in their production due to climate change.

Component 1 shall have the following outputs:

**<u>Output 1.1</u> Community mobilization and planning**

This output aims to mobilize communities and raise awareness about the project and climate change as an issue that can be adapted to. In villages already targeted by the "*Building Resilient Food Security Systems to Benefit the Southern Egypt*" project phase 1, it will be attracting beneficiaries to new interventions introduced under this project. In new villages, it will raise awareness about climate change and how interventions that proved successful under the phase 1 project could help them also adapt to climate-induced impacts on their production and livelihoods. As of the second year for the project in each village, when enough trust in these interventions has been built, new interventions that have not been introduced under the previous phase will also be introduced. These interventions will also be preceded with community mobilization to raise awareness of their expected results. Activities undertaken under this output will be implemented in partnership with local partner Non-Governmental Organizations (NGOs)[26].

Activities under this output will include:

**Activity 1.1.1 Inception and annual project workshops**. An inauguration workshop will be organized at the startup of the project. Similar gatherings will be organized annually thereafter. These events will add representatives from the new phase villages to the network of practitioners comprised of community members, partner NGO representatives, governmental officials and technical experts created under the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project. Such a network has been and will continue to be a good platform for sharing experiences across the governorates as well as discussing challenges, highlighting success stories and providing technical and managerial support as needed. Its discussions will shape the project interventions in the upcoming year. Equally important, it will create sustainable working relationships that would help these key players maintain

[25] Data on climate is available only at the Governorate level, thus climate vulnerability cannot be used as criteria for selection at sub-governorate levels (districts or villages). Income Poverty data from the 2015 National Household Income, Expenditure and Consumption Survey and 2017 National Census shall be used to identify the poorest three villages in each district. Viability of operating in the village will be validated by visits and if needed, a village will be changed with the next ranking village on the poverty list.

[26] Local NGOs (also referred to as NGOs) are small-scale local organizations established and managed by community members to develop their communities. They are registered and supervised by the Ministry of Social Solidarity in accordance to the National law for NGOs.

and further develop the activities in the future. For a gender balance, women will be particularly encouraged to participate.

**Activity 1.1.2. Awareness raising sessions.** The project shall organize awareness sessions in the different new villages, with an average audience of 35 persons per session. As women in rural areas tend to shy away from mingling with males, only 20-30% of the participants in mixed sessions are expected to be females. To encourage further participation, several of these sessions will be designated only for females. Experts will be invited to talk about climate change, how it impacts livelihoods and possible solutions for adaptation. Farmers from Phase 1 of the project will also share their experiences with the different adaptation solutions they have practiced, highlighting how they have concretely benefitted from these solutions. In addition, the project will be introduced and its objective, expected outputs, activities, and modus operandi explained.

**Activity 1.1.3. Home visits**. To maximize outreach, particularly among women, home visits shall be conducted. The visits will focus on discussions on how climate change is affecting the household income, present project adaptation solutions and explain how these solutions contribute to resilience building. The project objectives, activities, expected outcomes and target beneficiaries will be explained. The visits will be undertaken by female volunteers under the oversight of the local partner NGOs to ease access to houses and encourage beneficiaries to talk openly.

**Activity 1.1.4. Contests**. Contests of art, poetry and story writing will be organized to target, primarily, youth members of the community. As means to raise awareness, these contests will be around climate change as a global phenomenon, its impacts on agriculture and livelihoods of smallholder farmers, adaptation solutions and how they contribute to resilience building, etc.

**Activity 1.1.5 Deployment of Volunteers**. Volunteers from each project location will be selected and trained to, under the partner NGO, raise awareness about climate change and variability and impacts on agriculture, and education of communities on potential preparedness techniques in agriculture and livestock.

**<u>Output 1.2</u> Climate Information Centers and early warning system established**

This output will build on the expertise of Phase 1 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project to extend climate information centers to new villages. As in the villages of Phase 1, these centers will give information on climate impacts on agriculture, adaptation techniques, provide resource materials and link the farmers and women to technical expertise. They will also provide early warning messages to help farmers reduce losses in cases of foreseen extreme weather spells. To do so activities of output 1.2 are:

**Activity 1.2.1 Establishing and equipping climate information centers in local partner NGOs**. Climate information Centers will be established in space allocated by the partner NGOs in the project villages. Such space would usually be one-two rooms of average area 12-15 $m^2$ each within the NGO premises. Once allocated, the project provides furniture and IT equipment for operationalization. The project will provide knowledge products such as publications, audiovisual materials, best practices etc. for populating a resources section. Such material will be compiled from different research centers,

academic institutions, as well as material compiled and/or generated by Phase 1. Such materials are developed in the styles preferred by the different beneficiary groups.

**Activity 1.2.2 Training NGO staff/Volunteers to operate the Centers**. In each NGO, the project will train two staff members/volunteers on how to operate the early warning online system to be developed under activity 1.2.3 mentioned below. They will also be trained in communication skills to enhance their ability to receive and communicate messages from and to the farmers and other project stakeholders. They will be connected to technical experts in the different Cairo-based research institutions so as to enable linkages between the farmers and such resources persons as needed. Engagement of women as members will be encouraged.

**Activity 1.2.3 Use of Early warning system**. An online system to provide 5 days weather forecasts with recommendations of what to do to reduce losses in cases of foreseen extreme weather events for the main crops of the area was developed in collaboration with the Egyptian Metrology Authority under Phase 1. It has been very successful in supporting farmers of Southern Egypt reduce losses of 6 crops, namely wheat, maize, sorghum, grapes, sugar cane and tomatoes. Additional crops will be added to the system in Phase 2, in particular major fruits and vegetables that will be identified under activity 2.1. of this project, as well as the introduction of the online-system and its android version in the new villages.

Dissemination of the messages will be done by local NGO partners through various techniques that have proved very successful, including:

1) loud speakers installed on the climate information centers or on mobile tricycles and use of the microphones in the mosque and churches of the villages for mass verbal relay of the messages,

2) sign boards to be hung out in visible areas in the villages, and

3) issuance of an android version of the system, enabling farmers and extension workers to access it through smart phones at no cost.

MALR, in collaboration with the Egyptian Metrological Authority, is to maintain and operate the system after the project end.

**Output 1.3. Water-saving techniques are introduced and used.** This output aims to extend enhanced efficiency of irrigation water usage to new villages. It is comprised of a set of hard as well as soft interventions that helped farmers of Phase 1 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project to reduce their water consumption in irrigating their crops. Activities of this output include:

**Activity 1.3.1.: Establishment of Water Users Associations.** Farmers sharing the same Mesqa and Merwa (small-scale on-farm tertiary earth irrigation canals with 50-60 cm width, 40-70 cm height and 20-40 meters length) will be organized to create a water user association that would allow them to collectively manage their water. With an average composition of 70 farmers, 15 associations will be established, serving an area of 50 acres each. For a legal status, they will be established as committees in the local partner NGOs. As proven by phase 1, this set-up will also allow them to benefit from the supervision and support of their host NGOs, which sustainably enhances their ability to support the farmers in enhancing irrigation efficiency.

**Activity 1.3.2 Introduction of low-cost irrigation improvement techniques.** Physical techniques such as laser leveling of the soil will be introduced, serving 2000 acres and around 4,000 participants in 15 new communities. This technique increases irrigation efficiency by smoothing irregularities that clog water in the soil surface. Leveling machinery will be rented by the hour from local service providers. Canal lining and sloping will also be introduced, where the mud mesqa or merwa will be lined with a smooth-surfaced cement lining to reduce side seepage and water consuming weeds growth. This also smoothens water flow, reducing pumping hours and associated diesel costs and facilitating better access of downstream plots of land to the water. Solar pumps -without batteries- will also be introduced for pumping during early morning hours (5-10 am) to reduce the costs (around L.E 5 per cubic meter pumped water) and environmental implications of the currently used diesel-operated pumping. For maintenance, the local NGOs contract local maintenance companies who undertake regular maintenance as well as trouble shooting and fixing of malfunctions. Each WUA will establish and manage a fund to collect a fee from its farmers against their water usage. This fee will be L.E. 2-3/ cubic meter (equivalent to USD 0.12-0.18 per cubic meter). The collected fee amount will be used to cover maintenance expenditures (the fee amount was calculated so as to cover the max expenditures farmers will face for maintenance). The famers will also be trained on basic maintenance activities. Soft techniques will also be promoted, where new irrigation schedules will be introduced and managed by the farmers who share the same mesqas.

**<u>Output 1.4</u> Adaptation in cultivation and crop diversification are promoted**

This output aims to support climate adaptation in crop production. It introduces more tolerant varieties, intercropping to spread risk among multiple crops, improved agricultural techniques to optimize resource use, value addition and better linkages to markets for enhancing incomes from land cultivation. Activities of this output include:

**Activity 1.4.1. Introduction of heat tolerant varieties**. Use of heat tolerant varieties of the main crops of Southern Egypt, namely wheat, maize, and tomatoes will be extended to new villages. The seeds used are domestically developed through cross breeding programmes of the Agricultural Research Center and certified by the Ministry of Agriculture.

**Activity 1.4.2. Introduction of improved agriculture techniques**. New agricultural techniques will be introduced to help 4000 farmers increase their productivity and reduce their production costs. Among these are:

- The changing of the sowing dates, where for example a delay of 10 days in sowing of wheat will decrease the probability of exposure to extreme weather spells during early stages of plant growth, when it is highly weak;
- Raised bed cultivation that has proven to reduce seed, water, and fertilizer usage by 25-30%, while increasing the productivity by 40% as compared to traditional cultivation;
- Scientifically guided intercropping will also be introduced to help farmers select two compatible crops and guide their simultaneous cultivation;
- Land Holding consolidation to overcome land fragmentation problems. Farmers consolidating their land under phase 1 of the 'Building Resilient Food Security Systems to benefit the Southern Egypt Region' project reported increases of up to 30% in their incomes due to additional land being cultivated and economies of scale being realized when smallholder farmers collaborate in procurement, cultivation, and marketing. Steps for land consolidation will include:
    - Marking borders of original plots of land (land delimitation) ;
    - Conducting soil analysis/testing to determine characteristics and productivity of each plot;

- Signing bilateral contracts between the farmers and the project;
- Applying agricultural mechanization, procuring seeds, cultivating the same cropping pattern throughout the consolidated area, applying the same treatments.

The project will cover all costs in the first season. In the second season, farmers will cover 50% of implementation costs. In the third season farmers will cover 75% of farm production costs, and ultimately, in the fourth season, the farmers will bear all the costs.

The above techniques will be introduced through the establishment of demonstration fields, extension services and farm-to-farm visits. Elements of Integrated Pest Management (IPM) are included in the recommendations given through these extension techniques.

**Activity 1.4.3. Enhancing incomes from non-staple crops**. Cultivation of non-staple high value crops with established demand and high selling (medicinal and aromatic plants) will be introduced through 1) intercropping with the traditionally grown staples or 2) cultivation in inter-seasonal periods. Seeds for these models will be obtained from the relevant institution in the Agriculture Research Center or private sector according to availability throughout the different sowing seasons of the project. Simple agro-processing units, such as sun-bed drying units or peeling units will be provided and market linkages established to enhance the income generated from these crops. Women will be particularly targeted in the agro-processing parts of this activity, where their participation is culturally accepted.

**<u>Output 1.5</u> Livelihood diversification is supported through animal production**
This output aims to build smallholders resilience by supporting animal production as a means for diversifying livelihoods. For integrated support in this area, activities of this output will be:

**Activity 1.5.1 Establishing schemes for revolving loans with a focus on women**. As traditions in Southern Egypt allow for women to be the keepers of the household animals, women will be particularly targeted in this activity to ensure gender balance in the overall project beneficiaries. Animal revolving schemes will be established to provide an in-kind loan of goats, bee hives, or ducks to women beneficiaries. Based on previous experience from Phase 1, the loan size is expected to range from US$ 60 (for ducks loan) to UD$ 450 (for goats loan). The schemes are to be managed by the local partner NGOs, upon establishment of a loan's unit comprised of a loans' coordinator and a loans accountant in each NGO. Agreements will be signed between the NGOs and beneficiaries mandating them to repay their loans with an interest rate of 5% in installments. By the end of each loan, the NGO would be able to establish a new loan to another beneficiary. Funds accrued from the interest will be used to cover the salaries of the lending unit staff and its operational costs. Newly hired staff of the lending units will be trained in microloans targeting, management and book keeping for efficient operations of the lending schemes. To cover for defaults, 2% of the accrued interest value is deposited in a risk fund managed by the NGO. In case the default is due to a force majeure, the defaulter is exempted for remaining repayments. If the default is a result of any liability of the beneficiary, the NGO takes legal action. Experience from Phase 1 proved this to be a very successful and highly desirable activity. Overall around 5% had some delays in their repayments, and legal action was needed with only 30 of the 18,000 women receiving loans.

**Activity 1.5.2 Training and Technical Support** To reduce default rates, potential beneficiaries will be trained on animal keeping including optimal fattening techniques and health care recommendations as well as project management, costing and revenue calculations. Technical support and backstopping will

also be provided to the NGOs and beneficiaries through the Agriculture Research Center. As this complements the animal lending loans, women will be the primary target of this activity as well.

**Activity 1.5.3 Production of alternative livestock fodder.** One of the limiting factors in raising animals in Southern Egypt is the high cost of fodder. Traditionally, livestock feed is composed of clover to which hay and protein concentrate (in the form of maize, and minerals) is added, bringing the cost to L.E. 28.5 or USD 4.75/cattle head/day. This is unattainable for smallholders in rural Upper Egypt. The project will use agricultural waste as a main constituent, upon supplementation with low-cost additives (molasses and bran) for improvement of its nutritional value in animal fodder. The cost of preparing the mix is estimated at L.E. 250/ton (equivalent to USD 14.7/ton) A daily intake of 2 kg will reduce an animal's need of traditional fodder by 30%, increase profitability for smallholders, reduce the demand for berseem and maize, consequently availing its cultivation land and water for other crops and contributing to relieving climate-induced pressures on resources. The technique will also utilize agricultural waste that would otherwise be disposed of by burning.

The project will train beneficiaries in order to disseminate the use of the new animal fodder among farmers in the project villages. Awareness material will be prepared, and awareness campaigns organized including demonstrations where farmers will be trained on how to prepare the fodder.

**Output 1.6 Intensified Horticulture Production**. Production of fruits and vegetables will be promoted through the introduction of protected agriculture (plastic-covered tunnels). While farmers will continue to grow their staple crop in winter (wheat) as they use the bulk of it for subsistence, small-scale plastic-covered tunnels will be introduced to grow additional crops such as cucumber, bell and chili peppers, eggplant, strawberries and tomatoes in small areas in parallel. Activities under Output 1.6 include:

**Activity 1.6.1 Provision of small-scale plastic-covered tunnels.** Thirty small-scale plastic-covered tunnels will be provided to support farmers increase their production and revenue from agriculture through cultivation of non-traditional cash crops that they normally do not grow. To maximize benefits, this will be done in parallel to their cultivation of traditional crops. Plastic-covered tunnels with dimensions of 4m *20m will be provided for farmers to grow cash crops in small areas that they can feasibly allocate from the bulk of their lands, that they use for cultivation of traditional crops. As plastic-covered tunnels will not be needed in the high temperatures of the summer season of Southern Egypt, the units provided will be removed to allow farmers to use them during the period October- May and remove them when not needed (between June and September). The tunnels will include the use of drip-irrigation for enhanced water management. To promote the adoption by the farmers, these tunnels will be established using easily accessible and affordable materials. Like in the other interventions, the cost benefits of these units will be visibly disseminated in the villages. Seeing these benefits, increasing numbers of farmers adopt these units at their own costs.

**Activity 1.6.2 Build capacity in protected production** Farmers will be trained on how to operate and maintain plastic-covered tunnels for optimal production. Trainings will cover the selection of crops to grow, fertilization and irrigation schedules, maintenance of the tunnel structure and components, elements of IPM, etc. It is customary that women participate in harvesting of vegetables among smallholders' households. Men and women will be trained on good agricultural practices in harvesting of vegetables.

**Activity 1.6.3 Capacitating local partner NGOs to manage produce**. Capacities of local partner NGOs will be built to manage the increased produce of the farmers from their plastic-covered tunnels. As done in

Phase 1, Phase 2 of the project will establish simple agro-processing units that will be operated by the partner NGOs, after receipt of necessary capacity building support. The units will include sun-bed drying to absorb produce such as tomatoes, pickling for pepper, aubergine, lemon and cucumber and preserving for strawberries, etc. The NGOs will also be capacitated in wholesale management, where they will collect quantities in bulk from the farmers and manage its transfer and marketing in governorate wholesale markets and/or exporters on their behalf against a share in the profit. This set-up is designed to ensure multi-benefits including 1) collection of large quantities to maximize marketability and profit that would not be leveraged if beneficiaries are to manage their produce individually and 2) offering the local NGOs an opportunity to generate an income through collection of a nominal fee against this marketing service they offer to the farmers. This moderate income will allow the NGO, as a non-profit civil society community support organization, to sustainably provide this service, as well as other services that could help its community.

**Output 1.7 Introduction of aquaculture production**

Farmers of Southern Egypt depend almost exclusively on crop production for a living. Phase 1 of the "*Building Resilient Food Security Systems to Benefit the Southern Egypt Region*" project has successfully reduced this dependence through animal production lending schemes that helped households to diversify their production and sources of income. Under these schemes, farmers' production was widened to include goats, ducks and bee keeping. Phase 2 will build on this to further diversify farmers' production to include fish. To this end, small-scale fish farming (aquaculture) will be introduced along with value addition through processing.

Several assessments by the Ministry of Irrigation show that groundwater is available at shallow depths ranging between 60-100 m in the project area[27]. In spite of the availability of groundwater in this area, meetings with government officials and community members in the project design phase established that generally groundwater is not used in Southern Egypt. Instead, this region of the country covers almost all of its water demands from surface water (the Nile).

The project will only take advantage of the unutilized groundwater resources of the region when surface water is not available in the specific area. This will only be done in a sustainable manner, and the groundwater extraction rate will therefore be determined following an on-site geophysical assessment so as to avoid long-term depletion by over-pumping. These assessments will be undertaken with technical expertise from nationally accredited consultancy companies or academic institutions and will receive a license from the Ministry of Irrigation.

The project will introduce the new productive activity (aquaculture) to support the vulnerable rural communities that depend almost entirely on surface-irrigated crop cultivation that is facing reductions from the climate impacts, with this alternative food and income-generation opportunity. The household units will be closed systems where the effluent (200L-400L/month) will be used in home gardening. The nutrient rich water discharged as output from the communal units will be used for crop production, maximizing outputs of water used in the system.

The quantities of water required in both the household units as well as the communal ones are not of much significance compared to traditional agriculture. Thus aquaculture is way less sensitive to water scarcity and flow fluctuations than water-intensive activities such as crop production.

[27] Interview with Eng Saleh Mohamed El Boghdadi, Director of Irrigation , Luxor, 15 February 2020

It is noteworthy that fish production increases with increasing temperatures due to higher metabolism rates. Thus on the long-term, the anticipated temperature rises in the project areas will increase the benefits from these aquaculture units.

Activities of Output 1.7 will include:

**Activity 1.7.1 Design and implementation of integrated pilots for aquaculture fish ponds.** Integrated small-scale pilots that supports the cultivation of traditional fresh-water fish as well as the introduction of salinity-tolerant low-cost indigenous species and their processing into palatable forms will be designed and implemented. The pilot will rent land plots of 2-5 feddans in village uncultivated fringes to in each governorate to establish demonstration pilot pond aquaculture, one in each governorate. Locations of the ponds will be determined to ensure continuous availability of water, which will be obtained from the main canals (primary) passing by the fringes of the villages or from groundwater. In cases of groundwater, the design will determine the inflow so as to ensure that overexploitation of the groundwater table (excessive withdrawal) does not occur. In addition to these ponds, small-scale units will be introduced for production at household level. The types of fish and the design of the units to be provided will be set out by the concerned authority of the Agriculture research center or local universities and will ensure environmental compliance with AF and national environmental regulations following an Environmental Management plan to be done for each pond. The feed and fingerlings and equipment will be provided with ease of access and affordability by beneficiaries taken in account. Oxygenation will be ensured through air pumping and the nutrient-rich effluent from these ponds will be used in cultivating adjacent areas of land, further enhancing the productive capacity and the utilization of natural resources in the villages. These pilots will be used to disseminate the models among rural men and women in other parts of the Governorates through demonstration days. During these days, participants will be oriented with the benefits and means of operation and maintenance of fish farms. Five field days will be implemented each season (8 months period) in each of the demonstration pilots. Each day will bring 15 farmers and 5-10 local NGO members from all districts of the governorate. Operation of these units will create employment opportunities for youth (men and women) in surrounding communities.

**Activity 1.7.2 Building capacities of local partner NGOs and beneficiaries in aquaculture**. The project shall build the capacities of local partner NGOs to establish and manage 1) village-wide aquacultures as community productive assets in the village fringes and 2) revolving fund portfolios that would offer in-kind loans for establishment of individual household fish farming units. In addition to the development of their skills in project and lending management, the project will train the NGOs on how to operate the units including how to purchase the fingerlings, recommendations for feeding and water quality control, temperature control, etc. for optimal production. Trainings on the use of technologies for the use of residual parts of the fish (bones, head and tail) in producing fish meals will also be undertaken. Potential Beneficiaries will also receive similar training. In addition, the project will facilitate continuous access to technical expertise and backstopping for the NGO and the beneficiaries for suitability.

**Activity 1.7.3 Design of a revolving fund scheme for aquaculture.** A scheme to provide loans for small-scale low-technology fish processing means for community members will be designed and operated. In addition, loans will be offered for small fish farming units at the household level. In areas where environmentally compliant water courses exist, loans will also be issued for low-cost aquaculture units. The loans are to be managed by the local NGOs whose capacity has been build. To maximize benefits at the household level, a gender-considerate portfolio will be generated through focus on women beneficiaries.

## *Component 2.*

Component 2 aims to build capacities and disseminate lessons learned and best practices generated from component 1 for upscaling and sustaining climate resilience in Southern Egypt. To do so, this component is composed of 3 outputs as follows:

**Output 2.1. Capacity building of governmental staff and local academic institutions.** This output is to build capacities of the government officials engaged in extension services in the villages covered under Phase 2 and local academic institutions to institutionalize the new climate adaptation techniques introduced by the project. Its activities are**:**

**Activity 2.1.1 Building capacity of government officials**. Under Phase 1 capacities of 800 governmental staff engaged in extension services in its districts. Under phase 2, Capacity of 200 additional concerned staff of ministries of Agriculture, Social Solidarity, Education and the Egyptian Metrological Authority engaged in extension services in the new districts at local and sub-national level will be built in knowledge impacts of climate change and adaptation techniques, strategic planning, and effective communication skills. At local level, extension workers will be invited to participate in all the trainings delivered to the farmers and the local NGOs. In addition, they will be getting on-site training through the technical experts that will be visiting the project villages and participating in the different farm visits organized by the project. As part of their capacity strengthening, they will also receive Training of Trainers (TOT) packages that will enhance their ability to replicate the technical trainings they receive and cascade the new technical information they are exposed to. Gender balance in staff participation will be pursued.

**Activity 2.1.2 Widening scope of climate adaptation solutions into university and agricultural secondary school curricula.** This activity is to engage faculty members, teachers and students from the local universities and agricultural secondary schools in the project governorates in climate adaption and small holder farming enhancement. It will introduce new techniques that have not been introduced under phase one in these academic institutions, including building climate resilience in livestock production, use of early warning to reduce losses and improved irrigation, through:

- **Trainings and Field Visits.** Student trainings, particularly during summer vacations, and field visits will be organised to project villages. Training materials and lessons documented under Phase 1 will be used. In addition, materials generated from components 1 and 2 of Phase 2, including those on aquaculture, protected agriculture, animal raising, project and loans management, adaptation in agriculture and irrigation will be used.

- **Engagement in farm activities**. Students will be invited to participate in the extension trainings offered to the farmers in the project villages. They will also be involved in provision of extension services for farmers.

- **Engaging in design and delivery of trainings**. Universities and the research centres of relevance shall be contracted for design and delivery of trainings to be provided to beneficiaries

- **Sharing of knowledge and training materials**. Material generated by the project under component 1 including those on animal raising, loans and project management, adaptation in agriculture and irrigation will be shared with the universities for upgrading of their modules on climate change adaptation.

**Output 2.2 lessons learned, and best practices documented and disseminated**. This output will document and disseminate knowledge and lessons generated through different specialized media channels, with the aim of wide outreach to farmers and rural inhabitants. Its activities will be:

**Activity 2.2.1 Production of knowledge products**. Flyers and brochures that give summary information about implementation approaches, best practice and key lessons learned will be produced. The information will be easy to read and pictorial. The target group of these will be farmers, extension officers, local NGOs, and Government technical staff. Less detailed promotional material that provides a general overview of the project, its components and expected outcomes as well as success stories generated over time will be produced. This will be disseminated among partner agencies, and national local authorities, including local and national political representatives. Documentaries about the project will be produced and disseminated to concerned stakeholders including the governorates, NGOs, the Ministries of Agriculture, Environment, Irrigation, Social Solidarity, Planning and Finance at local and national levels, and members of the development partner group working in Egypt.

**Activity 2.2.2. Sharing project results and lessons learned**. Results and lessons learned generated by the different project activities will be shared to diversified stakeholders though several channels including**:**

- Dissemination through visibility events, use of social media, interviews in media, and presentations in relevant forums
- Visits to be organised by the project to bring relevant officials to the project sites
- Celebrative harvest days where quantification of the amounts produced by the project supported fields visa-a-vis fields not supported will be undertaken to widely disseminate the substantial increase induced by the project interventions among the villages Presentation of project activities in relevant conferences, networks, workshops, and forums on food security, climate adaptation, livelihoods support, agricultural development, etc., at national and sub-national levels
- Presentations to Ministers and senior government officials
- Events organised by the project to have beneficiaries present their experiences to other potential beneficiaries
- Annual workshops that join project actors from community, department, regional and national level to discuss opportunities and constraints, and share experience and learning.
- Integration of reports into ministry of Agriculture and Environment's on-line data base.
- Broadcast of the project documentary on the Egyptian Agricultural Satellite Channel of the Ministry of Agriculture

## B. Describe how the project / programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project / programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy of the Adaptation Fund.

Further to the ESS in annex 4 below, and as concluded from the mid-term review of phase one, discussions with farmers during the consultations as well as follow-up missions undertaken by the project team and WFP during phase one implementation, the project will provide a full range of multiple economic, social and environmental benefits, including the following:

**Economic benefits:**

The interventions implemented under Phase 1 have demonstrated very positive economic benefits for the farmers which will also be reaped for Phase 2 participants. Land consolidation recorded an increase in the cultivated land by 25%, saved 25% in the water consumption, reduced use of inputs (seeds and fertilizers) by 25% and allowed for use of larger-scale machinery for tillage and land levelling. Overall, this increased beneficiaries' productivity by 50% and increased their income by 45%. Lined canals saved 55% in irrigation water consumption and provided water to downstream plots. In addition, diesel fuel and maintenance costs of canals were reduced by 50% and 70% respectively. With a current average irrigation cost of USD 140/acre/season, the project has helped them save a total of USD 44-52 /acre/season.

Intercropping has increased farmers' income by around 60% percent. It allowed farmers to maximize outputs per units of land and water, reducing their production costs and generating revenue from two instead of one crop.

Animal raising loans provided by the project generated a sustainable average household income of USD 29-38 every month. This represented approximately a 30-35% increase in its average monthly income. At the village-level, these loans were proved to have supported the local economy.

Value addition interventions increased the price of produce multi-fold. Sun-bed drying of tomato increased the price of a kilogram from USD 0.02 to 0.12, and peeling doubled the value of pomegranate (USD 88 to USD 176 per ton)[28]. In addition, these units employed women, offering them a monthly income of USD 70.

One of the limiting factors in raising animals in Upper Egypt is the high cost and high-water requirements of fodder. Traditionally, livestock feed is composed of clover to which hay and protein concentrate (in the form of maize, and minerals) is added, bringing the cost to L.E. 28.5 or USD 4.75 /cattle head/day. One of the smallholder's support interventions used agricultural waste as a main constituent, upon supplementation with low-cost additives (molasses and bran) for improvement of its nutritional value in animal fodder. The cost of preparing the mix was in the range of USD 14.7 /ton and a daily intake of 2 kg reduced an animal's need of traditional fodder by some 30%. While this increased profitability for smallholders, it also reduced the demand for berseem (clover) and maize. This consequently reduced the demand for their cultivation water and land.

Overall, similar to Phase 1, the different solutions are expected to generate average increases of around 40% in the annual income on household income. For a household that lives off an annual income as little as USD 283from agriculture (55% of the households in typical village in Upper Egypt), this increase is substantial.

In addition to the economic benefits that phase 2 will generate through the replication of the above interventions, new interventions to be introduced under this phase which are also expected to have similar economic benefits. For example, cost benefit analysis indicate that household aquaculture units will increase household income by around 20%. Likewise, protected agriculture will allow for intensive production of cash crops that would increase income by some 60%.

28 Interview with Eng. Othman El Shaikh, Project Manager of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project, November 2016

**Environmental Benefits:**

Phase 1 of the project has contributed significantly towards enhanced and sustainable management of natural resources, namely land and water. Land consolidation removed barriers between fragmented land plots, increasing land available for cultivation by 20-25%. By simultaneously growing two or more crops, intercropping helped farmers economize the use of water, fertilizer, and pesticides, reducing the negative impacts of their activities on the environment. Without the project, farmers were over-exploiting water and increasing fertilizer usage to enhance productivity. The project's promotion of heat-tolerant varieties, change of sowing date, intercropping and reduced climate-induced productivity losses have reduced such bad practices where a 25-30% reduction in fertilizer and water usage was recorded. Likewise, irrigation rescheduling, and canal lining were recorded to induce a 25-30% reduction in water usage. Early warning reduced losses by 60%, supporting farmers to reduce their fertilizer usage to compensate for losses.

The proposed phase 2 is expected to have similarly positive environmental benefits. On one hand, the replication of the activities under Phase 1 will result in the same positive environmental impacts. On the other hand, the new activities introduced under this phase will also have positive results on the environment. Similar to the different activities that increased production under Phase 1, the green houses will help the farmers to reduce their usage of fertilizes and seeds, with reductions of 50% in comparison with open field production. They will also economize on the use of land and water, with an estimated increase of production of 70% per unit of water and 100% per unit of land[29].

Farmers will be trained on integrated fish-crop production systems thus promoting the re-use of fertilized water from the ponds to irrigate crops such as sugarcane. Besides relieving the pressure on their water resources, this practice will reduce their consumption of chemical fertilizers by making use of the nutrients excreted by the fish. They will also be trained on how to use their agricultural wastes, which they would normally burn, in feeding their fish. Besides the economic savings realized, this practice will reduce air pollution in the area.

**Social Benefits:**

Among the most prominent social benefits of the project's first phase was the change in the dynamics of collaboration among the farmers. Through the water users' associations, farmers were able to cooperate in managing their resources in an effective and sustainable manner that benefited all of them. By allowing water to reach downstream plots, the lined canals were reported to provide equitable access of farmers to water and reduced conflicts over access to water among them. Likewise, consolidation of land brought farmers together to jointly manage their lands, realizing common benefits among themselves. In cases where they had different opinions on operational issues such as the varieties to be used or the sowing dates, they democratically resolved such issues through voting.

In Phase 1, the additional income realized by the smallholders' households helped them in covering expenditures on key social sectors, namely health and education. It also provided a surplus that allowed for the purchase of food commodities that they normally could not afford namely, meat, poultry milk

[29] Interview with Eng. Khaled Abdel Radi, Luxor Director of Agriculture, October 2019

and eggs for their households. This helped some beneficiaries to fulfil other social obligations such as purchase of house appliances for marrying of their daughters or themselves. Others indicated that they used the savings they managed to have from these projects to start up other income generation projects such as cloth trading.

Women empowerment was also among the outstanding social benefits of this smallholders' support. Through the in-kind loans and work in the agro-processing units, women mentioned that they were able to generate income that gave them a sense of independence while also enhancing their roles in making decisions on household expenditures.

This project will ensure that activities and outputs are gender-sensitive. It will also undertake-gender-specific activities to enhance women's participation in decision making, project implementation, monitoring and evaluation as well as maximize their opportunities to benefit from the different activities in compliance with local customs and traditions. As outlined in the Gender Assessment and Action Plan annex 3, these activities will include home visits and women only sessions to enhance outreach to women, specifically targeting women in activities such as animal loans and agro-processing, encouraging women participation in the community volunteer's teams and the project support committees as well as the different project capacity building activities, among others. This will enhance opportunities for women to participate in the different project activities and enable them to benefit.

Strengthened institutional systems for development and sustainability was among the results mentioned by the farmers in several discussions. The support improved farmer's adaptive capacity through training, demonstrations, technical support and farm-to farm visits. For sustainability, replication and mainstreaming of the different adaptation techniques that it is introducing, it built the capacity of the local partner NGOs as well as concerned government staff at the local level.

Strengthened access to financial and technical resources was also highlighted. The project provided a window for farmers to access financial and technical resources that allowed for expansion of their production and income generation capacity. At a higher level, this injection of resources stimulated their communities' local economy and enhanced their self-sufficiency.

These benefits are expected to be witnessed in villages participating in the new phase of the project.

## C. Describe or provide an analysis of the cost-effectiveness of the proposed project / programme.

The proposed Phase 2 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project leverages the cost effectiveness demonstrated by the different interventions under Phase1. From the management perspective and in addition to adopting the same cost-effective implementation mechanisms of phase one, this phase will also utilize the capacities and trust build over the years by Phase 1 to further enhance the cost effectiveness of the adaptation solutions it offers and as well as their implementation mechanisms. The following describes the cost-effectiveness aspects of the interventions and the implementation mechanisms:

1. Overall, the project's approach to water saving is by far more cost-effective than other alternatives that need to build more dams and reservoirs and/or increase the capacity of the High Dam to better manage water storage, and recommends the development of new water resources, particularly ground water. While such an approach is less sustainable from a natural

resource standpoint, it is also costlier to carry out. Use of ground water would require wells, the costs of digging, operation and maintenance of which would vary between USD 900 to USD 1500 per acre, depending on the level of the ground water table. Other alternatives mentioned include subsurface irrigation and drainage pipes, which cost around USD 1000 on average, which is unaffordable for the average farmer in Southern Egypt

2. Instead of establishing an office in each of the project villages, Phase 2 will continue partnering with community organizations as the main implementing arm at the village level. This has proved to be a very cost-effective means that has saved around USD 300,000 needed for each village-level office, while significantly strengthening project presence and integration within the villages as well as the sustainability potentials of its different interventions.

3. As in Phase 1, Phase 2 will recruit community volunteers to assist in implementation and ensure sustainability. This approach effectively lowered the budget as it accommodated for minor expenses- mainly transport allowances of around USD64/month/volunteer- for these volunteers. Such amounts are significantly lower than salaries for paid employees that would have been otherwise hired at an average of USD 235/month/employee to undertake the different tasks of the volunteers.

4. The project's approach to pilot and then widely demonstrate the positive results of its interventions through different visibility and experience exchange vehicles proved an effective means to spread these interventions very efficiently. It broadened results beyond directly supported beneficiaries by dissemination and induced adoption by farmers, where in most cases this upscale was done at the cost of the farmers. This had a multiplier effect on the funds invested by the project in the different interventions, where for each farmer supported directly by the project to use new varieties or use raised bed cultivation, 2-3 farmers adopted at their own costs.

5. To encourage participation, the project introduced interventions such as the consolidation of lands and canal lining to attract farmers. As soon as the activities yielded positive results, these incentives were gradually reduced. This approach of gradual cost-sharing advanced cost-effectiveness as it allowed for reaching increasing numbers of beneficiaries over time.

6. As concluded by the mid-term evaluation of Phase 1 of the project, cost effectiveness was supported by the project being able to solicit fertilizers at lower than market price. Likewise, the project's model of rehabilitating veterinary units and improving mesqas through partner NGOs allowed for lower than market prices to be attained.

7. The project use of low-cost outreach techniques such as a website, a Facebook page, loudspeakers and sign boards in participating villages for early warning messaging, etc. enabled widespread messaging at minimal costs.

8. The project selected activities and inputs with low expenses, such as goat and duck raising, production of alternative fodder, use of domestically-bread varieties rather than imported ones. On average, a job opportunity created by these loans' costs around USD 118. This is more cost efficient compared to the alternative of creating jobs through large ruminants (cows, camels or buffalos) which would be in the range of USD 1176 per job. It's also more cost efficient than the

nationally announced cost of a job opportunity through small and medium enterprise lending schemes (USD 1,176 to 1,470 ).[30] Along those lines, the model of lining mesqas was also more cost-effective than alternatives such as gated pipes (the cost of which is around USD 1000/acre) because it on locally available materials while allowing for the farmers to contribute as labour in the unsophisticated steps of the lining. process.

9. The project use of revolving loans to provide animal projects proved highly cost-effective where recycling of the loan capital allows for extended outreach of beneficiaries through subsequent cycles.

10. Phase two will leverage these elements of cost-effectiveness from phase one. It will also leverage experiences acquired over time in phase one, making it more efficient from its onset. For example, it will build on experiences gained regarding the need to have the animal suppliers responsible for vaccination and veterinary care during transportation and having insurance effective immediately upon delivery -rather than after 48 hours which was the case at the beginning of phase 1 -to reduce risks and associated losses in the animal lending schemes.

11. Cost Benefit analysis have been carried for the new measures (the plastic tunnels and the aquaculture) proposed in this phase two and included as annex 6. These analyses include the upfront investment costs as well as depreciation costs to allow for replacement of parts/elements that would need get damaged over time.

According to these cost-benefit analyses, the benefits from the two new interventions were found to exceed their cost i.e. they are to generate an additional source of income for their beneficiaries and/or the community in which they will be implemented. With an annual gross profit margins of 29% and between 25.4- 30.9% respectively, the plastic tunnels and the aquaculture are thus offering profitable means for diversifying the productive capacity of these beneficiaries.

It is also to be noted that the expected annual profit from the plastic tunnels was found to be USD 50, which is significantly higher than USD 20 generated from the same of land traditionally cultivated with wheat.

With that said, and in spite of the significantly higher income from these interventions, farmers mentioned that they will still need to cultivate wheat and maize. So, the project was designed to 1) help them maximize their production of these staple crops through improved agricultural techniques to be introduced under output and 2) introduce aquaculture and protected cultivation of vegetables in ways that would diversify production and increase income in the village, while maintaining tradition wheat and maize cultivation.

In terms of land and water usage efficiency, both techniques are expected to maximize outputs from of every unit of land and water as explained in the Environmental co-benefits section.

12. More advanced aquaponics systems at household level were considered. However, during the consultation and due to their operations and maintenance requirements being relatively

[30] Small and Medium Enterprise Development Agency Annual Report, 2018

complicated for the individual beneficiaries, they were found not feasible. Accordingly, they are not included in the project.

## D. Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

The proposed Phase 2 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project is in line with the following national strategies and plans:

1. Egypt's strategy for sustainable development, **"Egypt's Vision 2030".** The project is in line with the priority of securing access to food and nutrition of Egypt's Vision 2030. More specifically, activities proposed under this phase are a direct contribution to the following pursuits stipulated by the strategy towards achievement of this priority:

- Developing agricultural areas and supporting agro-industry
- Developing livestock, poultry and fishery production
- Rationalization of water usage and water resources development
- Addressing climate change as well as coast and establishments protection

2. **Egypt 2018/2019-2021/2022 plan.** The 2018/2019-2021/2022 plan of the Government of Egypt has 5 strategic objectives, of which national security protection and Egypt foreign policy is the first. Food security is one of the key pillars of this Strategic Objective, and the different interventions proposed by this phase 2 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project contribute directly to several objectives of this pillar, namely the objectives of:

- Increasing crops' productivity to increase farmer's income and food production
- Reducing post-harvest losses
- Increasing production of crops, poultry, cattle and fisheries to achieve self-sustainability
- Enhancing irrigation
- Enhancing supply chain of crops

The project agro-processing activities and animal lending scheme are also in line with the plan's Strategic Objective of increasing employment rates where diversifying rural income generating activities with focus of those based-on/related-to agriculture and agri-products and encouraging the income generating activities of women in rural areas are stipulated as key interventions towards the achievement of this objective.

3. **The National Sustainable Agricultural Development Strategy 2030**. Egypt's "*National Sustainable Agricultural Development Strategy 2030"* recognises the building of smallholder's resilience against climate change as a priority. To this end, it highlights vulnerability to rising temperatures as one of the most pressing issues that requires an immediate response.

Presenting the expected negative impacts of temperature increases on crop and animal production, the strategy lists the following complementary adaptation approaches:

- compiling and analyzing data related to climate, land use, irrigation, livestock, and strategic food stocks, needed for decision support

- supporting relevant scientific research and training programs;
- supporting agricultural policies that encourage farmers to select climate friendly crops and animal varieties; and
- supporting livelihoods of small farmers who are most vulnerable to shocks through improved technologies and approaches.

Through its activities and implementation modalities, the project is a direct contribution to the recommendations set out in the Strategy. In particular, it contributes to the following recommendations for enhanced climate adaptation capacity in vulnerable rural communities:

- the dissemination of new heat, salinity and drought tolerant crop and animal varieties for lessening losses in increased temperatures.
- The use of improved agricultural practices such as improved irrigation, plantation of high-value crops, the change of sowing dates, intercropping and improving the soil composition.
- the empowerment of farmers, diversification and augmentation of income generating activities.
- The promotion of the role of civil society as a prominent stakeholder in smallholders support as well as agricultural development

4. **The National Adaptation Strategy in Agriculture**. In line with Egypt's National Adaptation Strategy in the Agriculture Sector, the project contributes to the materialization of several of its priorities, namely:

- Develop systems, programs and policies to protect the rural community, and to promote its adaptation capacities to the anticipated change in land use, plant production, animal production and internal migration caused by changing indicators of climate:
- Study, characterization, and follow up the current status of the rural community, traditional knowledge and adaptation capacity (monitoring and evaluation programs for vulnerability and risk assessment facing different rural communities).
- Select programs to empower small farmers to adapt to climate change.
- Promote capacities of rural communities to manage their resources and outcomes, and to participate in relevant decision-making.
- Build capacities of rural communities to participate in development and implementation of national adaptation policies and disaster and crisis management.

5. **The National Adaptation Strategy:** The proposed project is in line with the *Egyptian National Adaptation Strategy that was issued* in May 2011. This strategy draws on other relevant strategies, in particular the above-mentioned Agricultural Climate Adaptation Strategy issued in 2010, and the Water Resources Strategy. It aims to help the country to adapt to climate change in the sectors mentioned in the Egypt second national communication, namely coastal zones, water resources, agriculture, tourism, health, population, housing and roads. In summary, the objectives of the Strategy are:

- Increased resilience of the Egyptian community to risks and disasters resulting from climatic changes and their effects on the above-mentioned sectors.
- Adequate capacities developed to respond to and contain risks and disasters resulting from climate change through plans and specialized programs aiming to respond to the needs of local communities in this area.
- Disaster risks reduced through early warning systems and support to concrete adaptation projects in the neediest locations.

The Strategy details climatic risks and potential disasters. The mentioned food-security related risks include temperature rise and heat shocks leading to increased evapotranspiration and crop water requirements; spread of pests; changes in agricultural plots as well as reduction in productivity; sea level rise leading to loss of land in the Delta. With scenarios predicting changes ranging from +20% to -90% losses, the strategy highlights reduced water resources as one of the major risks on food security in Egypt. Collectively, these risks also affect rural incomes, with the vulnerable groups of small farmers and agricultural labor affected the most.

4. **National Adaptation Plan***:* The project also addresses the following priority areas of the National Adaptation Plan issued in 2012 as well as its updated version that is currently under development:

1. Establishment of early warning system.
2. Improvement of irrigation systems.
3. Introduce heat tolerant varieties.
4. Introduce simple agriculture technique to increase resilience.
5. Diversification of householder income through animal keeping activities.
6. Small land holding consolidation.
7. Community mobilization and awareness toward climate adaptation activities.

5. **The National Sustainable Development Strategy**. The project is in line with the *Egypt's National Sustainable Development Strategy 2030 that mentions g*ood governance and sustainable natural resource management to support the economy as one of its main pillars.

6. **The Third National Communication Report**. The project addresses the issues and recommendations highlighted in Egypt's Third National Communication Report to the UNFCC. Issued in April 2016, the report describes how impacts of climate change, such as increased droughts or more frequent strong storms threaten food security. In response, it highlights the growing need to promote resilience-building through climate change adaptation measures.

7. **The 2004-2022 Poverty Reduction Strategy**. The project's focus on Upper Egypt and proposed activities are a direct contribution to the fulfilment of the 2004-2022 poverty reduction strategy. In this strategy, the Ministry of Planning stipulates that because Upper Egypt is distinctly poorer than other parts of the country, its development is a core priority. The strategy also presents the development of the agriculture sector and the creation of micro and small enterprises as the key means for.

Besides its economic dimension, the project's in-kind loans for animal husbandry is expected to enhance gender equality in targeted communities. Targeting primarily female members of the households, these loans are a direct contribution to the strategies' objectives of women's advancement and the closing of the gender gap.

The strategy also acknowledged NGOs and civil society as partners in assisting and complementing its work. As stated in the strategy, NGOs will be expected to find ways and means to mobilize financial, human and material resources of the private sector as well as reduce the cost of certain services or provide them in a more effective way. The flexibility of NGOs and their accessibility to the grassroots offer them advantages in rendering better public services. The projects' approach of building capacity through NGOs supports the Government's strategy to entrust them as partners in development.

8**. Decision Support Policy Briefs:** The project is in line with policy-support recommendations of the Egypt Network for Integrated Development. In its Policy Brief number 15 of mid-2015, the network concludes that 'there is strong evidence that justifies targeting of rural Egypt and especially rural Upper Egypt for social protection and economic development. Discrimination in public spending in favor of the South is not only called for on account of differentials in poverty levels and deprivation but can be justified in terms of comparative advantage for job creation in labor intensive agriculture processing, manufacturing and tourism.

The brief further recommends that:

- Enhancing sustainable agricultural and rural development in Upper Egypt is crucial to reduce poverty and food insecurity
- Key research results point to the need to increase the production and marketing high value crops and livestock products since they represent priority growth opportunities.
- Traditional small holding livestock production continues to be a profitable activity in Upper Egypt and that the large part of the livestock GDP is earned by the landless and smallholder farmers that represent the poorest households[31].

9. **the National Water Resources Supply Management Vision**. Through its interventions to improve irrigation efficiency, the project responds directly to the National Water Resources Supply Management Vision for 2050. Issued by the Ministry of Water Resources and Irrigation, this vision has making the best agriculture, social and environmental use of the available water resources by means of irrigation improvement and changing crop patterns as one of its main pillars. Moreover, the project's establishment and empowerment of Water Users Associations contributes directly to the vision's direction to decentralize on-farm water management through local water user associations at the mesqa level.

11. **The National Strategy for the Empowerment of Egyptian Women 2030.** Implementation of the project's gender action plan shall support outreach to women and enhance women participation in decision making and access to resources. It is thus directly contributing to the fulfilment of The National Strategy for the Empowerment of Egyptian Women 2030 which sets women's political empowerment and leadership; women's economic empowerment; women's social empowerment; and women's protection as 4 key priorities for gender equality in Egypt.

12. At the Governorate level, each Governorate develops an annual development plan. During implementation, the Governorate-level steering committee will ensure regular alignment with these plans. These committees will also integrate lessons learnt from the project in governmental practices and/or services, particularly agriculture extension.

## E. Describe how the project / programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

Several measures are in place to ensure compliance with national technical standards and legislative framework. Among these are:

[31] http://enid.org.eg/uploads/Pdf/Pb15_povertyprofile_egypt.pdf

- An Environmental and Social Screening (annex 4) has been done in accordance to the 18 principles of the Environmental and Social Policy of the Adaptation Fund to ensure compliance with the Fund's regulations
- The solicitation of technical expertise from specialized institutes and departments in the Agriculture Research Center and universities for the delivery of trainings, provision of technical support, backstopping and follow-up of the different activities under the project.
    - In line with the Ministerial Decree No. 589 issued by the Ministry of Agriculture on enforcement of intellectual property and plant variety protection in 2010, the use of varieties and hybrids that are nationally registered by certification of the concerned government authority, namely MALR. In doing so, the project will also be ensuring that the varieties and hybrids meet Egyptian National Standards for Breeding issued by the Ministry of Agriculture in 1967.

- The formation of a technical committee that is to be chaired by MALR and involves experts from different domains of crop and animal production. Meeting quarterly, this committee is to:

    - Provide technical support for project management
    - Finding practical solutions to technical obstacles facing the implementation of the project activities.
    - Provide technical proposals that contribute to achieving the goals of the project.
    - Ensure implementation of the different interventions is in compliance with national standards, laws and legislation and their acceptance in the project locations.

- The project complies with the national environmental law issued in law 4/1994, as well as national laws governing use of land and water resources. More specifically, the project mechanism of implementation through the Ministry of Agriculture and its different units is in compliance with Law 4/1994 article that stipulates that agencies and Ministries are to undertake, within their spheres of competence and through their stations and work units, interventions and monitor the components of the environment and relay their results and data to the competent authorities periodically.

- The project is relevant to one of the main themes of Egyptian National Water Policy for the year 2017 particularly: 1) optimal use of available water resources and 2) protection of water quality and pollution abatement.

- As was the case in Phase 1, all irrigation interventions under this phase of the project will be undertaken in compliance with Law No. 12/1984 and its supplementary Law No. 213/1994, that are the legal basis for irrigation and drainage in Egypt. The laws define the use and management of public and private sector irrigation and drainage systems including main canals, feeders, and drains, and mesqas (small branches of irrigation channels irrigating one or less acres of land). In this regard, the project interventions will be in accordance with the following articles:
    - Article 18, which specifies that land owners that utilize private mesqas shall be permitted to take water from it according to the ratio of the area that each one of them owns. Mesqa rotations for the lands that are subject to that system shall be formulated and that the Irrigation Department officials shall undertake the implementation of those rotations under their supervision.

- Article 19, which stipulates that those utilizing private mesqas and drains should purify them, remove Hyacinths plants, other plants and weeds obstructing the water current, and undertake maintenance and preservation of its watersides.
- Articles 20-25, which stipulate the legal procedures for management of mesqas in lands owned by several people.

## F. Describe if there is duplication of project / programme with other funding sources, if any.

There is no duplication of funding. On the contrary, this Phase 2 will be complementing other projects in the project area and in the country.

The project will be complementary to the following two initiatives focused on climate change adaptation in other zones of the country:

1) The '*Enhancing Climate Change Adaptation in the North Coast and Nile Delta Regions in Egypt'* (funded by GCF to be implemented by UNDP). Targeting 5 coastal governorates of Port Said, Damietta, Beheira, Dakhalia, and Kafr ElSheikh in the Nile Delta, this project aims to reduce coastal flooding risks in Egypt's North Coast in the Lower Egypt area. Complementarity between this project and the proposed project, as both cover climate vulnerable yet different areas/zones of Egypt, allow the GoE to enhance inclusiveness and effectiveness of its response to climate change, where its two at-risk regions are being supported.

*2)* IFAD's *Sustainable Agriculture Investment and Livelihood* (SAIL) project that supports resilience in a newly reclaimed settlements in Middle and Lower Egypt. Synergies will be sought in the form of experience sharing and collaboration in raising awareness about climate change impacts and adaptation benefits.

3) The '*Enhancing Climate Resilience of Smallholders in Middle Egypt'***.** Through this 5- years project that is expected to start in 2020, WFP extends its partnership with MALR to extend resilience to smallholders' communities in the old lands of Middle Egypt through funding from the Green Climate Fund.

4) The project will also complement other agricultural development projects that support smallholders or advance agricultural development for the sake of increasing production in the zone of the project. In this regard, it will coordinate with the USAID funded EVAS project that is to start in 2019 and the IFAD STAR project that is currently under design. With both projects focusing on enhancing market access of smallholders through establishing connections to domestic and international markets, gaining access to financial resources, processing facilities, refrigeration trucks, and increasing adherence to international food and safety standards, the project will enhance its farmers marketing potentials through linking them to the markets and facilities created or supported under these projects.

## G. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

Component 2 of the proposed project will capture and disseminate, in line with the Adaptation Fund Knowledge Management Strategy, knowledge generated by the initiative. Such knowledge will include lessons learned, best practices and success stories that implementation of the different interventions will generate. To achieve its objectives, the component will be comprised of several activities for knowledge management including:

- Development of knowledge products including flyers, brochures and documentaries that present information in printed as well as audio-visual forms
- Featuring in specialized agricultural satellite TV channels such as the Agricultural Channels of the Egyptian Ministry of Agriculture and Nour El Donia private TV channel
- Dissemination of information through specialized programmes in local media channels such as El Saeed and TEEBA local TV channels as well as Ganoub El Wadi radio channel, all dedicated to cover the Southern Egypt zone.
- Dissemination through national TV and radio channels-e.g. Channels 1 and 2 on TV and the Public Program radio channels
- Presentation of project activities in different specialized forums such as food security, agricultural and irrigation national, regional or international conferences or workshops, etc.
- Organization of different events for dissemination of information at the local level. These include farm-to-farm visits, demonstration fields and celebrative harvest days where farmers get to tangibly see results of the different interventions, discuss and share experiences.

Table 4. Summary of the project's knowledge management plan

| SN | **Knowledge product/ outreach mechanism** | **Format/communication channel** | **Main content/Objectives** | **Target group** | **Mean of dissemination** |
|---|---|---|---|---|---|
| 1 | Flyers | 1-page flyer for each project theme (resilience agriculture, irrigation, early warning, animal production) | 1. Climate context and the importance of community mobilization<br>2. Agriculture: new technologies and practices<br>3. irrigation: water saving techniques<br>4. early warning: roles and benefits<br>5. Animal Production: alternative source of income | Farmers, extension workers, NGOs, & other stakeholders | distribution points (NGOs offices, agricultural cooperatives, agricultural directorates) |
| 2 | Brochure | 5-6 p brochure Arabic<br>5-6 p brochure English | The project integrated interventions, current achievements and future targets. | stakeholders (government officials, NGOs) | Mail-by hand |
| 3 | One pages pack | folder (CD) + 5 pages + map + double face 1p infographic) | Objectives and Success of the project in decreasing the negative impacts of CC | Governmental executives, Embassies and development agencies working in agriculture and environment | hand distribution in meetings and events |
| 4 | Facebook page | Facebook page | Details, results, challenges, lessons learnt, ect of Project interventions | Farmers, extension workers, NGOs, & other stakeholders | Facebook |
| 5 | Facebook group(s) | Facebook group(s) | Details, results, challenges, lessons learnt, ect of Project interventions. Discussions and answers to questions | Farmers, extension workers, NGOs, & other stakeholders | Facebook |

| | | | | | |
|---|---|---|---|---|---|
| 6 | YouTube | Video | Summary on project interventions+ success stories | Farmers, extension workers, NGOs, & other stakeholders | YouTube |
| 8 | Documentary | 5 videos (10-15 min) | 1. Community mobilization: importance of community mobilization<br>2. Agriculture: new technologies and practices<br>3. irrigation: water saving techniques<br>4. early warning: roles and benefits<br>5. Animal Production: alternative source of income | Farmers, extension workers, NGOs, & other stakeholders | YouTube, Farm-to-Farm visit, workshops |
| 9 | Events | workshop meetings | role of the project in decreasing the negative impacts of C. success stories, Updates on achievements and future targets. | Extension workers, NGOs, donors and other stakeholders | workshop meetings |
| 10 | Articles | Articles in printed and on-line newspapers | role of the project in decreasing the negative impacts of C. Success stories, updates on achievements and future targets | Extension workers, NGOs and other stakeholders | Mass media |
| 11 | Success stories | Write-ups on success stories on | Presentation of successful models or project interventions and their impacts | Extension workers, NGOs, donors and other stakeholders | Publication on websites (project and WFP websites) mail + distribution points (NGOs offices, agricultural cooperatives, agricultural directorates) |
| 12 | Radio and TV outreach | Interviews in specialized, local and national TV and radio channels | role of the project in decreasing the negative impacts of CC, best practices, lessons learnt | Farmers, Extension workers, NGOs, | Mass media |

The lessons learned will be documented by several means including:

- Write-ups. 2-3 pager write-ups will be developed in-house by WFP and will document best practices and lessons learned from the field.
- Documentation of success stories: Stories of beneficiaries from the project will be documented in the form of writ-ups and social media spots and videos. The documentation will have the beneficiary tell his/her story: why s/he needed support, how s/he was supported and how this support has affected him/her, his/her livelihood and his/her household. The documentation will also provide contacts for where more information on this support could be sought.
- Documentaries: Short documentaries will be produced, capturing activities from the field as well as lessons they have generated. The documentaries will be produced in-house by the WFP communications as well as through specialized firms.
- Reports: Periodical (quarterly and annual) reports will feature lessons learned through the reporting period.

The materials will be used by WFP as well as the Government of Egypt and the partner CDAs to disseminate the lessons learnt. Printed material will be taken to meetings and distributed in events that are to be organised or attended by these entities at the local, sub-national, national levels.

WFP substantially facilitated exchange of knowledge generated from Phase 1 of this project to other countries through its regional Bureau in Cairo as well as its HQ. Example of such exchange happens during the annual regional resilience workshop that brings representatives of the countries of the region together and the project experiences are presented. Another example was the 2018 regional Food for Assets workshop that was held in one of the project governorates (Luxor) to expose the participants to the project interventions and results through a field visit. Further, the Egypt Country office is frequently invited to share project experiences and results nationally as well as with other countries through regional and international events such as the Cairo Water Week, the MENA Land and Water Days conference, etc. The country office is also frequently invited to contribute, based on its experiences in this project, to WFP regional and corporate knowledge products and guiding materials on climate adaptation and resilience building. Such experience exchange will continue under phase 2 to further expand its reach.
The local steering committees will also be mechanisms that would help to integrate the lessons learnt in the governmental activities such as extension.

## H. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy of the Adaptation Fund.

As detailed in Annex 2 and 5, the proposed phase 2 was designed and its ESS undertaken following extensive consultations with a wide range of stakeholders at all levels. The consultations were undertaken in the course of February -May 2019 and sought to get feedback on national priorities and commitment relevant to sustainable agriculture and climate issues, how it affects the livelihoods of the farming communities of the zone as well as the effectiveness of the different adaptation solutions offered under Phase 1 and the new proposed priority solutions that phase 2 would also introduce. For a comprehensive analysis, these consultations engaged stakeholders involved in the implementation of Phase 1 as well as other stakeholders in a sample of new villages where phase 2 would be extending to.

Among the tools used were focus group discussions were 142 men and 161 women from targeted communities were consulted. Participants in these consultations where invited through announcements done by local NGO inviting interested women and men in the community to the focus groups, by providing details on objectives, venue and timing. Moreover, men and women interested in implementing new adaptation techniques participate in community outreach efforts in different locations in the village was particularly ensured through targeted invitations by the NGO and community leaders. Key informant interviews were conducted with diversified government officials, capacity development organizations, experts and academics to provide specialized information on the different food security, rural development agricultural, irrigation, and livestock production and institutional topics dealt with.

Table 5. Summary of the consultations done with the different stakeholders:

| Institution | Participant(s) | Position | Methodology |
|---|---|---|---|
| Ministry of Agriculture | Eng. Othman El Shaikh | Project manager -Building Resilient Food Security Systems to Benefit the Southern Egypt Region | In-depth meetings |
| | Dr. Ali Hozyen | Chairman of Executive agency for comprehensive development | |
| | Dr Sayed Khalifa | Chairman of the Agricultural Syndicate and Former Chairman of Agriculture Extension Sector | |
| | Dr. Mahmoud Medany | Climate change expert- Formal Head of the Agricultural Research Center and the Climate change information center of the Agriculture Research Center | |
| | Mr. Khaled Abdelrady | Director of agriculture- Luxor Governorate | |
| | Eng. Ibrahim Souror | Director of agriculture- Assuit governorate | |
| General Authority for Fish Resources Development | Dr. Mohamed Bakir | Professor | |
| Egyptian Meteorological Authority | Dr. Ashraf Zaky | Under Secretary of state for research and climate | |
| Ministry of Water Resources and Irrigation | Eng. Peter Sabry | Projects Engineer and consultant- Ministry of irrigation | |
| Agriculture research center | Dr. Mohamed Hayder | Professor- Institute of Animal production- Agriculture research center | |
| | Dr. Mohamed soliman | Head of Agricultural research center | |
| | Dr. Amal Ismael | Professor-Institute of extension services – Agriculture research center | |
| Sohag University | Dr. Khalaf Hamam | Head of Crops production department – Faculty of Agriculture | |
| Aswan University | Dr. Yaser Diab | Dean of faculty of agriculture | |
| Daraw Agricultural Secondary School- Aswan | Group of agricultural secondary schools' students males and females | - | Focus group discussion |
| Assuit University | Dr. Mohsen Gamee | Professor of water management- faculty of agriculture | |
| Qena Agriculture secondary school | Mr. Mohamed Badawy | Teacher | In-depth meetings |

| | | | |
|---|---|---|---|
| Ministry of Social Solidarity | Mr. Mahmoud Farouk | Director of Social Solidarity- Luxor | |
| Royal Company for Export of Agricultural Produce (private company) | Mr. Hussien El Saman | Director | |
| NA | Mr. El Noby Salem | Trader of Agricultural inputs | |
| NA | Dr. Atef Abdo | Medical and aromatic plant consultant | |
| Elboghdady NGO- El Boghdady Village- Luxor | Mr. Fathy Mohamed | Board member | |
| Bader NGO - Al Awana village- Assuit | Mr. Ali Abdelmeged | Board member | |
| Bader NGO - Al Awana village- Assuit | Ms. Nawal Ahmed | Board member | |
| Ali ben Abitalib NGO - Sohag | Mr. Mohamed Ghab | Board member | |

Please refer to annex 5 for further details on the consultations carried out.

## I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Agricultural production is particularly vulnerable to the impacts of climate change. The Government of Egypt thus prioritizes climate adaptation in the agriculture sector as a necessity in facing the increasing food security gap at the national and local levels. It also recognizes it as in important means to support the vulnerable smallholders' communities of rural Upper Egypt that rely predominantly on agriculture. Because of this the government has very much supported the **Building Resilient Food Security Systems to Benefit the Southern Egypt Region** project since its inception in 2013. It has also adopted several of its interventions in its agricultural planning and services. Examples of this include the adoption of the project adaptation interventions in wheat and maize production in the National Wheat Campaign and the National Maize Campaigns that disseminate recommendations of cultivations to farmers nationally.

The project aims to complement the Government's efforts in addressing climate change by promoting technology transfer and capacity development for climate change adaptation to 15 villages in Southern Egypt. In doing so, it will be building on the success of phase 1 to effectively expose more communities of the Southern zone to proven approaches and interventions that have proven under phase 1 to considerably increase the productive capacity of farmers, enhance their irrigation efficiency and diversify their livelihoods, all effectively enhancing their resilience. It also aims to widen the scope of the previous intervention through introducing more adaptation techniques, including intensified crop production through plastic-covered tunnels and aquaculture, and building institutional capacity to sustain the different activities.

Additionality of project components

**Component 1**

Climate change is severely impacting rural communities of Southern Egypt. It is reducing crop productivity, stressing water resources, and inflicting significant losses through extreme weather spells. On the other hand, there are proven adaptation solutions and considerable knowledge that could help enhance the adaptive capacity of these communities. Without such concrete adaptation measures, agricultural production, water resources, as well as farmer livelihoods will continue to be threatened.

***Adaptation Alternative***

The adaptation alternative offered under component 1 of this project will provide feasible adaptation solutions based on tested technologies and approaches and transfer of knowledge and good practice to create robust, resilient, and sustainable livelihoods in the Southern zone and which eventually can be replicated throughout Egypt. The project will be providing an integrated package of interventions that have been selected and designed in participation with benefiting communities in response to the climate-induced problems that they now face and that would get worse with time without adaptation measures. These include assisting farmer communities to adopt low-cost and efficient irrigation techniques; adopting available heat tolerant and water efficient crop varieties with high economic value; adding value through simple agro-processing; intensifying production and enhancing land and water use through plastic-covered tunnels and deploy of low-cost early warning messaging to reduce losses. Fish farming, livestock and poultry hubs will be established to apply already developed heat resistant varieties and to offer windows for diversification of income as an adaptation tool.

As a result of irrigation efficiency, water savings are expected to range between 20-30 percent. Similarly, it is estimated that adaptation measures in agriculture introduced under this project will save about 20 percent of agricultural production and farmer incomes.

As demonstrated by Phase 1, these techniques increase households' resilience through enhancing their productive capacity and diversifying their production. Cutting on their use of inputs (seeds and fertilizers) and resources (water), the interventions help them realize more income from their cultivations, On the other hand, the early warning reduces losses in extreme weather events.

Consultations revealed that communities are highly affected by climate change, especially as a result of weather extreme events which has impacted productivity and affected incomes. They expressed a need for support to help reduce their losses safeguard their livelihoods. Women were especially forthright in this regard. In many cases, they mentioned approaches and interventions that could help in this respect but were frustrated in not having the knowledge or resources to implement them on their own.

Component one of this project introduces new activities that enhance and diversify the productive capacity of the vulnerable communities to better face climate change. Aquaculture will provide cost-efficient and environmentally sustainable means to diversify production within the villages. Likewise, the protected tunnels will help farmers grow high-value crops that have a high demand (vegetables) and that will thus substantially increase and diversify their income while significantly enhancing outputs from their limited water and land resources.

With these results, these new interventions would help the project communities produce more food to compensate for climate-induced reductions in their tradition crop production practices. They will also enhance the management of their stressed natural resources- namely land and water- on which their livelihoods depend, and which will be further stressed by climate change.

**Component 2**

Building climate resilience is a complex issue that has several stakeholders including community members, civil society, academia and governmental entities. For effectiveness and sustainability, each of these groups has a role to play in building resilience. However, in many cases, capacities of such stakeholders in not strong enough to assume the responsibilities under these roles. For example, whereas local community development association have a pivotal role in anchoring and sustaining adaptation solutions within communities, in many cases such associations do not have adequate institutional capacities (such as adequate office facilities and equipment, experiences, qualified personnel and financial resources) to effectively engage in the introduction and implementation of such adaptation techniques. Likewise, at the time when local academic institutions can be very effective in spreading knowledge about climate risks and plausible adaptation techniques through their students, climate change is not featured in their academic curricula.

***Adaptation Alternative***

The project will be building capacity of stakeholders for mainstreaming and sustaining adaptation measures. It will be documenting the experiences of communities and disseminating lessons learned and best practices among a wide range of local, regional and national stakeholders who are facing much the same climate threats as found in the Southern zone, especially with respect to temperature rise and water scarcity and their impacts on food security.

The Government considers the proposed project a pillar of participatory learning and innovation and central to its climate change adaptation and poverty reduction strategies. It is depending on the project to develop the lessons needed and capacities among the different stakeholders. As such, the project will leave behind civil society organizations that are able to help communities face climate impacts as well as governmental institutions that are able to obtain and analyze climate data, process it for use to aid policy making and investment decisions, technical staff who can help communities implement climate adaptation solutions, and policy makers who will be more aware of climate change and food security challenges and how to address them.

Finally, the Government considers the project's focus on women, civil society, and the research communities to be demonstrative of the only approach to adaptation and development which it considers robust and sustainable.

While under Phase 1 capacities of 800 governmental staff engaged in extension services in districts of this phase, capacity of 200 additional concerned staff of ministries of Agriculture, Social Solidarity, Education and the Egyptian Metrological Authority engaged in extension services in the new districts of phase 2 at local and sub-national level will be built in knowledge impacts of climate change and adaptation techniques, strategic planning, and effective communication skills.

## J. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project / programme.

Several measures will be undertaken to ensure project sustainability, including:

- Consultations undertaken will support implementation of activities in communities where the uptake of project interventions would be ensured through appropriate conditions, especially the commitment of project participants and the availability of appropriate technical service providers.
- Capacity building needs in local NGOs with whom the project will partner will be identified. In response, the project will be providing institutional support to address these needs, empowering the NGOs to successfully fulfil their roles explicitly during project implementation as well as after its completion, thus increasing sustainability.
- Project beneficiaries will be active stakeholders in all phases of the project design and implementation as a means to build ownership. Such ownership would facilitate having them allocate some of their resources for maintaining the different interventions.
- Technical and capacity building support to beneficiaries will be provided as a key element to ensure they sustain their projects/activities. An example is the training in animal care and project management that will be provided for animal raising loan beneficiaries.
- Most of the income generation approaches and technologies focus on women beneficiaries who in the country and region (as elsewhere in the world) have a track record of diligence, accountability and perseverance. From a gender perspective, as women will be involved and empowered as much as men, they will make this change more stable and long-lasting and will break the intergenerational cycle of poverty in these villages.
- The project loans mechanisms are designed to generate income that will make them self-sustaining. Loan values, repayments schedules, interest rates etc., will be calculated to sustainably generate revenue for the beneficiary, encouraging him/her to uphold it. Similar to past experience in Phase 1, agreements with the partner NGOs shall stipulate that a portion of the interest funds from the loans shall be used by the NGO in covering its loan administration costs, thus ensuring sustainability of this lending facility. The remaining portion of the accrued interest shall be used by the NGO to follow-up on the other activities of the project after its lifetime. This will include inviting technical experts to visit farmers bi-annually to support their project-introduced crops, varieties, practices, etc. It will also include organizing seasonal harvest days where project-introduced benefits will be celebrated to encourage adoption by other farmers and community members. Likewise, maintenance and operation of the water interventions will be continued under the Water Users' Associations - WUAs, which will be established under the local NGOs.
- The project will create strong linkages with stakeholders through coordinating committees, from the central level to the grassroots level, including representatives from many ministries and governmental authorities. It will also partner with local academic and research institutions such as local universities and agricultural schools. Such linkages were witnessed to create ownership, enhancing potentials for sustainability in the South.
- The project will cooperate with permanent official research bodies, some of which are affiliated with regional universities, while other are affiliated to governmental research centers (most of them are affiliated with the Agricultural Research Center affiliated to the Ministry of Agriculture) for its technical aspects.
- The project will use domestic varieties, which were recommended by Egyptian research institutes, rather than imported crops. This increases the chances of sustaining execution through the existing mechanisms, whereby it would have been much more complicated and

difficult had the project relied on imported seeds.

- In the land holding consolidation, ownership will be built through gradual retraction whereby the project will cover all costs in the first season. In second season farmers will cover 50% of implementation costs. In the third season farmers will cover 75% of farm production costs, and ultimately, in the fourth season, the farmers will bear all the costs.
- The centers will be operated by two staff members/volunteers in each partner NGO, who will receive training. The NGO shall oversee and ensure the sustainable operations of the centers after the project lifetime. Costs for this will be covered from the accrued interest under the animal lending schemes.
- The early warning system will be operated from these climate centers. Dissemination of the messages will be done by partner NGOs through various techniques that have proved successful in Southern Egypt. These include: loud speakers installed on the climate information centers or on mobile tricycles; use of the microphones in the mosques and churches of the villages for mass verbal relay of the messages; sign boards to be hung out in visible areas in the villages; and issuance of an android version of the system, enabling farmers and extension workers to access it through smart phones at no cost.
- The online-system and its android version will be maintained by MALR in collaboration with the Egyptian Metrological Authority after the project end. An agreement will be signed with both entities to ensure commitment.
- The community aquaculture ponds will be maintained by the partner NGOs. Costs for this will be covered by a part of the revenue realized by selling the product of the pond.
- The plastic covered tunnels and aquaculture pons for households will be owned by individual farmers. Each farmer will be managing and maintaining is own tunnel and pond and will be covering the maintenance costs from the revenue he will generate by selling the produce of the tunnel and/or pond.
- During the design phase of this project, easy access to suppliers of materials and equipment needed for the operation and maintenance of the plastic tunnels and the aquaculture ponds was verified. The proposal makes specific mention of the use of local available materials, for this reason.
- Finally, the project shall develop a participatory plan with arrangements and agreements for handover of the different assets and activities after the completion of the project. The entity to receive the handover will vary from one activity/asset to the other. For example, local based assets such as the revolving animal schemes and the village Climate Canters will be handed over to the local partner NGOs, while the on-line operation of early warning system will be handed over to the Ministry of Agriculture and the Egyptian Metrological Authority who will maintain it from Cairo.

## **K.** Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

The interventions of the proposed project are small-scale and have been selected following a participatory approach that ensures their acceptance by local communities and compatibility with their cultural norms and traditions. As highlighted in section B, these interventions are expected to have several positive environmental and social impacts. Whereas these results were proven under phase one,

the consultations undertaken with diversified stakeholders for this phase two further assured such results.

The compliance of project with the Environmental and Social Policy of the AF was determined through the screening for environmental and social risks according to the 15 principles stipulated in the policy. The results of this screening and risk assessment process are summarised below:

Table 6. Environmental and Social Principles checklist

| Checklist of environmental and social principles | No further assessment required for compliance | Potential impacts and risks – further assessment and management required for compliance |
|---|---|---|
| *Compliance with the Law* | X | **No risk.** The proposed project is not foreseen to violate applicable national or international laws. During full project preparation, the project design team will closely collaborate with Government stakeholders to ensure compliance with national law, including the National Environmental Regulation. |
| *Access and Equity* | | **Low risk**<br>The project activities will be located so as not to obstruct access to existing schools, health or vet facilities, water or sanitation. The activities will also not be affecting peoples access to sources of energy in the villages (electricity and butane gas).<br>The project will work with farmers to better manage their land resources with each farmer to maintaining ownership of his land. Decisions made on joint management of resources such as consolidated land and water canals are to be made democratically among the farmers through voting.<br>While water is not 'owned' by farmers in rural Egypt as such, the project activities are foreseen to enhance equitable access to water through the water saving techniques that reduce losses and increase access of farmers in downstream plots.<br><br>To minimize risks, the project was designed in a participatory manner with clear and transparently publicized targeting for each of the activities to ensure the eligibility of the people to benefit from it and the effective reaching out to the target group. Assets such as the aquaculture ponds will be communal assets that will be owned and managed by the local partner NGO. Other household level assets such as the plastic-covered tunnels will be owned by the beneficiaries (each will own his/her greenhouse). These beneficiaries will be reached by the transparent targeting mechanism. Thus access and equity issues are not foreseen.<br><br>Additionally, a solid grievance mechanism is put in place (annex 2) to ensure channels for voicing concerns and grievances- including those related to access and equity, in case any occurs. |
| *Marginalized and Vulnerable Groups* | | **Low risk**<br>Vulnerable groups, namely women, youth, the disabled, and the elderly were |

| | | |
|---|---|---|
| | | consulted to ensure that their identified threats, challenges and priorities are reflected in project design. |
| *Human Rights* | X | **No risk**<br>This project affirms the rights of all people and does not violate any pillar of human rights. |
| *Gender Equity and Women's Empowerment* | | **Medium Risk**<br>Conservative norms in the project areas could impede women's ability to participate in project activities, exacerbating gender inequality.<br><br>To mitigate this risk, the project will take several measures as described in the Gender assessment and Action Plan to promote women engagement in different project activities as well as decision making and management. These include organizing women only sessions, as well as women-friendly spaces in mixed sessions, home visits undertaken by women, specifically targeting women in animal loans and agro-processing activities where their participation is culturally acceptable, gender-sensitive monitoring, etc. |
| *Core Labour Rights* | X | **No risk.**<br>The project will ensure respect for international and national labour laws laws as prescribed by the International Labour Organization as stated in WFP's policies, as well as the Egyptian Labour Law. In this regard, the project shall respect freedom of association and the effective recognition of the right to collective bargaining (conventions ILO 87 and ILO 98) and shall not involve forced or compulsory labour (conventions ILO 29 and ILO 105). It shall also not be employing children in forced, economically exploitive or hazardous work; or in a way that interferes with educations or is harmful to health or physical, mental, spiritual, moral, or social development. Discrimination in respect to employment and occupation will be controlled through transparent targeting and effective complaints channels |
| *Indigenous Peoples* | X | **No risk**<br>There are no recognized indigenous people in Egypt. |
| *Involuntary Resettlement* | X | **No risk**<br>The project will not lead to involuntary settlement of any form. In Egypt farmers have contracts for their land rights. Under the land consolidation activities, there is no exchange of land involved so each farmer will maintain the ownership of his/her land. The idea behind consolidation is to have uniform agricultural practices. So once the farmers agree on these agricultural procedures democratically, they then commit to their application. The produce of their consolidated land (demarcated with metal studs) still belongs to the farmer. Thus, the consolidation is done by unifying agricultural practices with neighbours and replacing the mud borders between the fragmented plots with metal studs, resulting in a 25% increase in the land to be cultivated, as well as efficacy gains. So each farmer is thus responsible to apply the agreed agricultural activities/procedures in his land and at harvest, each farmer gets the produce of his plot. With this, no risks of physical or economic displacement are foreseen. |
| *Protection of Natural Habitats* | X | **No risk** |

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| | | There are no natural habitats that are legally protected, officially proposed for protection, recognized by authorities for their high conservation or ecological value or recognized as protected by the local communities in the project villages. There are no specifically endangered or rare animal, insect or plant species in the project villages. The project does not involve hunting or fishing activities. |
| *Conservation of Biological Diversity* | | **Low risk**<br>The project promotes efficient use of natural resources and helps farmers to reduce their use of agriculture inputs. It also does not involve hunting or fishing activities.<br><br>The ducks, goats, bees , fish and crop varieties introduced in the communities will be selected to be non-invasive or of influence on local genetic resources in the communities . |
| *Climate Change* | X | **No risks**<br>The project activities build resilience of beneficiaries in the face of climate-induced impacts on their food production and livelihoods.<br><br>The proposed project is not in the sectors of energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management. Its activities will not emit any significant greenhouse gases and will not exacerbate climate change by any means.<br>The project will maintain vegetation and will not cut trees, thus not affecting carbon sinks in the project areas. |
| *Pollution Prevention and Resource Efficiency* | | **Medium Risk**<br>Although the units for aquaculture to be introduced by the project are small-scale, the quality of the discharge wastewater from these units could be low, leading to soil pollution if not properly managed<br>The project is expected to reduce use of fertilizers in the project areas. It is also not expected to introduce new fertilizers or pesticides, herbicides or fungicides in the project.<br>The project will help farmers reduce their diesel consumption in irrigation and shall not involve use of vehicles or generators. It shall not lead to the annual use of more than 100,000 litres of diesel.<br><br>The project activities do not involve use of bottled or transported or ground water. It will help farmers realize efficiency in surface water irrigation and does so in a manner that introduces improvements in local waterways<br>The project shall not be generating hazardous or non-hazardous wastes that could have negative environmental impact. Additionally, it will be helping farmers to recycle their agricultural wastes, that they would normally burn, thus helping in reducing the negative environmental impacts that these wastes inflict on the environment.<br><br>To mitigate potential environmental impacts of the aquaculture interventions, the project will take environmental considerations into account in the development of technical training manuals and operational guidelines. Additionally, the units will be designed to have the nutrient-rich pond effluent |

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| | | used for crop irrigation.<br><br>Issues to be ensured in these materials include: that no exotic species are introduced, location is avoiding ecosystem sensitive areas, conservation areas or reserve etc. the pond design factors in resilience to extreme climatic events; the intake and out-take water quality are complaint with national standards, non-contaminating feed pallets. The materials will be developed by expertise certified and registered by the Egyptian Environmental Affairs Agency. |
| *Public Health* | X | **No risk**<br><br>The project will not increase traffic or use heavy machinery or dangerous materials that can pose risks to public health or safety.<br><br>The aquaculture units to be provided by the project will have pumps for water circulation and aeration, which eliminates risks of vector growth. There are no other foreseen sources of risks on public health. |
| *Physical and Cultural Heritage* | X | **No risk**<br>There are no physical or cultural heritage recognized the international references (the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage) and the List.<br><br>During the project design, the non-existence of such sites in the project areas was verified through the community consultations. Hence, the project activities shall not damage, alter or remove any physical cultural resources, cultural sites, or sites with unique natural values at the community, national or international level. The project shall also not interfere with existing access and use of such physical and cultural resources. |
| *Lands and Soil Conservation* | X | **No risk**<br>The project will be implemented in rural communities that are not in proximity to coastal areas. The topography in these communities is flat, with no steep slopes. The composition of the land in these villages is mostly clay that is used for agricultural production.<br><br>The activities of the project are not foreseen to result in soil loss, erosion or run-off. They are expected to support the production of agricultural land in a sustainable manner through several techniques that help stop land degradation that is currently resulting from farmers' excessive use of water and fertilizers- while increasing the production per unit of land. The activities are also not foreseen to affect water bodies in the area. |

# PART III: IMPLEMENTATION ARRANGEMENTS

## A. Describe the arrangements for project / programme implementation.

The proposed Phase 2 of the '**Building Resilient Food Security Systems to Benefit the Southern Egypt Region**' project will use the implementation arrangements of Phase 1, which proved very successful. These arrangements are as follows:

WFP is the project **Accredited Entity (AE)**. It will have financial oversight of the project and is accountable to the AF Board. It will facilitate and supervise overall project implementation, oversee monitoring and evaluation; provide technical support; and report to the AF. WFP's principal role is fiduciary, supervisory, supporting, coaching, providing technical knowledge, monitoring and disseminating lessons learned.

The **Executing Entity (EE)** will be the Ministry of Agriculture and Land Reclamation (MALR). It will be responsible for ensuring the objectives and outcomes of the project are delivered effectively as per the project document. The Ministry is to engage with governorates and local directorates of relevant Ministries (Irrigation, Education and Social Affairs) for the required technical inputs, as well as other national/ international agencies with which co-operation would be useful, for example, in training and extension.

MALR will also be responsible for coordinating and collaborating with other governmental bodies at the national and local level. Chief among those is the Egyptian Meteorological Authority, to facilitate data exchange, and partner community organizations (local NGO) in villages where the project operates.

The Agricultural Research Centre will be providing technical support to the project and ensuring that the project is achieving the intended targets within the National Agricultural Climate Adaptation Strategy. The Centre will be responsible for managing climate monitoring and assist in the identification of suitable adaptation technologies.

The National **Project Steering Committee**, formed of representatives of the concerned Ministries and Authorities (Ministry of Agriculture, Ministry of Environment, Egyptian Metrological Authority, the relevant Institutes and Laboratories of the Agriculture Research Centre, and WFP) formed by official communication from the Minister of Agriculture under phase 1will meet periodically to review progress and make recommendations.

**Local steering committees** in each Governorate (formed under phase 1) will to review progress, discuss challenges and guide next steps. The Committees will include Directors of Irrigation, Agriculture, Vet and Social Affairs and the partner NGOs are to meet quarterly.

Execution of many activities will be undertaken by partner NGOs after receiving training, and with assistance from local consultants. More specifically, community organizations will undertake the following tasks:

- Community mobilization and organization of awareness activities and field trainings
- Hosting and operation of the climate information centres to be established in the project villages
- Supervising the works for improved irrigation
- Soliciting technical expertise when needed on behalf of the community

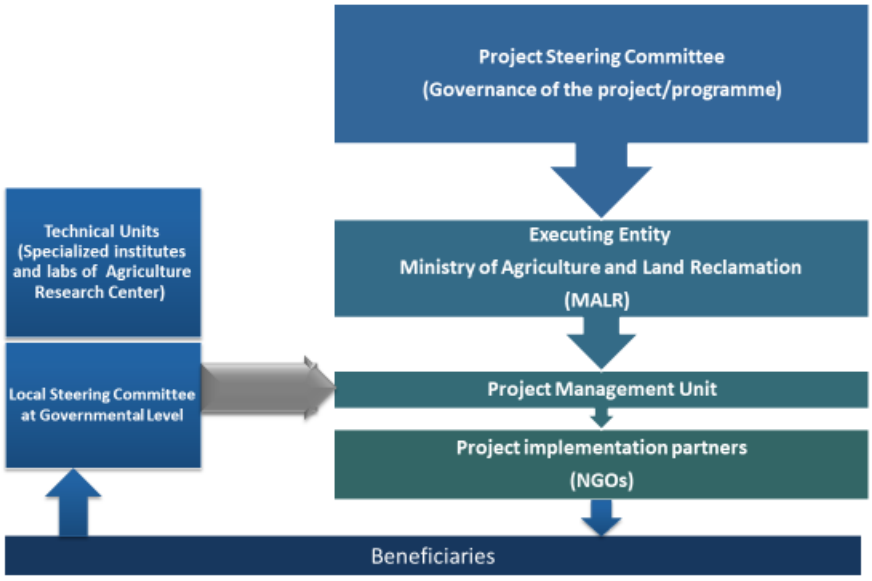
- Managing revolving funds for the animal lending schemes

Collaboration will continue with the Agricultural Secondary Schools and Universities in the area, namely the universities of Assuit, Sohag, Qena and Aswan to 1) Provide expertise as needed and 2) Integrate climate adaptation in their curricula.

The Project management team of Phase 1 will be maintained to execute the activities. It will be reporting to the Ministry of Agriculture and WFP. This team is comprised of admin, procurement, finance and management staff situated in the project management unit located in one of the Project Governorates (Luxor) and specialized coordinators (one social and one agricultural) coordinators in a sub-office in each of the project Governorates.

As highlighted in the Gender Action Plan (Annex 3), the project shall acquire a competent gender focal point. Among his/her responsibilities, he/she will also ensure that gender equality is considered in the recruitment of the project execution staff. At the level of the Implementing Entity, WFP has a global Gender Marker that is applied to all Country Offices. Observation of a gender balance in the office staffing is among the criteria of this marker, and the Egypt Country office currently has a ratio of 52% females verses 48% males.

Figure 4. Project Governance and implementation arrangements



**B.** Describe the measures for financial and project / programme risk management.

Table 7. Measures for financial and project / programme risk management

| Risk | Likelihood | Response |
|---|---|---|
| Poor performance of some partner NGOs due to week capacity | Medium | The design of the proposed Phase 2 includes activities to enhance abilities of partner NGOs through capacity building. Additionally, and where needed, the project will entrust other more active partner NGOs with some of the potentially delayed activities. |
| Difficulties in supply of goods such animals, canal lining materials, etc. due to specialized nature of these goods and/or large volumes requested | Medium | Alternative suppliers will be sought. Such suppliers include research institutes, with whom the project can partner to produce the needed goods e.g. through intensive breeding for supply of needed goats. |
| | | |
| Non-sustainability of the project due to institutional or financial factors | Low | The Ministry of Agriculture is already adopting the interventions of phase 1 in its programmes in the area- to wheat cultivation so far. Through trainings as well as on-the-job support, the project will also build technical and institutional capacities of partner NGOs to anchor the project at the local level. It also enhances capacities of loans beneficiaries through specialized trainings to help them sustainably manage their projects. At the governorate level, the project will continue using the established climate centers in the agricultural directorates for replication and up scaling. Training of extension officers on climate-related adaptation started under phase 1 will continue. |

**C.** Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

Table 8. Measures for environmental and social risk management

| Checklist of environmental and social principles | Identified environmental or social risk | Risk management measures |
|---|---|---|
| *Compliance with the Law* | NA | NA |
| *Access and Equity* | Low risk- Unequal access by community members to project benefits | Under Phase 1, several measures were taken to ensure transparency and fair access to the different project benefits. Among these were the establishment of oversight committees, transparent targeting, use of You Tube videos, Facebook pages, and on the local level, theatre shows, awareness raising meetings, and contests to reach out to the diverse community members and different age groups, publicize the project and its benefits and mobilize participation in the different activities. Additionally, several channels were made available for voicing complains and making suggestions, if needed. Among these were the project Facebook page, project e-mail address, as well direct contact with the local NGO that in turn passes on the message to the project coordinator and follows -up thereafter. Focus group discussions with men and women -of different age groups -beneficiaries concluded that they found these techniques very informative and effective in enticing wide participation in the different activities, consultations and decision-making committees. The beneficiaries mentioned that they did not face challenges or risks to access project services. They also mentioned examples of situations when the project proactively responded to ensure their convenience. Among those was the scheduling of women trainings in the morning instead to the afternoons Likewise, venues for trainings were consultatively selected to minimize commuting.<br><br>The proposed phase 2 will utilize the measures of phase 1 to ensure equitable and inclusive access to benefits. It will also deploy the complains channels and along with a grievance mechanism (see annex 2) to ensure that no one's access to basic services such as education or health units, energy, clean water or sanitation, land, and |

| | | |
|---|---|---|
| | | safe and decent working conditions is impeded. |
| *Marginalized and Vulnerable Groups* | NA | NA |
| *Human Rights* | NA | NA |
| *Gender Equity and Women's Empowerment* | Medium risk: Women being unable to benefit from the project | To promote women's participation and create a stronger gender-sensitive impact that is observant of local customs and traditions, several measures will be undertaken:<br><br>-women only sessions will be organized to overcome women usually shying away from participation in mixed sessions. In mixed sessions, female-friendly spaces were created.<br><br>-In trainings where women are to be involved, the distance to training venues will be minimized and flexible timing of sessions set in consultation with them.<br><br>- Home visits will be organized as integral part of the community mobilization activities, to maximize outreach of women. To facilitate access to the house as well as openness in these talks, the visits will be undertaken by female volunteers under the oversight of the local partner NGOs.<br><br>-Women will be specifically targeted to benefit from activities where their participation is culturally acceptable, primarily animal raising loans and the agro-processing activities. This will enhance their access to finance and enable them to generate income, contributing directly to their financial empowerment.<br><br>-working with the local partner NGOs to encourage women participation in the Project support committees at the village level<br><br>-to the extent possible, encouraging nomination of women in the different steering committees |
| *Core Labour Rights* | NA | NA |
| *Indigenous Peoples* | NA | NA |

| | | |
|---|---|---|
| *Involuntary Resettlement* | NA | NA |
| *Protection of Natural Habitats* | NA | NA |
| *Conservation of Biological Diversity* | NA | NA |
| *Climate Change* | NA | NA |
| *Pollution Prevention and Resource Efficiency* | Medium risk: 2-5 acres aquaculture and fish processing units potentially causing pollution | Environmental screening and/or assessments will be done for the 2-5 acres aquaculture ponds and processing to identify recommendations for reducing potentials of pollution. The recommendations shall be integrated in the design of the ponds and units and operators shall be trained to follow the operational recommendations. |
| *Public Health* | NA | NA |
| *Physical and Cultural Heritage* | NA | NA |
| *Lands and Soil Conservation* | NA | NA |

## D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

Gender-sensitive monitoring will be undertaken on several levels (see Table 9 below):

- In its capacity as Executing Entity, MALR will undertake monitoring on a day-to-day basis in project locations for activities and progress. MALR will prepare monthly and quarterly progress reports for submission to WFP. Monthly reports will be in accordance to standard WFP reporting requirements. Quarterly progress report formats will be developed prior to the start of the project and included in memoranda of understanding with those entities.
- At the start of the project, the above results framework shall be used, setting major indicators, their baseline and targets at different milestones (mid-term and project completion). In addition, a detailed monitoring plan shall be developed to set out more specific indicators to be measured, the units and frequency of their measurement, the data gathering tools to be used, sources of data, calculation method, etc.
- WFP personnel will undertake regular visits to the project locations to ensure that targets are met. Visits will entail periodically convening focus group discussion and in-depth interviews with key stakeholders to elicit maximum information about progress and road blocks. Special attention will be paid to ensure that women are consulted equally as men. Female monitors will be mobilized for this purpose.

- Annual Progress reports on the overall project will be prepared by WFP, in collaboration with MALR.
- Evaluation will be based on (a final evaluation of project outputs and outcomes.

Table 9. Monitoring and Evaluation Plan

| Task | Responsible Parties | Time frame | Estimated budget (USD) |
|---|---|---|---|
| Monthly and Quarterly monitoring and reports | Project Management | At the end of each month and quarter respectively | 100,000 |
| Annual Progress Reports (APR) | WFP | At the end of each year | 9,000 |
| Meetings of the Project Steering Committee | MALR | Every 3 months | 12,000 |
| Final Evaluation (FE) | WFP recruited external evaluation consultancy | After project conclusion | 20,000 |
| Final Report | WFP and executing agency | Three months after the end of the project | - |

**E.** Include a results framework for the project proposal, including milestones, targets and indicators.

| **Objective** | **Indicator** | **Baseline** | **Target** | **Means of Verification** | **Risks and Assumptions** |
|---|---|---|---|---|---|
| Resilience of Southern Egypt farming communities built in the face of climate change and variability risks to food security | Proportion of Southern Egypt farming communities that are more climate resilient through adoption of adaptation techniques | 40% | 70% | Annual progress reports to the Adaptation Fund<br><br>Final project evaluation | Assume that the universe of climate change risks to rural livelihoods is known and accounted for under the project. Risk is that new facets of climate risks emerge during the project life.<br><br>Risk is that rural communities suffer from other shocks during the project life, which affects their ability to adopt the proposed mechanisms. |
| **Outcome One:**<br><br>Enhanced resilience of target rural communities in Southern Egypt in the face of anticipated climate-impacts on food production through knowledge and technology transfer. | Percentage of target communities in Southern Egypt demonstrating knowledge of climate change and variability and means to reduce risk to their livelihoods. | 77% | 100% | Annual progress reports to the Adaptation Fund<br><br>Final project evaluation | Farmers continue to collaborate together in implementing communal adaptation solutions. |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| **Output 1.1.** Community level mobilization and climate adaptation planning | Number of people participating in awareness sessions and mobilized to participate in project activities in targeted communities | 125,000 (70,000 men and 55,000 women) | 195,000 (107,250 men and 87,750 women) | Record of participants reported<br><br>WFP programme monitoring reports<br><br>Annual progress reports to the Adaptation Fund | Proper communication precedes community mobilization for transparency about the project and its smooth launching.<br>This will be made possible through community volunteers. |
| **Output 1.2.** Establishment of early warning system for loss reduction | Number of functioning early warning units established | 49 | 59 | Records of established and functioning units<br><br>System usage statistics (generated by hosting platform)<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation | Collaboration is maintained between agencies that own and run climate stations (namely Egyptian Meteorological Authority and Ministry of Agriculture) |
| | Number of people using the system | 200,000 | 300,000 | | |

| | | | | | |
|---|---|---|---|---|---|
| | | | | Fund<br><br>End of project evaluation report | |
| **Output 1.3.** Introduction and use of water saving irrigation | Number of acres benefiting from improved irrigation efficiency using low-cost solutions | 8000 | 11,000 | Records of works implemented<br><br>WFP programme monitoring reports<br><br>Annual reports to the adaptation fund<br><br>Final project evaluation | Farmer collaboration in the context of water user associations is ensured. |
| | Number of water users' associations established and operationalized | 100 | 150 | | |
| **Output 1.4.** Adaptation in cultivation and crop diversification promoted | Number of people, disaggregated by sex, benefiting from demonstration farms, enhanced extension services, and farm-to-farm visits to enhance their resilience and reduce climate risks | 37,000 (90% men) | 47,000 (90% men and 10% women) | Records of participants reported<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund<br><br>Final project evaluation | Farmers dedicate space for demonstration farms from among the village land.<br><br>Assumed availability of suitable inputs (seeds, technology and equipment).<br><br>Farmers implement and sustain what they learned/acquired. |
| **Output 1.5.** Building | No. of men and | 30,000 (90% | 50,000 | Records of | Community |

| | | | | | |
|---|---|---|---|---|---|
| resilience through livestock and poultry production | women trained on risk reduction in small ruminants and poultry; animal nutrition or alternative fodder production | women) | (10% men and 90% women) | participants reported<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund<br><br>Final project evaluation | members have adequate access to veterinary services, including vaccines and medicines.<br><br>Availability of suppliers in the region. |
| | Number of men and women benefiting from small loans | 30,000 (90% women) | 50,000 (10% men and 90% women) | | |
| **Output 1.6.** Introduction of aquaculture | Number of aquaculture units established | Currently there are no small or large aquaculture units established | 5 medium size and 100 small size aquaculture units established | Records of established and functioning units<br><br>Records of participants reported<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund | Recommendations of Environmental assessment are followed. |
| | Number of men and women trained on fish production at established aquaculture units | Currently there are no demonstration and training units available | 730 men and 370 women trained | | |
| **Output1.7** Introduction of plastic-covered tunnels for intensifying production | Number of plastic-covered tunnels established | Currently there are no small or large plastic-covered tunnels | 30 plastic-covered tunnels established | Records of established and functioning units | Availability of materials for plastic-covered tunnels establishment |

| | | | | | |
|---|---|---|---|---|---|
| | Number of men and women trained on production and harvesting of vegetables in plastic-covered tunnels | Currently there are no demonstration or training units available | 75 men and 75 women trained | Records of participants reported<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund | and maintenance at the local markets. |
| **Outcome 2:**<br><br>Climate adaptation institutionalised in government and non-governmental stakeholders' practices | Number of key institutions with enhanced capacities to deliver services for climate risk reduction in rural communities | 49 NGOs and 20 governmental with capacities to deliver services for climate risk reduction | 64 NGOs and 30 governmental entities develop needed capacities | Annual progress reports to the Adaptation Fund<br><br>Final project evaluation | Enhanced institutions commit to continue delivering services for climate risk reduction in rural communities. |
| **Output 2.1.** Capacity building of governmental staff and local academic institutions | Number of capacity-strengthening activities to government staff facilitated by the Project | 30 | 60 | Records of participants engaged in activities facilitated by WFP<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund | Officials engaged in capacity-strengthening activities are to continue supporting delivering climate risk reduction services in rural communities in the region. |
| | Number of official engaged in capacity-strengthening activities, disaggregated by sex | 800 | 1,600 | | |
| | Number of capacity-strengthening activities to schools and | 50 | 70 | | |

| | | | | | |
|---|---|---|---|---|---|
| | universities facilitated by the Project | | | | |
| | Number of students engaged in capacity-strengthening activities, disaggregated by sex | 1,000 male and 1,000 female students | 3,000 (1,500 males and 1,500 females) | | |
| **Output 2.2.** lessons learned, and best practices documented and disseminated | Number of knowledge materials produced on risk reduction in agriculture | 18 (8 documentaries and 10 flyers/booklets) | 33 | Records of products procured<br><br>WFP programme monitoring reports<br><br>Annual reports to the Adaptation Fund | Access to communities for documentation is cleared by concerned authorities. |
| | Number of success storied documented | 4 | 6 | | |
| | Number of online messages | 50 | 100 | Records of events and number of participants<br><br>WFP programme monitoring reports<br><br>Annual | |
| | Number of TV and radio programs aired | 10 | 15 | | |

| | | | | | |
|---|---|---|---|---|---|
| | Number of social media channels established/used | 7 | 10 | reports to the Adaptation Fund | |
| | Number of events organized and presentations made | 20 | 40 | | |

**F.** Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund

| **Project Objective** | **Project Objec Indicator** | **Fund Outcome** | **Fund Outcome Indicator** | **Grant Amount (USD)** |
|---|---|---|---|---|
| Resilience of Southern Egypt farming communities built in the face of climate change and variability risks to food security. | Proportion of Southern Egypt farming communities that are more climate resilient through adoption of water efficient irrigation, risk reduction measures in agriculture and livestock, diversified income sources, and access to early warning systems and adaptation guidance | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas<br>Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses | 6.2. Percentage of targeted population with sustained climate-resilient livelihoods<br>2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks | 2,605,600 |
| **Project Outcomes** | **Project Outcome Indicators** | **Fund Output** | **Fund Output Indicator** | |

| | | | | |
|---|---|---|---|---|
| Enhanced resilience of target rural communities in Southern Egypt in the face of anticipated climate-impacts on food production through knowledge and technology transfer | Percentage of target population in Southern Egypt demonstrating knowledge of climate change and variability and means to reduce risk to their livelihoods<br><br>Number of people adopting at least one climate risk reduction measures in agriculture and livestock | Output 6:Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual or community-livelihood strategies | 2,485,600 |
| Climate adaptation institutionalised in government and non-governmental stakeholders' practices | Key institutions develop needed capacities to deliver services for climate risk reduction in rural communities | Output 2.1: Strengthened capacity of national and regional centers and networks to respond rapidly to extreme weather events<br><br>Output 2.2: Targeted population groups covered by adequate risk reduction systems | 2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events<br><br>2.1.2. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased<br><br>2.2.1. Percentage of population covered by adequate risk-reduction systems | 120,000 |

**G.** Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

| Components | Outputs | category | Notes | PY1 | PY2 | PY3 | Total |
|---|---|---|---|---|---|---|---|
| Component 1. Enhancing Resilience of Southern Egypt Communities | 1.1. Community mobilization and planning | National consultants | Field staff, plus national experts in community mobilization | 15,000 | 15,000 | 10,000 | 40,000 |
| | | Workshop and training | Field workshops costs | 10,000 | 5,000 | 10,000 | 25,000 |
| | | Travel | Travel cost of national consultants | 20,000 | 20,000 | 30,000 | 70,000 |
| | | | | 45,000 | 40,000 | 50,000 | **135,000** |
| | 1.2. Climate Information Centers and early warning system established | National consultants | Field staff, plus national experts in early warning system | 15,000 | 15,000 | 15,000 | 45,000 |
| | | Procurement of goods | Computers and IT equipment for the furnishing of 10 early climate warning units | 10,000 | 10,000 | 10,000 | 30,000 |
| | | Workshop and training | Field workshops costs | 0 | 5,000 | 5,000 | 10,000 |
| | | Travel | Travel cost of national consultants | 5,000 | 5,000 | 5,000 | 15,000 |
| | | | | 30,000 | 35,000 | 35,000 | **100,000** |
| | 1.3. Water-saving techniques are introduced and used | National consultants | Field staff, plus national experts in water saving techniques | 10,000 | 15,000 | 20,000 | 45,000 |
| | | Procurement of goods | Construction material for canals lining of 10 Km, in addition to the cost of setting up 5 solar-powered irrigation pumps | 179,228 | 250,000 | 400,000 | 829,228 |
| | | Workshop and training | Field workshops costs | 5,000 | 5,000 | 5,000 | 15,000 |
| | | Travel | Travel cost of national consultants | 7,000 | 10,000 | 10,000 | 27,000 |
| | | | | 201,228 | 280,000 | 435,000 | **916,228** |
| | 1.4. Adaptation in cultivation and crop diversificati on promoted | National consultants | Field staff, plus national experts in building resilience and adaptation in agriculture | 30,400 | 36,420 | 37,491 | 104,311 |
| | | Service contracts/FLA | Agricultural mechanization services for 2000 acre of cultivated land | 50,000 | 100,000 | 100,000 | 250,000 |
| | | Procurement of goods | Agricultural production inputs (improved seeds, fertilizer, etc.) for | 50,000 | 70,000 | 100,000 | 220,000 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | cultivation of an area of 2000 acres | | | | |
| | | Workshop and training | Field workshops costs | 5,000 | 5,000 | 5,000 | 15,000 |
| | | Travel | Travel cost of national consultants | 17,625 | 22,625 | 22,625 | 62,875 |
| | | | | 153,025 | 234,045 | 265,116 | **652,186** |
| | 1.5. Livelihood diversification is supported through animal production | National consultants | Field staff, plus national experts in livelihood diversification | 15,000 | 15,000 | 20,000 | 50,000 |
| | | Procurement of goods | Procurement of goats, birds and honey bees for in-kind loan capital for lending 2,000 women | 30,000 | 50,000 | 40,000 | 120,000 |
| | | Workshop and training | Field workshops costs | 5,000 | 10,000 | 10,000 | 25,000 |
| | | Travel | Travel cost of national consultants | 10,000 | 10,000 | 10,000 | 30,000 |
| | | | | 60,000 | 85,000 | 80,000 | **225,000** |
| | 1.6. Intensified Horticulture Production | National consultants | Field staff, plus national experts in intensified horticultural production | 5,000 | 5,000 | 5,000 | 15,000 |
| | | Procurement | Establishment of 30 medium size greenhouses | 10,000 | 50,000 | 50,000 | 110,000 |
| | | Workshop and training | Field workshops costs | 10,000 | 10,000 | 10,000 | 30,000 |
| | | Travel | Travel cost of national consultants | 10,000 | 20,000 | 20,000 | 50,000 |
| | | | | 35,000 | 85,000 | 85,000 | **205,000** |
| | 1.7. Introduction of aquaculture production | National consultants | Field staff, plus national experts in aquaculture | 25,400 | 31,420 | 37,491 | 94,311 |
| | | Procurement of goods | Establishment of 5 medium size fish farming units and 100 small units | 20,000 | 30,000 | 40,000 | 90,000 |
| | | Travel | Travel cost of national consultants | 12,625 | 12,625 | 12,625 | 37,875 |
| | | Workshop and training | Field workshops costs | 10,000 | 10,000 | 10,000 | 30,000 |
| | | | | 68,025 | 84,045 | 100,116 | **252,186** |
| **Total Component 1** | | | | **592,278** | **843,090** | **1,050,232** | **2,485,600** |
| Component 2. Building institutional capacity for replication | 2.1. Capacity building of government al staff and | National consultants | Field staff, plus national experts in capacity building of governmental | 10,000 | 10,000 | 10,000 | 30,000 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | local academic institutions | | staff | | | | |
| | | Procurement | Office Supplies for improvement of extension services provided by Agricultural Extension Sector | 5,000 | 5,000 | 5,000 | 15,000 |
| | | Workshop and training | Field workshops costs | 5,000 | 5,000 | 5,000 | 15,000 |
| | | Travel | Travel cost of national consultants | 5,000 | 5,000 | 5,000 | 15,000 |
| | | | | 25,000 | 25,000 | 25,000 | **75,000** |
| | 2.2. lessons learned, and best practices documented and disseminated | National consultants | Field staff, plus national experts in documentation and dissemination of innovations | 0 | 6,000 | 1,000 | 7,000 |
| | | Service contracts/FLA | Production of 3 documentaries on the project activities | 0 | 10,000 | 0 | 10,000 |
| | | Travel | Travel cost of national consultants | 0 | 2,000 | 0 | 2,000 |
| | | Service contracts/FLA | Broadcast cost of the project documentaries | 0 | 2,000 | 2,000 | 4,000 |
| | | Workshop and training | Field workshops costs | 0 | 7,000 | 8,000 | 15,000 |
| | | Travel | Travel cost of national consultants | 0 | 4,500 | 2,500 | 7,000 |
| | | | | 0 | 31,500 | 13,500 | **45,000** |
| **Total Component 2** | | | | 25,000 | 56,500 | 38,500 | **120,000** |
| | | | 1+2 | **617,278** | **899,590** | **1,088,732** | **2,605,600** |
| 6. Project/Programme Execution cost | National Project Coordinator | | | 15,600 | 16,380 | 17,199 | 49,179 |
| | Project Associate | | | 20,400 | 21,420 | 22,491 | 64,311 |
| | Finance assistant | | | 1,380 | 1,449 | 1,522 | 4,351 |
| | Admin assistant | | | 1,302 | 1,367 | 1,435 | 4,104 |
| | M&E Officer | | | 2,760 | 2,898 | 3,043 | 8,701 |
| | Office rent and running cost | | | 10,800 | 10,800 | 10,800 | 32,400 |
| | Office Supplies | | | 3,600 | 3,600 | 3,600 | 10,800 |
| | ITC equipment | | | 2,880 | 2,880 | 2,880 | 8,640 |
| | Vehicle leasing and running costs | | | 4,800 | 4,800 | 4,800 | 14,400 |
| | Travel cost | | | 3,264 | 3,250 | 3,250 | 9,764 |
| | Inception workshop | | | 15,000 | - | - | 15,000 |
| | Travel of the Project coordinator | | | 2,000 | 1,750 | 1,500 | 5,250 |
| | Final financial audit + evaluation | | | - | - | 20,000 | 20,000 |
| | **Total Execution Costs** | | | **83,786** | **70,594** | **92,520** | **246,900** |
| 7. Total Project Cost | | | | **701,064** | **970,184** | **1,181,252** | **2,852,500** |
| 8. MIE Management Fee | | | | 59,590 | 82,466 | 100,406 | 242,462 |
| **Amount of Financing Requested** | | | | **760,654** | **1,052,650** | **1,281,658** | **3,094,962** |

**Notes to the budget**

**MIE Management Fees:** The MIE management fees will be utilised by WFP as the Multilateral Implementing Entity to cover costs associated with the provision of the general management support in Egypt. It covers the costs of management services provided by WFP Egypt Country Office and WFP Headquarters in support of the implementation of the project. The table below provides a breakdown of the estimated costs of providing these services.

| **Breakdown of costs for the project management fees** | | |
|---|---|---|
| Finance and Budget support and supervision | • General oversight and supervision, management and quality control<br>• Ensure compliance with WFP judiciary standards and internal control processes, relevant international and national regulations and Adaptation Fund's rules and policies<br>• Manage, monitor and track financial transactions<br>• Manage all Adaptation Fund financial resources | 32,410 |
| Programme and performance management support and supervision | • Technical support, troubleshooting, and support missions as necessary<br>• Specialised policy, programming and implementation support services<br>• Provide guidance in establishing performance measurement processes<br>• Supervision of overall project implementation | 33,365 |
| Information and Telecoms Support | • Includes maintaining information management systems and specific project management databases to track and monitor project implementation | 27,410 |
| Evaluation and knowledge management advice | • Technical support in methodologies, innovative solutions, validation of Terms of Reference, identification of experts, results validation and quality assurance<br>• Supervision of preparation of annual project reports and project evaluation reports and quality control | 44,820 |
| Audit and inspection support | • Ensure compliance with audit requirements<br>• Ensures financial reporting complies with WFP and Adaptation Fund standards<br>• Ensure accountability and incorporation of lessons learned | 69,638 |
| Legal Support | • Legal advice to assure conformity with WFP legal practices and those of Egypt and contract review | 34,819 |
| **Total MIE fee** | | **242,462** |

**H.** Include a disbursement schedule with time-bound milestones.

| | Upon Agreement signature | One year after project start (Year 2) | Year 3 | Total |
|---|---|---|---|---|
| Scheduled date | July 2020 | July 2021 | July 2022 | |
| Project Funds | 701,064 | 970,184 | 1,181,252 | **2,852,500** |
| Implementing Entity (WFP) Fee (8.5%) | 59,590 | 82,466 | 100,406 | **242,462** |
| **TOTAL** | **760,654** | **1,052,650** | **1,281,658** | **3,094,962** |

## PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

**A. Record of endorsement on behalf of the government**[32] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

| | |
|---|---|
| *(Enter Name, Position, Ministry)*<br>Eng. Sherif Abdel Rehim, Head of Climate Change Central Department, Ministry of Environment | Date*: (Month, day, year)*<br>1,9,2020 |

**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

| | |
|---|---|
| I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme. | |
| Dr. Ithar Khalil, Head of Smallholders and Climate Resilience Unit<br>Implementing Entity Coordinator | |
| Date: *1,13,2020* | Tel. and email: 2-02-25261992; Ithar.khalil@wfp.org |
| Project Contact Person: Dr. Ithar Khalil | |
| Tel. And Email:+2-02-25261992; Ithar.khalil@wfp.org | |

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

## PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

**A. Record of endorsement on behalf of the government**[31] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

| *(Enter Name, Position, Ministry)* | Date*: (Month, day, year)* |
|---|---|
| Eng. Sherif Abdel Rehim, Head of Climate Change Central Department, Ministry of Environment | 1,9,2020 |

**B. Implementing Entity certification** *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

| | |
|---|---|
| I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme. | |
| Dr. Ithar Khalil, Head of Smallholders and Climate Resilience Unit<br>Implementing Entity Coordinator | |
| Date: *1,13,2020* | Tel. and email: 2-02-25261992; Ithar.khalil@wfp.org |
| Project Contact Person: Dr. Ithar Khalil | |
| Tel. And Email:+2-02-25261992; Ithar.khalil@wfp.org | |

[9] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes propo.sed by the implementing entities.

*Arab Republic of Egypt*
*Cabinet of Ministers*
*Ministry of State for Environmental Affairs*
*Egyptian Environmental Affairs Agency*

جمهورية مصر العربية
رئاسة مجلس الوزراء
وزارة الدولة لشئون البيئة
جهاز شئون البيئة

**Endorsement Letter by the Government of Egypt**
**Egyptian Environmental Affairs Agency / EEAA**
**Ministry of Environment**

[09/01/2020]

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

**Subject: Endorsement for the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region Project - Phase 2 project.**

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

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by the World Food Programme and executed by the Ministry of Agriculture and Land Reclamation.

**Sincerely,**

**Eng.Sherif Abdel Rehim**

**Head of Climate Change Central Department**
**National Focal Point of UNFCCC/IPCC**
**National Focal Point for Adaptation Fund**

٣٠ طريق حلوان الزراعى - خلف فندق سوفيتل المعادى - القاهرة الرقم البريدى ١١٧٢٨ ت: ٢٥٢٥٦٤٥٢ فاكس: ٢٥٢٥٦٤٩٠
30,Misr Helwan El - Zyrae Rd., Maadi - Cairo. P.O. 11728 Tel. : 25256452 - Fax : 25256490

Noura 9/1
Mohamed 9/1

# 5. ANNEXES

## *Annex 1 Beneficiary figures*

| Project/Programme Components | Expected Concrete Outputs | Males Beneficiaries | Females Beneficiaries | Total Beneficiaries |
|---|---|---|---|---|
| **1. Enhancing Resilience of Southern Egypt Communities** | Output 1.1. Community level mobilization and climate adaptation planning | 5,000 | 5000 | 10,000 |
| | Output 1.2. Establishment of early warning system for loss reduction | 20,000 | 20000 | 40,000 |
| | Output 1.3. Introduction and use of water saving irrigation | 2,000 | | 2,000 |
| | Output 1.4. Adaptation in cultivation and crop diversification promoted | 4000 | | 4000 |
| | Output 1.5. Building resilience through livestock and poultry production | 1000 | 6000 | 7000 |
| | Output 1.6 Introduction of aquaculture | 500 | 500 | 1000 |
| | Output 1.7 Introduction of plastic-covered tunnels for intensifying production | 150 | | 150 |
| **2. Institutional capacity building for replication** | 2.1 Capacity building of governmental staff and local academic institutions | 200 | 200 | 400 |
| | 2.2. Documentation and Dissemination of lessons learned and best practices | 1000 | 1000 | 2000 |
| **Total** | | 33850 | 32700 | 66550 |

# *Annex 2 Stakeholders Engagement and Grievance Mechanism*

## 1. INTRODUCTION

This **Stakeholders Engagement and Grievance Mechanism** is developed as part of the submission of Phase 2 of the Building Resilient Food Security Systems to Benefit the Southern Egypt Region Project proposed by the World Food Programme (WFP)-Egypt Country Office to the Adaptation Fund (AF). It builds on the successful stakeholder's engagement and grievance mechanisms put and implemented by Phase 1.

## 2 STAKEHOLDER ENGAGEMENT

The project shall use several tools to ensure stakeholders' active engagement in planning, guiding and implementation of activities for enhanced ownership and sustainability. These included:

**Project Support committees**.

Committees hosted by the local partner NGOs will be established to meet monthly. They are to agree on upcoming activities, monitor ongoing ones, discuss risks and challenges faced and means to overcome them, as well as assign roles and responsibilities to the different implementation teams.

**Local Steering committee**

At a higher level, project will establish district-level steering committees to engage middle-management officials from concerned ministries -the Ministries of Agriculture, Irrigation, Education and Social Solidarity. This committee will meet quarterly to review progress, discuss challenges and guide next steps.

**Governorate-level Steering Committee**

These committees will be chaired by the Governors and will be comprised of the Directors of Agriculture, Irrigation, Education and Social Solidarity. To meet quarterly, these governorate-level are to strategically guide the project, leverage additional resources and discuss how to overcome challenges.

**National Steering Committee**

A Cairo – based committee comprised of WFP, the Ministry of Agriculture, Directors of the relevant research institutes, the Egyptian Environmental Affairs Agency, and the Egyptian Metrological Authority will be formed. Meeting bi-annually, this committee will be to engage central senior -level officials who offered strategic guidance and support.

**Annual Project Workshop**

The project will organize an annual event to bring together the representatives of the different partners to share experiences, discuss challenges faced and lessons learned, during the year and develop the project workplan for the upcoming year. Participants in event this will include representatives of the partner NGOs in the all the project villages, the concerned government officials from the 5 project Governorates, as well he technical experts of different project interventions.

## 3 GRIEVANCE MECHANISM

The direct objective of the grievance mechanism to address affected communities' concerns and complaints— as an important pillar of the stakeholder engagement process.

The indirect objective of this mechanism is to help build trust, contribute to maintaining broad community support for the project, and ultimately enhance potentials for the long-term sustainability of the project interventions.

**What is the scope of this mechanism?**

This mechanism is to receive concerns or complaint raised by an individual or a group within communities affected by the project activities. It is also a channel to communicate questions, requests for information, and suggestions.

**Principles of the mechanism**

The following principles underlie this mechanism:

Promptness. The mechanism should address community grievances, questions, requests for information, etc. in a prompt manner.

Cultural Appropriateness. The mechanism was designed taking into account culturally appropriate ways of handling community concerns. To that end, affected communities participated in the design of this mechanism.

Accessibility and Transparency: It uses a clear understandable, and transparent process that is accessible to all segments of the affected communities at no cost

Steps of the Mechanism

Step 1: Publicizing Grievance Management Procedures

The grievance mechanism shall be publicized in the project communities at the start of the project. This will be during the awareness raising sessions and home visits. It will also be announced through advertisements to be hung in visible areas of the village. The information to be relayed about the mechanism shall include:

• the channels available to receive grievances

the benefits complainants can receive from using the grievance mechanism

• Who can raise complaints

• Where, when, and how community members can file

• What sort of response complainants can expect, including timing of response

• What other rights and protection are guaranteed.

Step 2: Receiving and Keeping Track of Grievances.

The following channels will be made available to receive grievances:

- A dedicated e-mail to receive messages.
- A dedicated PO box
- A WhatsApp group
- A face book page
- A telephone landline

Once grievances are received, the project will process them. Processing will include 1) collecting the grievances; 2) recording grievances as they come in; 3) registering them in a database; and 4) tracking them throughout the processing cycle to reflect their status and important details.

All incoming grievances will be acknowledged within 2 days of receipt. This acknowledgement shall include the step to be taken to address the grievance and a timeline for response. If the grievance is clearly outside the scope of the project, the complainant shall be notified upfront.

Step 3: Reviewing and Resolving Grievances

Upon receipt of a grievance, the project manager shall designate one of the project staff in the governorate to review and investigate the grievance. The staff member is to respond to the project manager within 10 days of his designation. If the staff member's response indicated that he was able to resolve the grievance, it is marked as resolved in the tracking system.

If the staff member is not able to resolve the grievance, a committee comprised of the staff member, his supervisor and the project manager is to review it. If this project committee is not able to resolve the grievance within 10 days, it is escalated to a committee comprised of a legal independent expert, an independent expert and the project manager for reassessment and resolution within 15 days.

For transparency, options for resolution will be developed in a participatory manner where the complainant is and/or community representatives are involved.

Step 4 Preparing a response and closing out

A response detailing the agreed upon resolution option shall be communicated to the complainant within 5 days of resolution. The response shall be communicated through the channel used to raise the grievance.

In cases of written grievances, a written acceptance of resolution shall be requested from the complainant. If the acceptance is not received within 30 days, the project shall consider the resolution accepted and the grievance closed.

Documentation of discussion and corrective actions taken for resolution shall be put on file.

# *Annex 3 Gender Analysis and Action Plan*

## 1. INTRODUCTION

This Gender analysis and Gender Action Plan Annex is part of the Phase 2 of the 'Building Resilient Food Security Food Systems to Benefit the Southern Egypt' project proposal submitted by the World Food Programme (WFP)-Egypt Country Office to the Adaptation Fund (AF). Building on the success of phase 1, Phase 2 aims to upscale interventions of Phase 1 in new villages in Southern Egypt.

This Gender analysis and Gender Action Plan Annex is guided by the AF's principles-based Gender Policy (GP) and its accompanying Gender Action Plan (GAP), which aim at mainstreaming gender and ensuring that projects and programmes supported by the Fund provide women and men with an equal opportunity to build resilience, address their differentiated vulnerabilities and increase their capability to adapt to climate change impacts. It also guided by the WFP's Gender Policy, which enables WFP to integrate gender equality and women's empowerment into all of its work and activities.

The Gender analysis is to understand the dynamics of the relationships between men and women, their needs, opportunities, activities and challenges they face to ensure a gender-responsive project. It provides an overview of the gender situation at the national level, then delves into the situation at the project region. It describes existing challenges and priorities and provides a comprehensive description of the gender roles and the diverse responsibilities, access and use of resources, power relations and participation of women and men, and the existing vulnerabilities and coping capacities with respect to climate change impacts and adaptation. Based on this situation, conclusions regarding challenges and opportunities for ensuring gender equality in the project are drawn.
The Gender Action Plan identifies actions and procedures that ensure that the project activities and expected results are gender-responsive. It also recommends tools and approaches for a gender-responsive monitoring and evaluation.

In Egypt, little analysis of the relation between gender inequalities and climate adaptation has been developed, and most is about vulnerability indicators of women in Upper Egypt in general. The analysis presented in this document fills this gap in information by providing a deeper look into the root causes of inequalities and on the direct links between gender issues and climate adaptation.

This gender analysis provides inputs that will enable the project to give women equal access to knowledge, awareness, capacity building, resources and technology, which are prerequisites in effective adaptation to climate change. Likewise, it gives foundations to set up activities in ways that ensure active participation of women in decision-making and policy development at all levels of the project. It enables the project to maximize its contribution to the economic, social and environmental pillars of Egypt's Sustainable Development Strategy - Egypt's Vision 2030, and is aligned with the National Women's Empowerment Strategy and the National Sustainable Agricultural Strategy. It also enables the project to maximize its contribution to the Sustainable Development Goals; SDG 2 Zero Hunger, SDG 13 Climate Action, SDG 15 on-Life on Land, SDG 17 Partnerships, as well as (SDG 5) Gender Equality, more specifically targets 5.3, 5.4, 5.B and 5.C.

### 2. METHODOLOGY

The analysis builds on secondary data and sources including national policy documents, research and studies and publications. Primary data was obtained through focus discussions and key informant interviews conducted in the course of Feb-May 2019. Focus group discussions were undertaken with 142 men and 161 women in communities of the project area. Participants in these groups came as result of a two stepped approach where: 1) announcements of the focus group objective, venue and timing was publicized in the villages by local CBOs to attract interested men and women and 2) representation of men and women that would be willing to implement new adaptation techniques from different locations in the village was particularly ensured through targeted invitations by the NGO and community leaders. Key informant interviews were conducted with diversified government officials, capacity development organizations, experts and academics to provide specialized information on the different food security, rural development agricultural, irrigation, livestock production and institutional topics dealt with.

### 3.GENDER ANALYSIS

### 3.1 Gender legislative and strategic framework

Egypt has achieved significant progress on the gender equality and women's empowerment legislative and strategic framework in the recent years, the most important of which are the adoption of the Egyptian Constitution and the National Strategy for the Empowerment of Egyptian Women 2030, as well as the issuing of three national strategies to address violence against women, early marriage and female genital mutilation/cutting. The Government of Egypt has also amended laws on inheritance and sexual harassment. The Egyptian Sustainable Agricultural Strategy 2030, issued in 2010, is also relevant to this project because it includes strengthening the role of women in agricultural development.

**The constitution and legal status**

Egypt's Constitution of 2014, which was approved by 98% of voters in a popular referendum, grants women the same legal status of men. It includes provisions that guarantee equal opportunities for women and men, prevents discrimination against women, and ensures their protection. Expressing Egyptians' aspirations to achieve social justice, the Constitution emphasizes that Egyptian people, both men and women, are "sovereigns in a sovereign homeland", and that the Constitution is theirs and expresses their will. In Article 8 it stipulates that the State commits to achieving social justice, providing the means to achieve social solidarity to ensure a decent life for all citizens, in the manner specified by law. In addition, Article 53 stipulates that: "citizens are equal before the law, possess equal rights and public duties, and may not be discriminated against on the basis of religion, belief, sex, origin, race, color, language, disability, social class, political or geographical affiliation." The Constitution also considers discrimination and incitement to hatred as crimes punishable by law. It also commits the State to take necessary measures to eliminate all forms of discrimination and stipulates the establishment of an independent commission for the elimination of discrimination.

**National Strategy for the Empowerment of Egyptian Women 2030**

In March 2017, Egypt launched its National Strategy for the Empowerment of Egyptian Women 2030. This strategy responds to the principles of Egypt's Constitution, which enshrines equal rights and opportunities as the cornerstone of sustainable nation building. It is also in line with Egypt's Vision 2030[33] and its Sustainable Development Strategy that seeks to build a just society, which guarantees the rights and equal opportunities the nation's citizens to the highest degree of social integration of all groups, and the belief that the Egyptian state's stability and progress will only be achieved by ensuring the active participation of women in all aspects of national work.

The strategy is comprised of four pillars: women's political empowerment and leadership; women's economic empowerment; women's social empowerment; and women's protection. An emphasis is made on the need for serious efforts to change the social culture and norms that limit women's full participation, in addition to strengthening women's access to their legal rights.

**Women in the Sustainable Agricultural Strategy 2030**

The 2010 Egyptian Sustainable Agricultural Strategy 2030 states strengthening the role of women in agricultural development as one of its priorities. It highlights the following actions to be taken by concerned entities to this end:

- introducing continued and focused media campaigns to highlight the role of women in the rural development process;
- coordination among entities active in the field of rural women;
- provision of educational, institutional and financial support to support rural women;
- introducing new concessional credit lines compatible with the economic conditions of rural women; and
- facilitating group lending procedures.

### 3.2 Gender Equality Situation at National Level

In spite of the genuine political will to achieve equality and improve women's conditions as well as the solid legislative framework supporting it, the status of women at the national level lags behind on several fronts as described below:

[33] http://www.cabinet.gov.eg/English/GovernmentStrategy/Pages/Egypt%E2%80%99sVision2030.aspx

**Global Indices**

***Gender Inequality Index(GII) of the United Nations Development Programme[34]***

Egypt ranked 131 among the 156 countries that were included in the latest (2014) index, with a value of 0.573.

***Gender Gap Index (GGI) of The World Economic Forum***

In 2016, Egypt ranked 132 out of 144 countries included in the GGI, with a score of 61%. The index is comprised of four components, namely health, education, economic and political participation. On the health sub-index, Egypt ranked 95th with a score of 97%, indicating a relative improvement from the 2015 GGI. This was followed by the education sub-index, on which Egypt ranked 112th, with a score of 95%. With regard to women's political participation, Egypt ranked 115th, with a score of 9%, while women's economic participation and opportunities came last on the list, placing Egypt in the 132nd rank, among 144 countries, with a score of 44%.

***Political Participation and Leadership***

Egyptian women obtained suffrage rights for the first time under the 1956 Constitution, making them to be the first in the Arab region to obtain such rights. Despite being an early pioneer of women's political participation, relevant indices place Egypt at the lower ranks compared to other countries worldwide. With regard to women's representation in the parliament, 76 women were elected in the 2015 parliamentary election, 56 of which were elected by lists and 20 via the single-seat system. The President of Egypt appointed 14 additional women, bringing the total number of women parliamentarians to 90, or 15% of the total seats (currently comprised of 596 seats). Consequently, Egypt's global ranking with regard to the percentage of women parliamentarians stands at 132 out of 188[35].

On the level of local councils, Article 180 of the Constitution allocated a quarter of the seats for women in each elected local unit at all levels of local government (governorate, district, town, and village). The total number of women candidates for the last local council's elections held in 2008 was 6,000 candidates, out of which 2,495 won actual seats, comprising 4.7% of the total 53,010 local council's seats.

Women's presence in leadership positions in local councils, which are supervised by the Ministry of Local Development at the various levels (governorate, district, town and village), is extremely limited. The first ever female governor in Egyptian modern history was appointed in February 2017. In addition, a limited number of women occupy the positions of heads of districts and mayors.

***Educational Status***

Nationally, Egyptian women are bridging the gender gap in education. Most enrollment indices are in favor of women, with the proportion of female students exceeding that of male students in general secondary education, at 56%. In addition, the proportion of female students at Egyptian universities (excluding Al-Azhar University) exceeded that of male students, reaching 43% in the academic year 2016/2017[36]. The percentage of females among university graduates stands at 53%, while females comprise 47% of graduates of medicine faculties and 61% of pharmacy faculties. Gender-disaggregated data for postgraduate studies also show considerable achievement, with females constituting 51% of master's degree holders and 44% of Ph.D. holders[37].

Despite these achievements, eradicating illiteracy among women remains one of the significant challenges facing Egypt. The rate of illiteracy among girls at the age of 10-18 stands at 27%, while illiteracy rates of women are 32% compared with 16% for men. The gap increases at the lower socio-economic levels and in rural areas[38].

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[34] An index that measures gender disparities in five aspects related to reproductive health, empowerment, and the labor force; the lower the index, the narrower the gender gap.

[35] http://archive.ipu.org/wmn-e/classif.Htm

[36] http://www.capmas.gov.eg/Pages/Publications.aspx?page_id=5104&YearID=23316

[37] National Strategy for the Empowerment of Egyptian Women 2030

[38] Demographic and Health Survey 2014, El Zanaty and associates, Egypt 2014

***Employment and Participation in Economy***

Official data confirms that considerable inequality between men and women persists in terms of participation in economic activity, with women's participation not exceeding 24% of the total workforce. Moreover, the rates of unemployment among women are high compared to that of men, reaching almost 24% against 8.9% among men. Most women work in unpaid and informal jobs, with around 25% working in agriculture -primarily in Lower Egypt. The percentage of small enterprises managed by women is only 23%, and while 45% of microcredit in Egypt target women, the average size of loans received by women is L.E. 2500 which is considerably less than that received by men (L.E. 4500).[39]

***Health Status***

The cost of health services, especially at times of economic reform, may prevent women from accessing adequate healthcare services. Approximately 5% of Egyptian women, most of which regard its services as poor in quality, are covered by health insurance[40]. In order to enhance the health condition of women in general, and that of marginalized women in particular, it is necessary to expand the umbrella of health insurance provision and improve its services.

It is to be noted that in spite of the low coverage of health insurance, the government has paid increasing attention to maternal health over the last decades. As a result, maternal mortality ratio of Egypt was declining at a moderating rate to shrink from 78 deaths per 100,000 live births in 1996 to 33 deaths per 100,000 live births in 2015. Similar trends are seen in child mortality rates, between 1967 and 2016, infant mortality rate of Egypt was declining at a moderating rate to shrink from 169.9 deaths per 1,000 live births in 1967 to 19.4 deaths per 1,000 live births in 2016[41].

According to the latest WHO data published in 2015 life expectancy in Egypt is 68.8 for male and 73.2 for female and total life expectancy is 70.9 which gives Egypt a World Life Expectancy ranking of 107.

***Female-headed households***

The definition of female heads of households[42] differs from one survey to another, which leads to different percentages. The Egypt Demographic and Health Survey 2014 indicates that females head 13% of households, compared to 87% headed by males. Female-headed households were more common in urban than in rural areas, where 16% of households in urban areas were headed by females compared to about 11% of households in rural areas. According to data from the Income, Spending and Consumption Research 2012/2013 [Central Agency for Public Mobilization and Statistics (CAPMAS)], female-headed households constitute 17.8% of the total sample households, with an average household size of three persons.

***Gender Based Violence***

Despite the existence of laws protecting women from violence, these laws are often not well known either by citizens or authorities, contributing to a lack of reporting of violations, a lack of enforcement or lenient sentencing for those convicted.

Some cultural values that imply that violence against women is the prerogative of husbands or fathers contribute to this problem, as does the accepting portrayal of violence against women in the media. Another factor preventing women from reporting violence is a general fear of engaging with the police, the legal system and the government.[43]

***Challenges to Gender Equality***

As identified in the **National Strategy for the Empowerment of Egyptian Women 2030** and other sources, there are several cultural, social as well as physical challenges that remain to impede the achievement of gender equality in Egypt. Among these are:

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[39] The Egyptian Financial Supervisory Authority (EFSA), Egypt 2016

[40] Egyptian Women's Needs Survey, National Center for Social and Criminological Research, Egypt, 2016

[41] https://knoema.com/atlas/Egypt/Child-mortality-rate

[42] which include widows, divorced and abandoned wives

[43] http://www.un.org/womenwatch/daw/vaw/ngocontribute/Egyptian%20Center%20for%20Women_s%20Rights.pdf

**Possession of ID cards**. A very high number of women do not have national identification cards (national ID cards). As a result of not having issued a national ID, women are deprived from exercising political rights, accessing opportunities, economic and social rights, and employment in the formal sector, receipt of loans, access to financial services, or any formal engagement.

**Commonly held perceptions, beliefs and stereotypes**. Perceptions and norms impede women engagement in several sectors such as economic activities. For example, despite the high emphasis on the importance of education for women and girls, 82% of Egyptians believe that, in the event of having less job opportunities, men should be prioritized without any due considerations of merit and competence that should be determining factors in job selection, while 55% believe that women are not capable of holding some positions[44].

**Division of Labor**, **Roles and Responsibilities**. Typically, women and girls bear care responsibilities for children and the elderly, besides daily domestic chores in an unequitable manner.[45] According to the International Men and Gender Equality Study in the Middle East and North Africa (IMAGES MENA) issued in 2017, Egyptians have a genuine belief that women should perform all household tasks like cooking and cleaning, while the men's role is to have the final word on household decisions. The study showed that 86.8 percent of Egyptian men and 76.7 percent of women believe that a woman's most basic role is to take care of the home and cook for the family, while 90.3 percent of men and 58.5 percent of women reported that the man should have the final decision in his home. This along with a reported absence of mechanisms and services that support working women, leaves a considerable number of women with no choice but to refrain from working.

**Gap in Wages**. Although, the labor law guarantees equal pay for equal work, there is evidence of an existing gap in the average wages earned by women compared to men as a result of gender-based discriminatory work practices. 51% of working women are concentrated in jobs that are placed at the bottom of the career ladder, which, in turn, leads to less earned income compared to men who work in the same jobs by almost EGP 168 per month[46].

**Limited benefits of informal labour**. Most female heads of households (65%) work in the informal sector. In addition to the instability, low-pay, and tedious nature associated to this labor, they also lack insurance, benefits and medical care associated with formal, higher-skilled employment [47].

**Poor access to justice**: Women's access to justice in Egypt is limited because of the lack of resources, capacities, and mechanisms in law enforcement entities, other state institutions, and civil society organizations that are expected to provide legal assistance, protect, and fulfill the rights of women. This access is further exacerbated through a prevailing societal culture that discriminates against women.

In addition, a number of other factors have been identified to contribute to women's hindered empowerment in Egypt, particularly in rural areas[48]. These include:

- Limited exposure to different experiences and cultures which limits women capacities and abilities to compete with men;
- Limited availability of information and the ability to deal with communication information with technology which limits women's' access to and use of information in a transformative manner e.g. to improve their production, to establish an income generating activity, market products, etc.;
- A disabling environment, whether it relates to culture or infrastructure as well as elements associated to geographical locations, where women's outreach and access to resources and opportunities is restricted.

### 3.3 Gender Analysis in Project Villages

[44] Survey of Social and Political Transformations in the Arab World. Baseera Center, 2014.

[45] Study of the Egyptian Labor Market – Central Authority for Public Mobilization and Statistics (2016).

[46] Study of Egyptian Women's Economic Empowerment: The Egyptian Center for Economic Studies, Egypt (2016)

[47] Study of the Egyptian Labor Market – Central Authority for Public Mobilization and Statistics (2016).

[48] National Strategy for the Empowerment of Egyptian Women 2030

This section is based on the focus groups and key informant interviews, augmented by references which specifically illuminate the gender inequalities of rural women in the project region.

**Gender Division of Labour, Roles and Responsibilities**

The proposed project will be implemented in rural villages of Southern Egypt where male are predominantly the bread winners of the households. Women can contribute to generating an income for the household. However, with a cultural environment that restricts their outdoor movements, such contribution remains fairly limited to activities that they can do within the house such as poultry, egg or dairy production or simple agro-processing.

Approximately 15-20% of the households in project area are headed by women. Similar to women in male headed households, these women generate their income through in-house activities, primarily poultry, egg or dairy production or simple agro-processing.

Women are responsible for the everyday domestic errands of the household e.g. child care, cooking, cleaning, cloth washing, etc. They are also responsible for the animal keeping. In cases where they are to sell any of their produce, they go to the weekly market of the village where they also buy food.

**Vulnerability**

Villages in Southern Egypt rely heavily on smallholdings agriculture as a main livelihood. This makes the households of the area particularly vulnerable economically. On one hand, the income that such small lands generate is fairly low (around USD280 per year). On the other, their opportunities for augmenting such income are limited by dwindling water resources, deteriorating land quality, poor access to financial services and technical support. They are also prone to economic shocks that follow sharp rises in prices of agricultural inputs and decline in prices of their produce.

Climate change comes to severely exacerbate the vulnerability of Southern Egypt's villagers through significant crop loss in extreme weather events. In addition, they incur considerable losses due to declined crop and livestock productivity and increased water requirements associated to longer- term climate change.

Women and girls constitute 45% of the population in the project villages and are particularly vulnerable. As part of rural Upper Egypt, these villages are the most culturally conservative and traditional region of the country. Cultural restrictions in these communities greatly restrict the mobility of girls and women. So, over and above the challenges faced by women nationally, they are double burdened by their restrictive cultural and social environment as well as the prevalent poverty of their communities, making them among the most vulnerable of Egypt's women.

**Coping strategies with respect to financial and climate-induced shocks**

Households, including female-headed households, in the project areas mentioned that they cope with financial shocks, including those resulting from production losses due to climate changes in different ways. Among these ways were engaging in non-formal contractual farming where a trader would offer them an advance to buy their inputs at the beginning of the season. In return, the trader buys their produce at lower prices than what they would normally get if they did not have to get his advance. The households also reduce their food consumption to cope with financial shortfalls. While the overall household food consumption is reduced, women mentioned that they usually give men and boys more food quantities to compensate for their hard work in the fields and out of the believe that male bodies require more food that females for more physical strength that is culturally associated to men. Borrowing cash and engaging in collective money saving schemes within their circles were other strategies they applied. However, due to prevalent poverty, such strategies remain limited in magnitude. In cases where a household had assets, the household would sell from these assets to overcome a financial crisis. In most cases, such assets would be small animal heads such as poultry or goats. In much fewer cases, assets would be small pieces of gold (e.g. an earring or a ring) or larger animals (a cow or a goat) and in most of such cases this sold asset would be significant portion of the family's possessions.

In extremely poor households, parents would send off their children for seasonal labor- primarily in harvesting. In such cases, elder boys are sent off first, followed by younger boys. Only if this is insufficient, girls (normally between the age of 15-18 years) are then sent off.

Both men and women indicated that they practice simple intuitive techniques to cope with climate-induced shocks. For example, women indicated that sometimes when it was too hot, they would slaughter their poultry that have reached sufficient weight and cook them for their family or, alternatively sell them. They also moved smaller ones to the best ventilated areas in the house. Similarly, men would irrigate their lands to reduce the heat stress on their crops. However, they indicated that depending on the intensity of the shock and in the absence of technical guidance, such techniques might not be very effective, and in some cases were counterproductive.

**Gender-based Power Structure**

**Decision Making**

As part of the Upper Egypt region, the project villages are male-dominated societies, where men exercise dominance and control. Thus, women power and participation in decision making is restricted.

**Decision making on household priorities and expenditure.** In the majority of the households, most of the income is generated by the men. They have stronger voices in setting the overall priorities of expending this income. However, the women make the decisions on food expenditures as she buys the buys the commodities and is responsible for cooking. In cases were women generate income e.g. through growing animals or selling handicrafts they normally make the decisions on how to spend it.

**Decision making on child care.** Women mostly the mothers- and in some cases of female headed households, grandmothers- are usually the decision makers on most issues related to child care. This includes decisions on education and health and usually continues throughout the early years of the child life. As the children approach puberty, however, decisions on priority issues such as their education and marriage tend to be taken by their fathers.

**Decision making on climate adaptation**. Women and girl's participation in on-farm crop production is generally not culturally accepted within the community. So, apart from very limited engagement of the poorest females (normally young unmarried women) as daily labour in harvesting, it is uncommon to find a girl/woman working on farm. As such, decisions in relation to what crops to grow, when to irrigate, what fertilizer to apply and when, etc., for adaptive crop production are decisions made by men.

Activities such as small animal keeping are recognized as more the responsibility of the female members of the households. As such the decisions of what animals to keep, what and when to feed them, when to sell them and/or use them for household consumption, etc. are made by the women. This, to a large extent, gave women a sense of enhanced economic empowerment, and increased freedom to purchase what they might perceive is needed for themselves and their households. In the cases of larger animals (e.g. a cow), the men are usually involved in the decisions.

**Participation in public spheres, civil society and cooperatives**.

Cultural restrictions in the project villages greatly restrict the mobility of girls and women as the arrival of puberty decreases a girl's access to friends and her freedom to move around the community. This directly limits their participation in the public sphere. It also makes them shy away from participation in mixed events.

During the focus group discussions, both men and women expressed that agricultural cooperatives are not effective in supporting them. They indicated that these cooperatives are established and supervised by the Ministry of Agriculture. Due to limited resources and institutional weaknesses, most of these cooperatives are only able to provide allocations of subsidized fertilizers. As per their bylaws, they only benefit landowners, thus they are not able to serve large segments of rural society, including farmers renting land, wage farm labor, and women.

Alternative entities active in rural Upper Egypt (Southern and Middle Egypt) is community development associations (NGOs) registered in and supervised by the Ministry of Social Affairs. According to their by-laws, such organizations can work in their own villages, within their districts or governorates or even nationwide. They can also operate in several developmental fields including poverty alleviation, illiteracy eradication, environmental protection, agricultural development, handicap support, among other domains of community development. They are managed

by an elected board of directors and report to a general assembly, both comprised of community members on a voluntary basis.

Due to male dominance as well as the cultural norms that limit women's participation in public spheres, the Board of Directors of the NGOs are predominantly comprised of men. In fact, women's presence in boards of such NGOs is as low as 5-10% in these villages. Likewise, women are not equally present in the general assemblies. Although its percentage is higher than in the Board of Directors, women's presence stands at an average of 20-30% of the general assemblies.

As such, women's participation in decision making in the NGOs is not very effective. This applies to decisions in general, and, as a result, decisions on climate change as well.

Despite the limited women's participation in NGOs, it is to be noted that women's development associations do exist in some villages. They are very few, though. On average, one in 50 villages would have such an association. They are normally established by women volunteers from the village and aim to empower the women. Due to their limited capacities and financial resources, they are normally not effective in supporting large numbers and/or creating transformative change for their beneficiaries.

**Access to Opportunities and Resources**

**Work and Economic Opportunities**. Because of the restrictive norms in the project villages, women are generally hindered from working outside the home. Consequently, this limits their access to work and economic opportunities, where only 10.1 percent of young (aged 15-29) women participate in the labor force and unemployment rates go up to 32.7% among females, compared to 8.5% among males[49] . Additionally, women in paid work are disadvantaged by gender discrimination in wages and work conditions.

**Education**. Similar to access to work and economic opportunities, women's access to educational opportunities is limited. While fewer than two females (4.1%) for every male (2.5%) who never attended school in the urban governorates, more than five females (22.1%) for every male (4%) have never attended school in rural Upper Egypt[50].

**Land and water** Egyptian laws do not differentiate between men and women in land tenure and so both men and women are, theoretically, able to own and manage land. However, in practice the restrictive traditions and norms in the project villages restrict women's ability to fully exercise their rights in this regard. Whereas they are allowed to own land, management of their land is usually done by their fathers, male siblings or, in case of married women, their husbands or elder sons. Thus, women's access to natural resources- land and water- for agricultural practices is limited. During community consultations, women said, they did not find such access necessary in general. Even women who owned land, relied on their male relatives to manage it.

**Awareness of climate-related risks**. Both men and women interviewed were well aware of the risks that climate change poses on their own and their families and described how climate change reduced crop productivity and increased production costs. They highlighted that this reduced their household income. Women also described how extreme weather events inflicted losses in their animal, particularly poultry. Besides describing how these impacts reduced their household incomes, they were also able to explain how this affected food security and nutrition of the household. Their inability to access high-cost commodities such as meat, poultry and dairy products was the main consequence they mentioned.

**Information, education and trainings**. Although they could see how climate impacts them, both men and women mentioned that their access to information about climate adaptation is quite limited.

Women noted that restrictive movement, limited exposure, and higher illiteracy rates further impede their ability to access information as well as training or educational opportunities and materials in general, including on climate adaptation. Such restrictions also limit their ability to form or join networks beyond the circle of their female family

[49] Egypt Labour Force Survey, 2016

[50] http://enid.org.eg/Uploads/PDF/GS9_girls%20education.pdf

members or neighbors. Comprised of women challenged by the same factors, such circles do not offer much information beyond what each of them already knows or can access.

**Finance and insurance**. Women's access to finance is very difficult due to various reasons. On one hand, around 25-30% of the poor women who need such finance do not have national ID cards and thus cannot sign off on the paper work of such finance. Secondly, because of the restrictive culture, male members of their families do not normally welcome their signature on official documents such as banking papers, lending agreements or insurance policies.

Access to insurance was mentioned to be difficult for both men and women. This is primarily due to the financial infeasibility that discourages the insurance industry to extend to these rural areas.

**Challenges and Opportunities for promoting Gender Equality in Project Villages**

There are several challenges that hinder gender equality in climate adaptation in the project villages. On top of this is poverty, women's limited access to information and skills on climate change resilience, discriminatory social and cultural norms restricting women's ability to participate in land management decisions in their households and communities and lack of livelihood opportunities. Weaker educational attainment also limits women's capacities to better adapt.

On the other hand, there are several opportunities for enhancing gender equality in climate adaptation in the project villages. Among these is the awareness of both men and women of how negatively climate change affects them and their realization of the fact that they need to adapt. This will facilitate the uptake of both men and women of the different adaptation solutions put forward by the project.

Another opportunity is the men's and women's understanding of what information could help them to adapt and the need for technical support to adapt better. Some mentioned simple intuitive techniques that sometimes helped them in adapting to climate impacts. For example, women indicated that sometimes when it was too hot, they would slaughter their poultry that have reached sufficient weight and cook them for their family or, alternatively sell them. They also moved smaller ones to the best ventilated areas in the house. However, as they found such solutions rather short-termed and in many cases ineffective, they voiced needs for more information that would enhance their adaptive capacities. In particular, they expressed a need for information on what animals can best survive heat or chill waves, heat tolerant hybrids of animals, recommended feeding and vet care practices to enhance animal resilience to extreme weather events as well as long-term temperature rise, etc.

Like women, men did try out techniques such as additional irrigations in their fields. However, in most cases such practices failed due to their inadequate technical knowledge. As a result, they voiced a need for more information on-farm techniques that can help build their climate resilience.

As extreme weather spells affect both crop and livestock production, both men and women voiced a need for a mechanism that would alert them of such events before they actually happen, thus allowing them time to prepare and therefore reduce losses.

Other opportunities are the acceptance of women's engagement in financial activities that are compatible with the traditions of the villages to support their households. Likewise, women's participation in women-only activities and events is also perceived acceptable.

## 4.GENDER ACTION PLAN OF THE PROJECT

Given the specific context and cultural norms and traditions in the villages where the project will operate, the project will adopt a gender transformative approach that encourages women participation while being compatible with the local traditions and customs. Lessons Phase 1 of the project show that challenging long-standing traditions can affect communities' acceptance of the project and their willingness to participate in project activities. As demonstrated by Phase 1, effective and sustainable gender empowerment was better achieved through finding ways where resilience of both men and women to climate change is built in ways that respects their local traditions. This is what the proposed project (phase 2) aims to do through specifically targeting women in activities where their

participation is culturally acceptable, while targeting men in activities where their participation is the norm. Towards this, the project design ensures that activities and outputs are gender-sensitive.

The project also includes the below gender-specific activities to be undertaken to enhance women's participation in decision making, project implementation, monitoring and evaluation as well as maximize their opportunities to benefit from the different activities in compliance with local customs and traditions:

**Enhancing outreach to women and their participation in events**

The following will be done to enhance the project's outreach to women as well as promoting their participation in the different events organized by the project:

- During the stakeholders' consultations to be done at the project start-up phase to verify village selection, equal representation and participation of the diverse women and men in the targeted communities will be ensured.
- Women-only sessions will be organized during the community mobilization sessions to ensure they benefit from the sessions as well, overcoming that women usually shy away from participation in mixed sessions. In mixed sessions, female-friendly spaces will be created.
- Where women are invited to be involved in trainings, the distance to training venues shall be minimized and flexible timing of sessions set in consultation with the trainees.
- How climate change affects women and the role of women in adaptation shall be emphasized as key points in the different awareness raising session. This is to encourage women to participate in the different project through stronger appreciation of the important role they can play in adaptation. Equally important, it is to support men to include the women in their families to participate through raising their awareness on how effectively women can support in building their household resilience.
- Home visits will be organized as integral part of the community mobilization activities, to maximize outreach to women. To facilitate access to the house as well as openness in these talks, the visits will be undertaken by female volunteers under the oversight of the local partner NGOs.
- Women will be specifically invited and encouraged to attend, to aim for balanced participation of women and men in the inauguration and annual project workshops. These workshops are for different stakeholders to get together to share experiences and best practices, discuss challenges and plan for the upcoming year. Issues, needs and priorities of both women and men will be addressed in the workshops.
- The involvement of female students and teaching staff will be encouraged in the project activities with the agricultural schools and universities.
- Participation of female as well as male employees in the different capacity-building activities for the Government staff will be encouraged.
- For enhanced outreach to illiterate women (and men), messages will be relayed in several means including loudspeakers installed on the climate information centers or on mobile tricycles and use of the microphones in the mosque and churches of the villages for mass verbal messaging.

**Targeting of Women**

As local traditions and norms limit women's engagement in on-farm agricultural activities, they will be specifically targeted to engage in other activities where their participation is culturally acceptable (animal raising loans and the agro-processing activities).

In parallel, awareness sessions will be undertaken to ensure men and women understand that both women and men will have the opportunity to access new economic opportunities through the project.

The targeting of women will enhance their access to finance and enable them to generate income. It is thus is a direct contribution to their financial empowerment.

**Enhancing women's participation in decision making and project implementation**

To the extent possible, the project shall encourage the nomination of women in the different steering committees that are to be formed to oversee and guide project implementation (local steering committees at the district level that engage middle-management government officials, governorate-level steering committees that convene and the Cairo-based national steering committee). To this end, the project will work with the different partners to ensure that at least two women are actively contributing through each of the committees.

The project will work with the local partner NGOs to encourage women participation in the community volunteer's teams and the Project support committees to be formed to support project activities at the village level. It will also be ensuring that for women, the volunteering is an opportunity and not only an additional burden as another unpaid activity for the wellbeing of the family/community.

Although they are very limited in number, the project will look for women development associations in the villages as partners.

At the beneficiaries' level, the project's targeting of women in in-kind loans for animal keeping projects and agro-processing activities is expected to enhance gender equality in household decision making. Unlike revenue from land cropping, income from these activities will be in hands of women. Through this income, they will have a stronger voice on priorities and patterns of expenditure of the household.

The project shall acquire a competent gender focal point. He/she shall be working with the different project staff and partners to ensure the realization of the project gender action plan. His/her responsibilities will include increasing the professional capacity of project staff and implementing partners in gender mainstreaming, providing information and good practice examples, reviewing project monitoring tools to ensure gender-sensitivity, monitor the progress on the project gender action plan and advise the project manager accordingly. He/she will also ensure that gender equality is considered in the recruitment of the project execution staff. At the level of the Implementing Entity, WFP has a global Gender Marker that is applied to all Country Offices. Observation of a gender balance in the office staffing is among the criteria of this marker, and the Egypt Country office currently has a ratio of 52% females verses 48% males.

**Ensuring gender-sensitive monitoring**

For gender-sensitive monitoring, gender disaggregated data shall be collected during the periodical monitoring visits of the project team.

In addition, focus group discussion and in-depth interviews with key stakeholders will be convened to elicit maximum information about progress and road blocks. Special attention will be paid to ensure that women are consulted equally as men.

To facilitate data collection and discussions with women, the project shall ensure that female monitors are deployed in the monitoring teams.

# *Annex 4 Environmental and Social Assessment and Risk Management*

This annex describes how this project has been screened to ensure that it promotes positive environmental and social benefits, while adverse environmental and social risks and impacts are avoided or mitigated. In accordance to the Adaptation Fund's Environmental and Social policy (ESP), this risk screening and assessment was carried out against the 15 social and environmental principles of the Adaptation Fund as ESP guidance document. The screening tool used is presented below. It is based on WFP's screening tool, with the screening questions adapted and rearranged in order to be fully aligned with environmental and social principles of the AF.

**The Screening Questionnaire**

This screening tool consists of a list of around 20 general level 1 questions (indicated with two digits, e.g. 3.1) and around 60 detailed level 2 questions (indicated with three digits, e.g. 3.1.1), corresponding to the 15 principles of the Adaptation Fund Environmental and Social Policy.

The level 1 questions need to be answered first and they need to be answered ALL. If a level 1 question is answered with a 'yes', it leads to more detailed questions of level 2. All level 2 questions under a level 1 question that triggered a 'yes' need to be answered. If a level 1 question is answered with a 'no', then the corresponding level 2 questions do not need to be answered.

Answers to the detailed Level 2 questions result in one of three degrees of concern. If any Level 2 question is answered with a 'yes', the indicated degree of concern will determine the degree of concern for the whole activity. This means that if a single question indicates a high degree of concern, the activity is classified as an activity of high concern and appropriate measures must be taken. If no question is answered with a high degree of concern, but at least one medium-level concern is raised, then the activity is a medium concern activity. If no Level 1 or Level 2 questions are answered with a 'yes', then the activity is of low concern and no further action is required.

It is possible that a level 1 question is answered with a 'yes' and all associated level 2 questions are answered 'no' as they are more detailed and specific questions of the same issue. If all the level 2 questions are answered 'no', then this area will be of low concern, even if the level 1 questions was answered with a 'yes'. If a potential impact is not covered by any of the L1 or L2 questions, it can be added in the empty box at the end of each of the sections.

| ***1. Compliance with the law*** | | | | |
|---|---|---|---|---|
| 1.1 Is there a risk that the activity would not comply with an applicable domestic or international law? | | | No | The proposed project is not foreseen to violate applicable national or international laws. As detailed in sections D&E, the proposed phase 2 abides by the relevant national policies and regulations |
| | 1.1.1 Is there a risk that the activity would not comply with an applicable international law? | High | | |
| | 1.1.2 Is there a risk that the activity would not comply with an applicable national or local law? | High | | |

| ***2. Access and Equity*** | | | | |
|---|---|---|---|---|
| 2.1 Could the activity lead to changes in local tenure arrangements for existing resources or resources created by the activity? | | | No | The project will work with farmers to better manage their land resources with each farmer maintaining ownership of his land. Decisions made on joint management of resources such as consolidated land and water canals are to be made democratically among the farmers through voting.<br><br>While water is not 'owned' by farmers in rural Egypt as such, the project activities are foreseen to enhance equitable access to water through the water saving techniques that reduce losses and increase access of farmers in downstream plots. |
| | 2.1.1 Could the activity lead to changes in tenure arrangements that potentially could put groups or individuals at a disadvantage or could lead to disagreements and | High | | |

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| | conflicts? | | | |
| 2.2 Could the activity create or exacerbate intra- or inter-community conflicts? | | | | |
| | 2.2.1 Could activities lead to opening up of existing or creating new minor conflicts or disagreements within or between groupings or communities? | Medium | No | The project is putting in place mechanisms for transparent targeting, consultative structures for management of resources, publicized channels for complaints and a grievance mechanism that would ensure openness and objective resolution of disagreements |
| | 2.2.2 Could activities lead to opening up of existing or creating new conflicts or disagreements within or between groupings or communities which potentially could become entrenched, violent, or spread to additional groups or communities? | High | No | |
| | 2.2.3 Could the activity bring unequal economic benefits to a limited subset of the target group? | Medium | No | The target group will be reached through targeting criteria for prioritization of people to benefit from the activities. |
| | 2.2.4 Could the activity lead to increased un-employment that would not be absorbed by other sectors or activities? | Medium | No | The project is creating employment opportunities through animal revolving loans and agro-processing |
| 2.3 Could the target beneficiaries or stakeholders be dissatisfied due to limited consultation during activity design or implementation (including due to inadequate Complaints and Feedback Mechanisms)? | | | No | Invitations to the consultations were openly published to attract representation of all groups.<br><br>Representation of different groups (youth, women, elderly, disabled and different families[51]) from the local communities was ensured in the consultations through targeted invitations, if needed.<br><br>Several publicized channels for complaints and feedback and a grievance mechanism will be deployed. |
| | 2.3.1 Could the activity lead to dissatisfaction or negative impacts due to lack of beneficiary or other stakeholder participation in planning, design, implementation, or general decision making? | Medium | | |
| | 2.3.2 Is there a risk that not all relevant stakeholders, and especially marginalised | Medium | | |

[51] In Egypt, there are no 'indigenous people' as such. In the Governorates of Aswan, Luxor Qena, Sohag and Assuit rural communities are comprised of known extended families, to which members are affiliated.

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| | or vulnerable groups, have been identified and consulted or that they have been exposed to internal or external pressure or coercion or not able to comprehend the consultations? | | | |
| | 2.3.3 Could there be negative impacts due to an inadequate Complaints and Feedback Mechanism during project implementation? | Medium | | Reference: WFP Minimum Standards for Implementing a Complaints and Feedback Mechanism docs.wfp.org/api/documents/310fde2bfbfa4bc8b3ecabe44c0f0815/download/ |

| ***3. Marginalized and Vulnerable Groups*** | | | | |
|---|---|---|---|---|
| 3.1 Could the activity imposing disproportionate adverse impacts on marginalized and vulnerable groups? | | | No | Vulnerable groups, namely women, youth, the disabled, and the elderly were consulted to ensure that their identified threats, challenges and priorities are reflected in project design. |
| | 3.1.1 Is there a likelihood that the activity would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? | Medium | | |
| | 3.1.2 Could the activity potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups? | High | | |
| | 3.1.3 Could the activity aggravate the situation of vulnerable, marginalised, or otherwise disadvantaged individuals or groups? | High | | |
| 3.2 Could the activity lead to influx of a temporary or permanent alien workforce? | | | No | |
| | 3.2.1 Could the activity lead to influx of a temporary or permanent alien workforce of relatively small size in a relatively isolated or culturally sensitive community? | Medium | | |
| | 3.2.2 Could the activity lead to influx of a relatively large temporary or permanent major alien workforce (>10% of existing community) or a smaller group which could be expected to have important cultural, health, or socio-economic impact on a local community? | High | | |

| ***4. Human Rights*** | | | | |
|---|---|---|---|---|
| 4.1. Could the activity fail to respect human rights? | | | No | This project affirms the rights of all people and does not violate any pillar of human rights. |
| | 4.1.1 Could the activity lead to violation of fundamental human rights as defined by international, national or local law? | High | | |
| | 4.1.2 Could the activity of partners, contractors, or suppliers, lead to violation of fundamental human rights as defined by international, national or local law? | High | | |

| *5. Gender Equality and Women's Empowerment* | | | | |
|---|---|---|---|---|
| 5.1 Could the activity lead to gender-based inequality, discrimination, exclusion, unwanted workload, or violence? | | | yes | |
| | 5.1.1 Could the activity create or amplify conditions for gender-based inequalities? | Medium | yes | Conservative norms in the project areas could impede women's ability to participate in project activities, exacerbating gender inequality |
| | 5.1.2 Could the activity lead to gender-based violence? | High | No | |
| | 5.1.3 Could the activity lead to gender inequities in who makes decisions? | Medium | No | |
| | 5.1.4 Could the activity lead to increased unpaid work for women and girls? | Medium | No | |

| *6. Core Labour Rights* | | | | |
|---|---|---|---|---|
| 6.1 Could the activity fail to respect core labour rights? | | | No | The project will ensure respect for international and national labour laws as prescribed by the International Labour Organization as stated in WFP's policies, as well as the Egyptian Labour Law. In this regard, the project shall respect freedom of association and the effective recognition of the right to collective bargaining (conventions ILO 87 and ILO 98) and shall not involve forced or compulsory labour (conventions ILO 29 and ILO 105). It shall also not be employing children in forced, economically exploitive or hazardous work; or in a way that interferes with educations or is harmful to health or physical, mental, spiritual, moral, or social development. Discrimination in respect to employment and occupation will be controlled through transparent targeting and effective complaints channels grievance mechanisms. |
| | 6.1.1 Does the activity involve support for employment or livelihoods that may fail to comply with national and international labour standards (i.e. principles and standards of ILO fundamental conventions)? | High | | |
| | 6.1.2 Could the activity, or that of partners, contractors, or suppliers, involve use of child (<14y) or forced labour? | High | | |

| *7. Indigenous Peoples* | | | | |
|---|---|---|---|---|
| 7.1 Does the activity involve indigenous peoples or could it affect indigenous peoples? | | | No | There are no recognized indigenous people in Egypt |
| | 7.1.1 Could the activity negatively affect indigenous peoples, culturally or otherwise, without their specific Free, Prior, Informed, Consent (FPIC)? | High | | |

| *8. Involuntary Resettlement* | | | | |
|---|---|---|---|---|
| 8.1. Could the activity lead to resettlement? | | | | |
| | 8.1.1 Could the activity lead to involuntary economic or physical resettlement of households or individuals? | High | | The project will not lead to involuntary resettlement of any form |

| *9. Protection of Natural Habitats* | | | | |
|---|---|---|---|---|
| 9.1 Could the activity lead to negative impacts on natural habitats? | | | No | There are no natural habitats that are legally protected, officially proposed for protection, recognized by authorities for their high conservation or ecological value or recognized as protected by the local |

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| | | | | communities in the project villages. There are no specifically endangered or rare animal, insect or plant species in the project villages. |
| | 9.1.1 Could there be negative impacts on critical migration corridors of endangered or otherwise or important animal or insect species? | High | | |
| | 9.1.2 Could the activity lead to increase in unregulated or unlicensed collecting, hunting, or fishing? | Medium | | |
| | 9.1.3 Could a natural habitat be significantly degraded, fragmented, or more than half of extent destroyed? | Medium | | |
| | 9.1.4 Could a natural habitat be almost fully destroyed or degraded so that it no longer could function as natural habitat for the original fauna/flora? | High | | |
| 9.2 Could the activity lead to negative impacts in protected or internationally recognised areas? | | | No | The project does not foresee any activity in the proximity of protected or internationally recognized area. Project activities are not expected to lead to negative impacts to habitats. |
| | 9.2.1 Will any major constructions be located close (<200m) to critical habitats, protected areas, or areas of particular or locally recognised ecological significance? | Medium | | |
| | 9.2.2 Could the activity lead to negative impacts on protected or internationally recognised areas? | High | | |

| ***10. Conservation of Biological Diversity*** | | | | |
|---|---|---|---|---|
| 10.1 Could the activity lead to negative impacts on biodiversity or endangered species? | | | No | The project promotes efficient use of natural resources and helps farmers to reduce their use of agriculture inputs. It also does not involve hunting or fishing activities. The project shall be introducing animals (bees, ducks, goats and fish) in the project villages. Species introduced in the communities are not alien to the area. Only ducks, goats, bees, fish and crop varieties that are properly selected to be non-invasive will be introduced.<br><br>As such, the risk of the project affecting common animals, insects or plants in the project area or degrading biodiversity in the project area are not foreseen |
| | 10.1.1 Could the activity lead to degradation of biodiversity or significant reduction in one or more common animal, insect, or plant species? | Medium | | |
| | 10.1.2 Could the activity lead to loss (eradication or removal from local area) of one or more animal, insect, or plant species? | High | | |
| | 10.1.3 Could there be negative impact on any endangered or critically endangered animal, insect, or plant species? | High | | |
| | 10.1.4 Could the activity lead to introduction of invasive alien varieties or species which could influence local genetic resources? | Medium | | |
| | 10.1.5 Could the activity lead to introduction of invasive alien varieties or species which potentially could eradicate, change, or | High | | |

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| | significantly reduce local naturally occurring varieties or species? | | | |
| | 10.1.6 Could the activity introduce genetically altered organisms? | Medium | | |

| ***11. Climate Change*** | | | | |
|---|---|---|---|---|
| 11.1 Could the activity lead to increased exposure, increased vulnerability, or reduced resilience of beneficiaries to the effects of climate change? | | | No | The project activities build resilience of beneficiaries in the face of climate-induced impacts on their food production and livelihoods. |
| | 11.1.1 Could the activities result in increased exposure to climate induced hazards? | High | | |
| | 11.1.2 Could the activity result in beneficiaries being more vulnerable to climate-related stresses? | High | | |
| | 11.1.3 Could the activity lead to beneficiaries having less means or options to withstand shocks resulting from extreme weather events (floods, storms, drought)? | High | | |
| 11.2 Could the activity lead to increases in greenhouse gas (GHG) emissions or to reduction of carbon sinks? | | | No | The proposed project is not in the sectors of energy, transport, heavy industry, building materials, large-scale agriculture, large-scale forest products, and waste management. Its activities will not emit any significant greenhouse gases and will not exacerbate climate change by any means.<br><br>The project will maintain vegetation and will not cut trees, thus not affecting carbon sinks in the project areas. |
| | 11.2.1 Could the activity lead to significant increases in GHG emissions during operation phase? | Medium | | |
| | 11.2.2 Could the activity lead to significant degradation or destruction of elements which absorbs and stores carbon from the atmosphere (trees, plants, soils)? | Medium | | |
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| ***12. Pollution Prevention and Resource Efficiency*** | | | | |
|---|---|---|---|---|
| 12.1 Could the activity lead to significantly increased release of pollution to air, land, or water during construction or operation? | | | yes | Although the units for aquaculture to be introduced by the project are small-scale, the quality of the discharge wastewater from these units could be low. If not properly managed, this could lead to pollution of surrounding soil. |
| | 12.1.1 Could the activity lead to a dangerous increase in release of pollutants (incl. noise) to air, land, or water during construction or as result of accidents? | Medium | No | |
| | 12.1.2 Could the activity lead to a dangerous increase in release of pollutants (incl. noise) to air, land, or water during normal operation? | Medium | No | |
| | 12.1.3 Will the activity lead to any open burning of plastic waste during construction or operation? | Medium | No | |
| | 12.1.4 Could the activity lead to significant negative impacts on visual aesthetic values? | Medium | No | |

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| | 12.1.5 Could the activity lead to discharge of untreated wastewater to the environment? | Medium | Yes | Although the units for aquaculture to be introduced by the project are small-scale, the quality of the discharge wastewater from these units could be low, leading to soil pollution if not properly managed |
| 12.2 Could the activity lead to procurement, transport, or use of chemicals, hazardous materials, or ozone depleting substances subject to international bans? | | | No | |
| | 12.2.1 Could the activity lead to procurement, transport, or use of chemicals or other hazardous materials, including asbestos and ozone depleting gases which will not be handled and disposed of safely by following normal Standard Operating Procedures? | Medium | No | |
| | 12.2.2 Could the activity lead to procurement, transport, or use of chemicals or other hazardous materials subject to international bans? | High | No | |
| 12.3 Could the activity lead to increased use of agro-chemicals? | | | No | The project is expected to reduce use of fertilizers in the project areas. It is also not expected to introduce new fertilizers or pesticides, herbicides or fungicides in the project |
| | 12.3.1 Could the activity lead to use of agro-chemicals that potentially could be replaced or reduced by alternative environmental friendly products or techniques? | Medium | | |
| | 12.3.2 Could the activity lead to use of pesticides or other chemicals, which could have an unintended effect on non-target species and environment? | Medium | | |
| | 12.3.3 Could the activity lead to use of WHO class 1a, 1b, or Class II pesticides without proper application of the International Code of Conduct on Pesticide Management? | High | | |
| | 12.3.4 Could the activity lead to use of pesticides, herbicides or other chemicals or materials containing or polluted by Persistent Organic Pollutants (POP's) as listed by the Stockholm Convention? | High | | |
| 12.4 Could the activity lead to very high resource use (such as fuel or water) during operation? | | | No | The project will help farmers reduce their diesel consumption in irrigation and shall not involve use of vehicles or generators. It shall not lead to the annual use of more than 100,000 liters of diesel.<br><br>*The project activities do not involve use of bottled, or transported or ground water. It will help farmers realize efficiency in surface water irrigation and does so in a manner that introduces improvements in local waterways* |
| | 12.4.1 Could the activity lead to more than 100,000 litres per year of diesel, in vehicles and/or generators? | Medium | | |
| | 12.4.2 Could the activity lead to major use of water from unsustainable sources (bottled and transported, gradual depletion of ground- or surface-water, change of local waterways etc.)? | Medium | | |
| 12.5 Could the activity lead to generation or transport of hazardous or non-hazardous waste | | No | | *The project shall not be generating hazardous or non-hazardous wastes that could have negative* |

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| which could have negative environmental impacts? | | | | *environmental impact. Additionally, it will be helping farmers to recycle their agricultural wastes, that they would normally burn, thus helping in reducing the negative environmental impacts that these wastes inflict on the environment.* |
| | 12.5.1 Could the activity lead to significant increase in generation of waste that will not be disposed of in an environmentally friendly manner (recycled, re-used, or recovered) by WFP, beneficiaries, or third parties? | Medium | | |
| | 12.5.2 Could the activity lead to generation of hazardous waste which will not be handled and disposed of safely by following normal Standard Operating Procedures? | Medium | | |

| ***13. Public Health*** | | | | |
|---|---|---|---|---|
| 13.1 Could the activity lead to increased risk to community health and safety from use of equipment, materials, transportation, or natural hazards? | | | No | The project will not increase traffic or use heavy machinery or dangerous materials that can pose risks to public health or safety.<br><br>The aquaculture units to be provided by the project will have pumps for water circulation and aeration, which eliminates risks of vector growth. There are no other foreseen sources of risks on public health |
| | 13.1.1 Could activities during construction or operation phase lead to increased community risks from e.g. increased traffic, inappropriate design or use of equipment and materials which would not be handled by following normal Standard Operating Procedures? | Medium | | |
| | 13.1.2 Could the activity cause community exposure to water-born, water-based, water-related, vector-born or communicable diseases? | Medium | | |

| ***14. Physical and Cultural Heritage*** | | | | |
|---|---|---|---|---|
| 14.1 Could the activity negatively affect heritage? | | | No | There are no physical or cultural heritage recognized the international references (the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage and the List |
| | 14.1.1 Could the activity negatively impact any form of physical or cultural heritage? | Medium | | |

| ***15. Land and Soil Conservation*** | | | | |
|---|---|---|---|---|
| 15.1 Could the activity lead to negative impacts on soils, groundwater, water bodies, water ways, coastal areas, or the sea | | | No | The project will be implemented in rural communities that are not in proximity to coastal areas. The topography in these communities is flat, with no steep slopes. The composition of the land in these villages is mostly clay that is used for agricultural production.<br><br>The activities of the project are not foreseen to result in soil loss, erosion or run-off. They are expected to support the production of agricultural land in a sustainable manner through several techniques that help stop land degradation that is currently resulting from farmers' excessive use of water and fertilizers- while increasing the production per unit of land. The |

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| | | | | activities are also not foreseen to affect water bodies in the area. |
| | 15.1.1 Could there be significant impacts on quality or quantity of surface- or ground-water? | Medium | | |
| | 15.1.2 Could the activity lead to major changes in flow regimes of local waterways, conditions of water bodies, or coastal areas? | High | | |
| | 15.1.3 Could the activity lead to increased soil erosion, run-off, or significant changes to soil characteristics? | Medium | | |
| | 15.1.4 Could the activity lead to serious soil erosion (e.g. major gullies, sheet erosion etc.) or major detriments to soil quality over a large or locally important area? | High | | |
| 15.2 Could the activity lead to negative impacts on forests, wetlands, farming or grazing land, or other landscape elements of ecological or economic importance? | | | | |
| | 15.2.1 Could the activity lead to degradation or fragmentation of local forest areas, wetlands, prime farming or grazing land, or other landscape elements of ecological or economic importance? | Medium | | |
| | 15.2.2 Could forests, wetlands, prime farming or grazing land, or other landscape elements of ecological or economic importance be almost fully destroyed or degraded or heavily fragmented? | High | | |
| | 15.2.3 Could the activity lead to significant increase in consumption of locally sourced fuel-wood? | Medium | | |

# Attestation of screening

| | |
|---|---|
| Name and location of activity: | Building Resilient Food Security Systems to Benefit the Southern Egypt Region- Phase 2. The project will be implemented in the Southern governorates of Assuit, Sohag, Qena, Luxor and Aswan |
| Responsible WFP unit or office: | WFP Egypt Country Office |
| Implementing partner(s): | Ministry of Agriculture and Land Reclamation |
| Expected timing & duration of activity: | 2020-2023, 3 Years |
| Brief summary and main elements of the activity<br>(e.g. from activity brief or similar): | The project aims to build resilience of Southern Egypt farming communities in the face of climate change and variability risks to food security. It comes as a Phase 2 of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project. It seeks to build on the success of Phase 1 to further extend climate resilience among vulnerable smallholders' communities in Southern Egypt. The overall project objectives will be achieved through 1) leveraging experiences gained, and capacities built under the 'Building Resilient Food Security Systems to benefit the Southern Egypt Region' project to efficiently extent climate resilience through replication of its proven interventions in new villages within the zone, 2) building on the trust established with the 'Building Resilient Food Security Systems to benefit the Southern Egypt Region' project communities to introduce new interventions that would further enhance climate resilience and 3) Building institutional capacities of the diversified stakeholders engaged in climate resilience building to upscale and sustain the different activities introduced by Phase 2 of the project. |

| Result of screening: | | | | | |
|---|---|---|---|---|---|
| Category A / High degree of concern | | Category B / Medium degree of concern | x | Category C / Low degree of concern | |

*I hereby attest that the screening has been carried out by a person or persons with suitable knowledge and experience, who has/have given undertakings that the work has been done diligently, objectively, and without known biases. The assessment is to the best of our knowledge complete and reflects a professional, evidence- and context-based assessment. Where in doubt, specialist advice and supplementary expertise has been sought.*

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| Name, position and signature of WFP personnel signing this attestation: | Dr. Ithar Khalil, Head of Smallholders Resilience Unit and Environment Focal Point, Egypt Country Office |
| Names, affiliation, and positions of personnel who did the screening for environmental issues: | Dr. Ithar Khalil, Head of Smallholders Resilience Unit and Environment Focal Point, WFP Egypt<br><br>Mr. Ahmad Yousri, Programme Associate, WFP Egypt<br><br>Eng. Othman El Shaikh, Project Manager, Building Resilient Food Security Systems to Benefit the Southern Egypt Region Project |
| Names, affiliation, and positions of personnel who did the screening for social issues: | Dr. Ithar Khalil, Head of Smallholders Resilience Unit and Environment Focal Point, WFP Egypt<br><br>Mr. Ahmad Yousri, Programme Associate, WFP Egypt<br><br>Ms. Ola Mohamed, Socio-economic Manager, Building Resilient Food Security Systems to Benefit the Southern Egypt Region |

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| | Project |
| Screening was done as team/group work (Yes/No) | YES |
| Was additional specialist advice/support used? (Yes/No)<br>If yes, indicate name, affiliation and specialization. | NO |
| Was advice sought from HQ E&S Safeguards Team? (Yes/No) | NO |
| Did screening lead to changes in activity design? (Yes/No)<br>If yes, please briefly describe how. | NO |

**Please write any observations, uncertainties or other factors of importance here. Positive co-benefits of the activity can also be described here.**

**If the activity is categorised of Low Concern/Cat. C, please provide a short description explaining why.**

This screening was undertaken as part of the project preparation phase to identify and assess potential environmental and social impacts of the project. It concluded the project is overall categorised as a Medium Concern/Category B because while, the project will have several positive socio-economic and environmental co-benefits, the bulk of the 15 principles were screened to have no significant risks that warrant high risk concerns.

Two risks were identified. The first one was women not benefitting equally from the project activities due to the restrictive norms and traditions in the project villages that would hinder their participation. Specific activities will be undertaken in the project to ensure women participation and benefits from the project. The second was related to potential impacts of low-quality waste-water discharge from aqua-culture units. For these units, an environmental screening shall be done as part of the unit design, and where needed, mitigation measures will be stipulated.

Several co-benefits were identified for the project. These included enhanced resource (land and water) use efficiency, increased income for beneficiaries, recycling of agricultural wastes and the reduction of air pollution as a result of the traditional practice of its burning, and the reduced use of agri-chemicals.

**Environmental & social risk management and monitoring plan ESMP**

| AF ESP principle | Risk identified | Level of Risk | Mitigation measures | Responsible | Monitoring arrangements and/or indicators |
|---|---|---|---|---|---|
| **Compliance with the Law** | No risks identified | NA | NA | NA | NA |
| **Access and Equity** | Potentially women not having equal access to project benefits | Low | Women will be encouraged to participate and benefit from the project activities in several ways (see section below on women empowerment)<br><br>Additionally, several measures will be taken to ensure transparency and fair access of all groups, including women to the different project benefits. Among these are the establishment of oversight committees, transparent targeting, use of You Tube videos, Facebook pages, and on the local level, theatre | Project management team (the socio-economic manager and socio-economic officers of the team) | Additional focus groups discussions organized during project implementation to assess equal participation and benefits of members<br>Record keeping of the use of the complains channels<br>Minutes oversight committee meetings<br>Reports of awareness raising events<br>Subscription counts on |

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| | | | shows, awareness raising meetings, and contests to reach out to the diverse community members and different age groups, publicize the project and its benefits and mobilize participation in the different activities. Several channels will also be made available for voicing complains and making suggestions, if needed. Among these are the project FACEBOOK page, project e-mail address, as well direct contact with the local NGO that in turn passes on the message to the project coordinator and follows -up thereafter.<br><br>The project will also deploy the complains channels and along with a grievance mechanism (see annex 2) to ensure that no one's access to basic services such as education or health units, energy, clean water or sanitation, land, and safe and decent working conditions is impeded. | | Facebook and views on You Tube |
| **Marginalized and Vulnerable Groups** | No risks identified | NA | NA | NA | NA |
| **Human Rights** | No risks identified | NA | NA | NA | NA |
| **Gender Equity and Women's Empowerment** | Potential gender inequality in project participation | medium | Land cultivation is predominantly an activity performed by males in Southern Egypt. Accordingly, the majority of those involved and benefiting from the project's field agricultural activities will be men. To promote women's participation and create a stronger gender-sensitive impact that is observant of local customs and traditions, several measures will be undertaken:<br><br>- Women only sessions will be organized to overcome women usually shying away from participation in mixed sessions. In mixed sessions, female-friendly spaces were created.<br><br>- In trainings where women are to be involved, the distance to training venues will be minimized and flexible timing of sessions set in consultation with them.<br><br>- Home visits will be organized as | WFP coordinator and WFP Gender Focal point<br><br>Socio-economic officers of the Project team<br><br>M&E officer | All data collected by the project is disaggregated by gender<br><br>All reports produced by the project are gender-sensitive |

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| | | | integral part of the community mobilization activities, to maximize outreach of women. To facilitate access to the house as well as openness in these talks, the visits will be undertaken by female volunteers under the oversight of the local partner NGOs.<br><br>- Women will be specifically targeted to benefit from activities where their participation is culturally acceptable, primarily animal raising loans and the agro-processing activities. This will enhance their access to finance and enable them to generate income, contributing directly to their financial empowerment.<br><br>- Working with the local partner NGOs to encourage women participation in the Project support committees at the village level<br><br>- To the extent possible, encouraging nomination of women in the different steering committees | | |
| **Core Labour Rights** | No risks identified | NA | NA | NA | NA |
| **Indigenous Peoples** | No risks identified | NA | NA | NA | NA |
| **Involuntary Resettlement** | No risks identified | NA | NA | NA | NA |
| **Protection of Natural Habitats** | No risks identified | NA | NA | NA | NA |
| **Conservation of biological diversity** | No risk identified | NA | NA | NA | |
| **Climate Change** | No risks identified | NA | NA | NA | NA |
| **Pollution Prevention and Resource Efficiency** | 2-5 acres aquaculture and fish processing units potentially causing pollution through low-quality discharge | Medium | Environmental and social risks considerations will be included in the development of technical training manuals and operational guidelines for the 2-5 acres aquaculture ponds and processing to identify site specific recommendations for reducing potentials of pollution/release of pollutants through water discharge.<br>The recommendations shall be integrated in the design of the ponds and units and operators shall be trained to follow the | Project execution team<br><br>National environmental experts | Quarterly monitoring is to include the monitoring of compliance with the recommendations of the environmental assessments |

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| | | | operational recommendations. Water quality kits will be used to periodically monitor the water quality and avoid the release of high level of contaminants. | | |
| **Public Health** | No risks identified | NA | NA | NA | NA |
| **Physical and Cultural Heritage** | No risks identified | NA | NA | NA | NA |
| **Land and soil conservation** | No risk identified | NA | NA | NA | NA |

## *Annex 5- Summary of Stakeholder Consultations and Key Findings*

Building resilience of vulnerable communities in the project areas is a multi-dimensional and rather complex issue that involves/engages several and diversified stakeholders that can contribute to, benefit from or be affected by the project. These include the community members themselves as well local civil society, governmental entities both at central and local levels, private sector, and academia and research centers.

To ensure an inclusive project that can effectively build resilience in an inclusive and sustainable manner, an extensive consultation process was undertaken during the course of February-May 2019 to seek the input of these stakeholder. Besides ensuring a participatory project design, this process engaged the different stakeholders in formulation of the different activities, thus contributing to building ownership of these activities and increasing the potentials for smooth implementation and sustainability after the project lifetime. Development of tools and carrying out the consultation was done in partnership with the Ministry of agriculture and Land Reclamation. Tools used in this process involved in-depth interviews and focus group discussions.

Government officials at central and local levels from the Ministries of Agriculture and Land Reclamation, Irrigation and Social Solidarity, representatives from civil society organizations, donors, academia, and technical experts as well as private sector were consulted through in-depth meetings. For efficiency, these meetings were guided by talking points that helped focus the discussions in the scope of the project goals and sought feedback on:

- the county's vulnerability to climate change
- the Government's priorities and national policies with regards to climate change.
- challenges facing the government in building resilience of vulnerable groups
- solutions that could be introduced for enhanced resilience of rural communities, particularly in Southern Egypt,
- the effectiveness of the different resilience building interventions introduced by the 'Building Resilient Food Security Systems to Benefit the Southern Egypt project' in supporting national efforts to build climate resilience
- the challenges faced by the 'Building Resilient Food Security Systems To Benefit the Southern Egypt' project and what could be done to strengthen its contribution to climate resilience
- compliance/violation of phases 1 and 2 of the 'Building Resilient Food Security Systems To Benefit the Southern Egypt' project with/to relevant domestic and/or international laws and Human Rights stipulated in the Universal Declaration of Human Rights? If yes, how and what will be done to mitigate this?

Focus group discussions were undertaken with community members (142 men and 161 women) in two categories of villages. While Category 1 was villages covered under Phase 1 of the Building Resilient Food Security Systems To Benefit the Southern Egypt Project, Category 2 was villages in Southern Egypt not reached by Phase 1. To ensure inclusiveness, participants in these consultations where invited through public announcements done by local NGO inviting all interested women and men in the community to the focus groups, by providing details on objectives, venue and timing. Moreover, participation of men and women interested in implementing new adaptation techniques and/or

participating in community outreach efforts in different locations in the village was particularly ensured through targeted invitations by the NGO and community leaders. Where needed, e.g. in cases where sign-up for these discussions showed that a particular group is not present, representation of this group was ensured through targeted invitations by the NGO and community leaders as well.

Discussions in villages of Category 1 included three villages and primarily sought input on the results achieved, lessons learned, perceptions, etc. of the different interventions introduced to build resilience under phase 1. The main purpose of this input was to inform the replication in new villages. It also sought inputs on what new interventions could be considered to further enhance resilience, how acceptable would such interventions be if introduced in the villages, and how factors of inclusiveness, effectiveness, efficiency and sustainability can be ensured in their design and implementation.

Discussions in villages of category 2, on the other hand, included five villages and sought input on the livelihoods, climate change issues, particularly existing perceptions and understanding of how climate change is impacting the lives of the different members of the community, their current coping mechanisms and further needs to face climate impacts, their acceptance of proposed interventions and possible implementation mechanisms, etc.

To guide the conversations in these focus group discussions, the following talking points were used:

1. What are the main income generation activities in the villages?
2. What are the main crops grown and what is the average productivity of each?
3. What is the average land holdings and average land rental price?
4. What is the percentages of farmers working as labor in others land?
5. What are the cost items for cultivation and the average value of each?
6. What are the main animals raised and how many of the houses are raising animals?
7. Is the produce sold or used by household? Where is the produce are sold?
8. What are the main problems of agriculture in the villages?
9. What are the main problems of irrigation in the villages?
10. Are there users' organizations?
11. Have there been/will be governmental initiatives to help farmers, improve irrigation, etc.? If yes, what are these initiatives?
12. Have there been externally funded projects/programs to help develop the village? If yes, What? When? What are the major outputs and lessons learned?
13. Will the villagers accept to grow new crops, varieties, use new chemicals?
14. Will ladies like to own an animal raising project- what animals?
15. How do farmers get information about agriculture?
16. Who offers extension services to farmers and how do you evaluate these services?
17. Are there any entities offering financial services? If yes, who? What are their conditions? How does he evaluate them?
18. Are there local NGOs- what do they offer – have they managed externally- funded projects-how well did they do their job
19. Can we grow organic and why/why not?
20. Can we consolidate holdings and why/ why not?
21. Is there internet access in the village? where?
22. Are there marketing problems in the villages? What?

23. How is information passed on in the villages?
24. Has this area witnessed extreme weather events lately? What and is it more frequent/intense than before? What were the impacts on crops/ animals? What other problems occurred?
25. Did women/men do anything to adapt or reduce losses. Are there adaptation mechanisms that they heard of but were not able to adopt- and why?
26. Are there security problems in the area?
27. Are there tribes/family segregations in the villages? Are conflicts/tensions inflicted?
28. Are there groups that are not able to access services, generate income, etc. Are there marginalized groups. If yes how and why?
29. Did you hear of/or were involved in the Building Resilient Food Security Systems to benefit the southern Egypt Region project? If yes, what were the positive and negative results/impacts about this project?
30. If the Building Resilient Food Security Systems to benefit the southern Egypt Region is to be replicated in new villages, what would be replicated? What would be changed? What would be added? (in terms of activities, implementation mechanisms, dissemination of lessons and sharing of knowledge, etc.)?
31. What measures can be put in place to ensure that favoritism or discrimination does not impede access to the different benefits that would materialize from the different activities?
32. What measures can be put in place to ensure complaints are adequately voiced and impartially responded to?
33. Are there indigenous people, tribal groups, displaced people, refugees, people with HIV/AIDS in the project areas? If yes, describe them and what can be done to ensure they are accessing project benefits?
34. Would the elderly, women and children benefit from the project? How?
35. Are there natural habitats that are legally protected, officially proposed for protection, recognized by authorities for their high conservation value or recognized as protected by the local communities in the project villages?
36. What are the roles and responsibilities of women and men (who is the bread winner? Who is responsible of child care? decides on household expenditure, food in the house?) in the project villages?
37. Who owns and manages land in the project villages?
38. Are there legal aspects that hinders women ownership and management of assets?
39. What coping mechanisms do men/women have to overcome shocks, particularly financial ones?
40. Do women have equal access to education and economic opportunities? If no, why not?
41. Does the project include elements that would hamper access of women/men groups to the project activities?
42. What measures could be done to promote gender equality and women empowerment?

The table below lists the people involved in the different meetings and focus group discussions of this consultation process:

| Participant(s) | Position/Affiliation | Methodology |
|---|---|---|
| Eng. Othman El Shaikh | Project manager -Building Resilient Food Security Systems to Benefit the Southern Egypt Region | In-depth meetings |
| Dr. Ali Hozyen | Chairman of Executive agency for comprehensive development - ministry of agriculture | |
| Dr Sayed Khalifa | Chairman of the Agricultural Syndicate and Former Chairman of Agriculture Extension Sector | |
| Dr. Mohamed soliman | Head of Agricultural research center | |
| Dr. Mahmoud Medany | Climate change expert- Formal Head of the Agricultural Research Center and the Climate change information center of the Agriculture Research Center | |
| Dr. Ashraf Zaky | Egyptian Metrology Authority | |
| Eng. Peter Sabry | Projects Engineer and consultant- Ministry of irrigation | |
| Mr. Khaled Abdelrady | Director of agriculture- Luxor Governorate | |
| Dr. Mohamed Hayder | Institute of Animal production- Agriculture research center | |
| Eng. Ibrahim Souror | Director of agriculture- Assuit governorate | |
| Dr. Khalaf Hamam | Head of Crops production department – Faculty of Agriculture-Sohag University | |
| Dr. Yaser Diab | Dean of faculty of agriculture- Aswan University | |
| Dr. Mohamed Bakir | Professor- General Authority for Fish Resources Development | |
| Dr. Amal Ismael | Institute of extension services – Agriculture research center | |
| Group of agricultural secondary schools students males and females | Daraw Agricultural Secondary School-Aswan | Focus group discussion |
| Mr. Mahmoud Farouk | Director of Social Solidarity- Luxor | In-depth meetings |
| Mr. Hussien El Saman | Royal Company for Export of Agricultural Produce (private company) | |
| Mr. El Noby Salem | Trader of Agricultural inputs | |
| Dr. Mohsen Gamee | Professor of water management- faculty of agriculture - Assuit University | |

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| Dr. Atef Abdo | Medical and aromatic plant consultant | |
| Mr. Mohamed Badawy | Teacher- Qena Agriculture secondary school - Qena governorate | |
| Mr. Fathy Mohamed | Board member of Elboghdady NGO- El Boghdady Village-Luxor | |
| Mr. Ali Abdelmeged | Board member- Bader NGO - Al Awana village- Assuit | |
| Ms. Nawal Ahmed | Board member- Bader NGO Al Awana village- Assuit | |
| Mr. Mohamed Ghab | Board member- NGO-in Ali ben Abitalib Village- Sohag | |
| 142 Male and 161 Female community members | - Eldabia, El Madamud and Elhellah villages (Luxor)<br>- Samhoud and Hegaza villages- Qena<br>- Shandaweel village- Sohag<br>- El-Hamam and Banban villages- Aswan | Focus group discussions |

In addition to the above, WFP was engaged in bi-lateral discussions on donor funded projects working on agricultural development in Southern Egypt as well as climate vulnerability and resilience needs in Egypt with FAO, UNDP, IFAD, JICA, USAID, and the EU on several occasions including official receptions, committee meetings of the UNPDF, joint missions, etc.

**Key Conclusions from the Consultations**

The following summaries the key issues raised and points concluded from the different meetings and focus group discussions:

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| Ministry of Agriculture | - Egypt is one of the most affected countries by climate change, both in terms of the sea level rise in the delta and the temperature rise in Upper Egypt<br>- The agriculture sector is very vulnerable to climate change as it affects crop production and stresses water resources.<br>- Because of the high climate vulnerability of this sector, the Government of Egypt prioritizes adaptation in the agricultural sector, placing it as a main sector in the National Climate Adaption Plan.<br>- Rural communities of Southern Egypt are already stressed because of their heavy dependence on small-scale agriculture as a main livelihood. Climate change exacerbates this vulnerability, significantly weakening their resilience.<br>- In spite of recognizing it as a priority, the Government's ability to |

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| | fully address climate change impacts is hampered by current financial constraints as a result of the economic reform programme that included of the flotation of the Egyptian pound in 2016.<br><br>- The Building Resilient Food Security Systems to Benefit the Southern Egypt project is considered a main contribution to the Government's efforts to address climate change. Other contributions in this regards include the UNDP project for adaptation in the Delta and the IFAD project to help adaptation in reclaimed land.<br><br>- The Building Resilient Food Security Systems to Benefit the Southern Egypt has been very successful. It has been able to introduce effective models that farmers take up once they see the benefits. Thus the project's approach to demonstrate results then create visibility about these results as well as organize knowledge sharing events such as farm-to farm visits was very effective in creating spillovers.<br><br>- The project's approach to introduce low-cost, small-scale adaptation solutions has also been a key factor in enabling the uptake by farmers.<br><br>- The Government of Egypt is already institutionalizing some of the project's practices as per funding availability. Examples of this include the uptake of the wheat recommendations in the National Wheat Campaign and like wise in the Maize and sorghum campaigns. The Government is also adopting the Climate Information Centers approach established by the project<br><br>- The project's deploy of civil society partners at the local level is commendable because it facilitated implementation and anchored the activities within the communities for substantiality. This has been very effective, where now many of the partner NGOs are already sustaining activities such as the revolving animal lending schemes and the irrigation activities on their own.<br><br>- The project had built an excellent reputation among farmers in its districts. This trust should be leveraged in upscaling adaptation to other areas. Such upscale should rely on extending to new districts and should adopt the model of partnership with NGOs.<br><br>- New solutions for building resilience should also be considered. Among these could be protected cultivation which increases production multifold. Small-scale aquaculture is also a very promising solution that would help the households through diversifying |

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| | production and allowing better access to nutritious food.<br><br>- Climate insurance is another possibility. However, current institutional capacity of potential service providers and the risk magnitude impede this technique at the time being. |
| Ministry of Irrigation and Water Resources | - Water stress remains a main challenge for farmers in Southern Egypt. Climate change is significantly exacerbating this stress.<br><br>- The Ministry of Irrigation, through its vision till 2050 attempts to set the frame work for making the best agriculture, social and environmental use of the available water resources.<br><br>- This Vision puts decentralization of on-farm water management as a key priority for irrigation efficiency enhancement.<br><br>- Besides the need for irrigation infrastructure enhancements, the ministry considers low-cost techniques such as use of drought tolerant varieties, water saving crops, scheduling of irrigation, etc. for on-farm management of water to be very much needed.<br><br>- The Building Resilient Food Security Systems to Benefit the Southern Egypt project has been very successful in introducing replicable low-cost irrigation enhancement techniques at the farm level. Farmers adoption of these techniques, particularly when they are having to contribute is a very good testimonial for the successful approach. It is also an indicator that such techniques should be introduced within wider geographical outreach<br><br>- The project's establishment of water user associations under local civil society organizations proved to be a commendable model.<br><br>- The project's water saving techniques have realised benefits beyond enhanced water management. Equitable access to water was promoted and conflicts were reduced among farmers through 1) joint management of their waters under the WUA established and 2) reduced losses leading to increased availability of water, particularly to downstream plots. Land was also saved along the sides of the lined canals. |
| Research and Academia | - While the different research institutes produce new crop varieties with improved traits such as heat and drought tolerance, ability of these institutes to disseminate these varieties is limited by weak extension resources.<br><br>- Access to farmers of Southern Egypt, in particular, to technical expertise, new varieties, new crops, etc. is restricted by limited |

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| | financial resources that hamper their ability to reach out to research or academic organizations<br><br>- The Building Resilient Food Security Systems to Benefit the Southern Egypt project has narrowed the gap through suitability linking farmers to research and academic organizations through the information centers established in local NGOs. This model is very successful and should be replicated.<br><br>- The projects engagement of students under its first phase was a very good opportunity for mainstreaming climate adaptation in their education. |
| Local consultations with community members and NGO representatives<br><br>(for the gender related findings, please refer to Gender Assessment Annex) | - The average land holding in villages of Southern Egypt is 0.75 of a feddan.<br><br>- Most of the farmers households rely on the crop they produce from fragmented lands, and are thus economically stressed.<br><br>- -Climate change is significantly affecting rural communities of Southern Egypt. In particular, the increasing intensity and frequency of extreme weather events is causing losses that can go up to 70% in their crops.<br><br>- Irrigation water requirements were reported to increase, where farmers had to increase the duration of irrigation for most of their crops.<br><br>- Animals, particularly poultry were very vulnerable to climate change and associated extreme weather spells.<br><br>- Phase one of the Building Resilient Food Security Systems To Benefit the Southern Egypt Project was very effective in building climate resilience among farmers. It was effective in reducing their climate-inflicted losses, diversified their livelihoods and increased their production and financial capacity, and helped them adapt to stresses in water resources.<br><br>- Besides supporting the farmers in facing climate change, the Building Resilient Food Security Systems To Benefit the Southern Egypt Project had several environmental benefits. Among these were increasing land available for cultivation by removing barriers between fragmented land plots for consolidation and helping farmers |

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| | economize the use of water, fertilizer, and pesticides.<br><br>- the Building Resilient Food Security Systems To Benefit the Southern Egypt Project enhanced collaboration among the farmers through the water users' associations and the land consolidation. Equitable access to water was promoted and conflicts reduced by the lining canal. In cases where they had different opinions on operational issues such as the varieties to be used or the sowing dates, they democratically resolved such issues through voting.<br><br>- The additional income realized by the smallholders' households helped them in covering education and health expenditures and buying nutrition commodities. Some bough appliance for marriage of their daughters or themselves. Others indicated that they used the savings they managed to have from these projects to start up other income generation projects such as cloth trading.<br><br>- The project effectively empowered women through income that gave them a sense of independence while also enhancing their roles in making decisions on household expenditures.<br><br>- Strengthened institutional systems for development and sustainability was among the results mentioned by the farmers. The project improved farmer's adaptive capacity and built the capacity of the local partner NGOs as well as concerned government staff at the local level.<br><br>- The project provided a window for farmers to access financial and technical resources that allowed for expansion of their production and income generation capacity. At a higher level, this injection of resources stimulated their communities' local economy and enhanced their self-sufficiency.<br><br>- The implementation arrangements of the Building Resilient Food Security Systems to Benefit the Southern Egypt Region were effective and Efficient.<br><br>- The Building Resilient Food Security Systems to Benefit the Southern Egypt Region project has generated several best practices that could be replicated.<br><br>- If the project is to be replicated in new villages, it should build on best practices of phase one. This includes 1) the engagement of the different stakeholders 2) the integrated package of interventions that worked on different yet complementary domains 3) the capacitating of local NGOs and then entrusting them with the implementation. Lessons learned from phase one should also be considered. Among these are 1) the need for the extension of the goats loans to 15 |

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| | months rather that 6 months as originally introduced 2) widening the role of local universities in project implementation through provision of technical support to youth students of the project villages- besides the farmers- to engage in - project activities, 3) expanding on innovative approaches such as the use of on-farm theatre that was but originally phase one design but proved very successful during implementation 4) expansion of agro-processing units as it creates highly demanded job opportunities 5) use of second generation seeds of wheat produced by project farmers for dissemination of the varieties in 4 subsequent seasons in the villages 6) expanding the early warning system to incorporate information and recommendations with regards to climate- related infestations of plant pests and disease<br><br>- If plastic-covered tunnels or aquaculture are introduced, they would be acceptable by community members.<br><br>- In villages were the Building Resilient Food Security Systems to Benefit the Southern Egypt Region project was not implemented, community members were aware of how climate change is impacting their livelihoods. They expressed needs for plausible adaptation techniques and expressed general acceptance of the different interventions introduced by the of the Building Resilient Food Security Systems to Benefit the Southern Egypt Region project and the project implementation mechanisms.<br><br>- As per cultural norms in the project area, elderly continue to live with their family members and are very much respected members of the family. There are no nationally or internally recognized indigenous people, tribal groups, displaced people, refugees, or people living with HIV/AIDS in the project areas.<br><br>- There are no physical or cultural heritage recognized the international references (the 1972 UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage and the List of World Heritage in Danger 29) in or near the project villages.<br><br>- There are no natural habitants recognized by local communities in the project areas. |

Annex 6: Cost-benefit Analysis of New Proposed Interventions

1. Cost benefit Analysis of Plastic-covered Tunnels

Upfront Investment (High-covered tunnel with drip irrigation system over with an area of 80m2): USD 300

Annual operational costs in USD:

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| Seedlings | 10 | |
| Fertilizers | 20 | |
| Manpower | - | Beneficiary will do the work in the tunnel |
| Agric. Machinery | 5 | |
| Irrigation costs | 15 | |
| Annual depreciation | 60 | Over a lifetime of 5 years |
| Other miscellaneous costs | 10 | |
| Total Operational costs | 120 | |

Annual vegetable production: 1.5 tonnes
Annual revenue in USD: 170
Net annual profit: USD 50
Gross profit margin: 29.4%
Conventional Net annual profit from the same land (wheat cultivated): USD 20

2. Cost-benefit analysis of aquaculture

**Economics of fish farming (Area= 3 feddans/acres)- surface water used**

**Fixed costs:**

Constructions of basins and piping =L.E. 50,000 with depreciation over 20 years= L.E.1500/YEAR

Pumps (including = L.E. 25,000 with depreciation over 5 years = L.E. 3000/year

**Operational costs:**

Fingerlings:

75 thousands Tilapia*L.E. 80=L.E8000

10 Thousands mullet*L.E.3000=L.E 30,000

500 Carp*L.E. 50= L.E. 2500

Feed: 23 tonnes *9000= L.E. 207,000

Labor= 2*L.E. 1500*12 months= L.E. 36000

Fuel and Oil= L.E. 20,000

Miscellaneous costs= L.E. 10,000

**TOTAL COSTS= DEPRECIATION+OPERATIONAL COSTS= L.E.313,500= USD 19,590**

Revenue= L.E. 454000 as follows:

15 tonnes tilapia* LE 20= L.E 300,000

3 tonnes Mullet*L.E. 30=L.E. 90,000

1.5 tonnes Carp*L.E. 6= L.E. 9000

30 tonnes vegetables= L.E. 55,000

**NET ANNUAL PROFIT=REVENUE-COSTS= L.E 140,500=USD 8,780**

**Annual profit margin: 30.95%**

**Economics of fish farming (Area= 3 feddans/acres)- Ground water used**

**Fixed costs:**

Constructions of basins and piping =L.E. 50,000 with depreciation over 20 years= L.E.1500/YEAR

Pumps ( L.E. 15,000 with depreciation over 5 years = L.E. 3000/year

Borewhole establishment cost= L.E 500,000 ( depreciation over 20 years)

**Operational costs:**

Fingerlings:

75 thousands Tilapia*L.E. 80=L.E8000

10 Thousands mullet*L.E.3000=L.E 30,000

500 Carp*L.E. 50= L.E. 2500

Feed: 23 tonnes *9000= L.E. 207,000

Labor= 2*L.E. 1500*12 months= L.E. 36000

Fuel and Oil= L.E. 20,000

Miscellaneous costs= L.E. 10,000

**TOTAL COSTS= DEPRECIATION+OPERATIONAL COSTS= L.E.338,500= USD 21,156**

Revenue= L.E. 454000 as follows:

15 tonnes tilapia* LE 20= L.E 300,000

3 tonnes Mullet*L.E. 30=L.E. 90,000

1.5 tonnes Carp*L.E. 6= L.E. 9000

30 tonnes vegetables= L.E. 55,000

**NET ANNUAL PROFIT=REVENUE-COSTS= L.E 115500=USD 7218**

**Annual profit margin=25.4%**

**Annual profit margin: 30.95%**