ADAPTATION FUND

Project Completion Summary

Section A: Project result and performance

1. Basic information

Title of project/programme	Building Resilient Food Security Systems to Benefit the Southern Egypt Region
Project/Programme category	Project
Project period (if the project was granted an extension, include the original as well as the revised completion date)	Original Project Period: March 2013- March 2017 Revised Completion Date under Extension 1: October 2018 Revised Completion Date under Extension 2: April 2020 Revised Completion Date under Extension 3: June 2020
Country(ies)	Egypt
Sector(s)	Agriculture
Implementing entity name	World Food Programme
Type of implementing entity (MIE, NIE or RIE)	MIE
Executing entity(ies)	Ministry of Agriculture and Land Reclamation
Amount of financing approved (USD)	6.9 m
Project contact(s)	
Date of report	October 2020

2. Key milestones – *Please refer to the overview tab in the latest PPR. For the delay in project implementation and related reasons refer to the lessons learned tab, section on "implementation and adaptive management"*

Project inception	31 March 2013
Mid-term review (if applicable)	2015
Project completion	June 2020
Terminal evaluation	November 2020
If any, delay in implementation and reasons for delay	The project faced two major delays. The first was during the first year when recurrent political changes at the time resulted in delaying the start of project activities in the field for around 7 months. The second delay occurred in the last year, when the outbreak of COVID-19 restricted movement and group gatherings, causing a delay of 2 months in the full completion of activities in all the project villages.

3. Project overview and description

Southern Egypt is comprised of five Governorates, namely, Assiut, Sohag, Qena, Luxor and Aswan and has a population of 8 million, of which almost 7 million live in rural communities. It has a cultivated area of 1.13 million acres, constituting 14% of the county's agricultural land[1]. It is home to 37 percent of Egypt's population and 45 percent of the country's rural population[2]. With 45.8% of households living under the national poverty line, more than twice the rate in the other parts of the country, and 15.6% of its population designated extreme poor, Southern Egypt region is the poorest region in the country.

Southern Egypt stands to lose up to a minimum of 30 percent of its food production by 2050 as a result of climate change impacts, including reduced crop and livestock productivity, increasing crop-water demand and reduced water use efficiency, and increase in pest and disease infestations.

The socio-economic impacts of climate change-induced food insecurity may be significant on the communities of Southern Egypt. Studies indicated that a reduction of approximately USD580 and USD1380/acre would occur on annual farm revenue with temperature increases of 1.5°C and 3.6°C, respectively, if no adaptation efforts are undertaken[1]. For a household that relies on agriculture for a living (55% of the region's households), this reduction can represent up to 80% of its total income. As a result, livelihoods of the already economically- stressed smallholders of the region will be at stake. This will not only affect growers, but also those involved in raising livestock, and post-harvest activities and products - mainly poor women.

In response, the project aims to 1) improve the adaptive capacity of the Southern zone in the face of anticipated climate-induced reduction in food production and 2) build institutional capacity to enable sustainability and replication throughout the zone.

Upon intensive consultations with farmers and stakeholders in preparation of the project document, the project was designed to have 2 components as follows:

Component 1. Adaptation to climate change through technology development and transfer. Activities under this component include:

- **building resilience in agricultural production** through a group of integrated interventions among which were:

[1] Helmy, Eid et al, Assessing the Economic Impacts of Climate Change On Agriculture in Egypt: A Ricardian Approach, July 2006

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

- Establishment of climate information centers and use of early warning in reduction of losses during extreme weather events.

- Introduction of tested and proven heat tolerant varieties of common crops such as wheat and maize; and promotion of high-income crops that grow better in warmer climates (e.g. medical aromatic plants)

- Building soft skills to build resilience in the face of weather variability that may impact plants in critical growth stages. These included changing sowing dates, new agricultural treatments to increase crop heat tolerance and modified irrigation and fertilization schedules.

- Value addition in agriculture and intercropping to diversify and increase income (examples included sorghum with cow peas, onion with wheat and garlic with wheat) as a means of risk reduction and increasing resilience.

- Value addition to diversify and augment income sources, such as improved post-harvest practices and small- scale food processing where sun bed drying of tomatoes and deseeding of pomegranate have been introduced. Access to markets was facilitated for further income augmentation.

These interventions were introduced through an array of complementary activities including consolidation of land holdings, establishment of demonstration fields, extension services including farm-to-farm visits, extension services, demonstration farms and creation of enabling physical and financial assets.

- **Building resilience through livestock and poultry production** whereby heat tolerant varieties were introduced through revolving loans schemes. Vet services, training and technical assistance on animal nutrition were also given to help beneficiaries with their animal raising, thus reducing default.

- **Introduction and use of water saving irrigation** whereby local water users associations (WUA) were established to reduce water consumption through several techniques such as canal lining, soil laser leveling, etc. In addition, solar powered irrigation was introduced, reducing the costs of irrigation.

Component 2: Capacity building for climate knowledge and adaptation replication

Interventions in Component 1 were scaled up in new villages, reaching a total of 49 villages. The lessons learned were documented in several forms retained and disseminated to various actors involved climate adaptation including Government officials, NGOs, farmers, academic institutions, etc.

To build ownership and support institutionalization of the interventions, the project also enhanced capacities of the different stakeholders and encouraged them to work collaboratively (please refer to section 8 below for further details on this).

The project is a direct contribution to the achievement of several national policies and strategies including Egypt's National Adaptation Strategy, the National Strategy for Climate Adaptation in Agriculture, National Communications to the UNFCC, and Egypt's National Agricultural Strategy 2030, among others.

An external mid-term evaluation was undertaken for the project in 2015. This evaluation ranked the project as 'Highly Satisfactory'. A final evaluation is currently being carried out.

4. Results and key outcomes (Alignment with the Adaptation Fund core impact indicators – Number of Direct Beneficiaries reached including women; Trainings conducted including women trained, Early Warning Systems (EWS); Assets Produced, Developed, Improved, or Strengthened; Natural Assets Protected or Rehabilitated i.e. hectares of natural habitats/ meters of coastlines) – *Please refer to the "Performance at completion" in the Results Tracker section in the last PPR to extract this information.*

The 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project has achieved several results and outcomes. Key among these were:

-Increased resiliency at the community level to climate variability and change by reaching 145,960

direct beneficiaries, of which 25% are women.

- Increased capacity of stakeholders to respond to, and mitigate impacts of, climate-related events by training 300 governmental officials and strengthening capacity of 49 local NGOs to respond to, and mitigate impacts of, climate-related events and minimize exposure to climate variability risks

- Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas by increasing sustained climate-resilient alternative livelihoods for some 146,000 households.

- Created assets in support of individual or community livelihood strategies. Among these were 4000 meters of lined canals and 98 water under associations that helped 20336 farmers enhance irrigation efficiency and cooperatively manage their water resources in 6960 acres.

Other assets created were 49 communal animal revolving lending schemes that injected an equivalent of USD into 49 villages to help diversify vulnerable household's income. Targeting primarily women, these schemes have issued 36767 loans that helped households start new income generation activities/projects and have economically empowered women.

- Established local early warning units in 49 villages. The units directly provide access of around 400,000 people to early warning messaging to reduce losses of wheat, maize, sorghum and sugar cane in extreme weather events.

-Enabled average increases of 40% in the annual income on household income. For a household that lives off an annual income as little as EGP 4,812 from agriculture (55% of the households in typical village in Southern Egypt), this increase was substantial.

These positive results in turn unlocked broader positive results on the social front. The increased income has helped in covering household 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 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. Enhanced collaboration among farmers, women empowerment, reduced tension for resources, namely irrigation water, and better living standards among farmer households were also reported.

My life differed a lot from the past since I started working on drying tomato and exporting it to Europe. This was one of the activities of the project that helped the people of the region to diversify their activities and increase their income' Aisha Abdelfattah- one of the project beneficiaries in Luxor

From an environmental point of view, 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 use of heat tolerant varieties, changes in sowing dates, and intercropping, reduced climate-induced productivity losses, reducing such 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 some 60% through provision of recommendations that supported crops to overcome extreme weather events that occurred in early growth phases. In doing so, these recommendations also made farmers change their traditional bad practice of excessive fertilization and to compensate for the losses they could see would happen at harvest.

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2. Issues, challenges and mitigation measures (Environmental and social risks, gender considerations and other risks) – *Please refer to the lessons learned tab in the PPR, specifically the section on "Implementation and Adaptive Management"*

The project was approved by the Adaptation Fund Board in 28/6/2012 during a period when Egypt was undergoing significant political changes. Although the Inception Workshop was held on 31 March 2013, recurrent political changes resulted in delaying the start of project activities in the field till September 2013. As a result of this, the project schedule was affected, and activities scheduled in the project document were implemented with a new timeline.

Apart from the above-mentioned start-up delays, several challenges were faced delaying/ imposing postponement of some key activities during the first 2 years of the project. Key among these were:

- **Weakened partner capacity**: Capacities of some of the potential partner NGOs identified in the project formulation phase weakened due to various reasons during the delay of almost one year

between the local NGOs evaluation and the start of their activities in the field. This needed the identification and assessment of three new NGOs in the same villages to replace others with whom partnering was no longer viable.

- **New regulatory requirements in 2014**: The government introduced new national regulations in microfinance (Decree 172/2014 and Law 141/2014) one year after the project start. Complying with new government standards needed an upgradation of partner NGO capacities. To overcome this, the project enhanced partner NGOs' capacity to meet the new regulations. Technical support in completion of necessary paperwork, issuance of security permits and administrative approvals was been offered. As a result of this, implementation of activities by NGO's was further delayed.

- **Lack of institutional frameworks**: The unavailability of a legal framework to govern the establishment and management of water users' associations delayed activities related to irrigation efficiency improvement. To mitigate this, the project had to explore alternative means for establishing such bodies. Hosting these user associations in local partner NGOs was identified as the way forward which needed the project to work on strengthening NGO capacities in this domain. With development in irrigation legislation allowing for registration (in the Ministry of Irrigation) of these associations as independent entities in 2017, the project supported their registration. 32 associations were registered by the end of the project, while the remaining will continue with their registration process after the project.

- **Unforeseen delays in procurement**: Some key procurements took longer than expected due to limited number of suppliers of certain commodities and specialised services. This included procurement of animals for the small loan programme and related capacity building activities, delaying the implementation of these activities from Year 2 as planned to Year 3.

- **Lack of a sustainable mechanism for equipment maintenance:** Lack of mechanisms for maintenance of the solar irrigation pumps meant that alternative means to provide this service were needed. These included having the private sector provide such a service at a cost. For more benefits, the project also explored connecting the panels to the National grid to have the National Renewable Energy Authority (NREA) maintain the units as well as provide technical support to the beneficiaries as needed free of charge under the On-grid law that was issued in March 2016. Although this approach would have created benefits for the farmers as well as NREA, the discussions with NREA were extensively long. This delayed the introduction of the solar units, which has not materialized until the end of the project. It also did not allow for the connection to the national grid before the project completion.

- **Change of animal loan cycle**: Upon the recommendation of the goats' experts (which was later supported by the mid-term evaluation in 2015), the project extended the 6-months loan cycle to 13 months as of Project YEAR 3. This was primarily to allow the loanees more time to raise their animals to older ages and/or obtain more offspring, thus realizing more profit that would allow facilitated repayment. This enhanced the potential of success and sustainability of this revolving loans mechanism.

5. Lessons learned (Best practices, adaptive management, what worked during the implementation and what did not, what corrective actions were taken during implementation,

what are the ways to improve the intervention) – *Please refer to the lessons learned tab in the PPR, specifically the section on "Implementation and Adaptive Management"*

Several lessons were learned over the lifetime of the '**Building Resilient Food Security Systems to Benefit the Southern Egypt Region' project**. Among these lessons were:

- the project has pioneered climate change adaptation activities in Southern Egypt and in Egypt generally. Being the first technical project on climate change adaptation in the country when it started, there were insufficient experiences and lessons learnt from which the project could learn at national level. While this posed a challenge in implementation, it tied additional local and national value and recognition to the project's work. This in turn helped the project in overcoming many of the challenges faced during the first 2 years and contributed to its expedited pace during the following years.

- There are several ways to implement climate adaptation interventions. Generally, approaches that empower partners, engage stakeholders or seek more profound impact take longer to implement than others. However, on the longer term such activities were found more sustainable and more effective in the implementation of concrete adaptation interventions under the project. For example, building the capacity of local partners and then entrusting them with hosting and operating assets such as climate information centers was found more sustainable than directly offering climate information to farmers through the project, as it would cease after its lifetime.

- As climate change impacts household's livelihoods and food security in several ways, the project's integrated approach that deployed several complementary interventions such as enhancing crop tolerance, reducing losses, increasing productivity, improving natural resources usage efficiency and diversification of income sources was needed and has effectively supported households in facing the multidimensional impacts of climate change that they witnessed.

- Farmers and communities were found interested in the project interventions. However, in order to become key partners in integrated sustainable development processes, including project interventions, the farmers needed to get better organized among themselves. This allows to enhance economies of scale, create through farmers organizations (formal or informal) a more critical mass to act on markets, and provide better entry points for partnering with other stakeholders in a coordinated way for planning and implementing as part of integrated agricultural development. To that end, the Project worked with the farmers to entice their enrolment in local NGOs and to raise awareness of the benefits of joining hands through intensive community mobilization and awareness raising techniques.

-In 2015, the mid-term evaluation of the project had highly recommended to extend the project duration on a no-cost basis for at least one year above the originally planned duration. This was not only to compensate for the late start of the project, but also due to the identified strong correlation between the very time-consuming community mobilization and organization on one side and the effectiveness and sustainability of the project activities on the other side. With this extension, the project was able to compensate for the delayed start-up of the project caused by the recurrent political changes witnessed in 2013 as well as the different delays encountered due to the challenges faced in the implementation during the first two years of the project life.

- On November 3rd, 2016, the Central Bank of Egypt took the decision of floating the Egyptian Pound. As a result, the pound sharply decreased from 8.88 EGP to the US dollar to almost 18 EGP to the dollar, losing 55% of its value. Although this caused overall increases in prices, these increases were not as high as 200%. This meant that although the cost of implementing planned project activities was expected to increase, calculations indicated that with all the planned activities implemented there would be an amount of approximately US$ 1,500,000 unspent in the Adaptation Fund grant at the project end in October 2018. A second no-cost project extension of 18 months was thus approved, enabling the project to:

  - Respond to the Government of Egypt's request to extend the project services to neighboring villages. With the unspent savings, the project was able to extend interventions to 29 new villages.

- Build on the success and lessons learned in the previous period to effectively and efficiently enhance resilience within Southern Egypt at no additional funding.

With the lockdown as a result of COVID 19 in March 2020, the project had to request for an additional two months extension, shifting the completion date to June 2020. This additional period allowed for compensation for delays incurred due to nationally imposed restricted movement, ensuring the completion of all workplan activities in all 49 villages of the project.

Over its lifetime, the project has generated several best practices that could be replicated in Southern Egypt as well as nationally. Such best practices could also guide the planning and implementation of resilience building projects and programmes in other countries. Among these best practices were:

- The project's dissemination of new heat tolerant varieties of main crops of the area, namely wheat and sorghum, was recognised as a major success that is adopted by the Government for replication. Improved agricultural practices including change of sowing dates, scientifically guided intercropping and improved irrigation techniques were also successfully introduced, profoundly enhancing farmers' productivity as well as land and water usage efficiency. Equally important, the project's ability to reduce farmers' losses in extreme weather events through early warning and technical recommendations was greatly recognized.

-The project's provision of loans for animals raising provided and continues to provide a good window for diversification and augmentation of income generating activities, identified by the National Adaptation Strategy as an effective climate adaptation activity in vulnerable rural communities. The project's focus on community empowerment and working through community organizations offered a viable response to the emphasis on the role of civil society, a recognized national priority.

- Among its conclusions, the project mid-term evaluation noted that the project was specifically distinguished in applying a participatory approach at all levels, beginning with the grassroots level, to the central level in Cairo, as well as and in all phases, beginning with project design and planning phase to implementation of activities. This was effective in building community ownership and responsibility.

According to the evaluation, 'there is no doubt that this level of community organization and what it requires in awareness activities, training and capacity building, and their results in building

confidence, capacity, enablement and ownership are considered among the most important results, and not simply that, but also social assets that are the foundations of sustainability.'

-To enhance sustainability of its activities, the project adopted several means that proved successful. Examples of those included building the capacity of the partner NGOs to host the WUAs and manage the irrigation activities. Although time-consuming, this approach proved to be effective in building ownership and potentials for sustainability on the longer term. Likewise, the provision of small agricultural machinery to be rented out by the local NGOs to smallholders would provide an income that would allow the NGO to sustain its climate adaptation services while localizing farmers access to these kind of machines that support their adaptation efforts. The project also sought means to maximize impacts even if they take longer than others to achieve results. An example was the live performances of comic plays that were staged instead of recorded replays. Whereas replays were easier to organize and would have reach much larger audiences in shorter periods, the project in consultation with the partner NGOs opted for live performances owing to their bigger impact on farmers.

- The project also had positive effects on women empowerment that went beyond what was foreseen in the project design. Whilst the loans scheme aimed to diversify income sources through animal keeping projects for women (taking into consideration the cultural norms), it was noted that the new income from these loans also allowed the women to take up new occupations by setting up SMEs and trading clothes and handicrafts. This has created a micro economy within the project areas that is run by women.

- Many of the project interventions were being replicated both in the project villages as well as in new villages. This was primarily a result of the project's approach to demonstrate activities among farmers. Once they see the tangible results and how they affect their livelihoods and enable them socially and economically, they start adopting the interventions. Wide replication then happens through word of mouth, and experience exchange events where those who have tried share their gained knowledge, practice and results with others within their villages and beyond. In terms of institutionalization, and for wider dissemination the Government of Egypt has adopted the project interventions in wheat in its National Wheat campaign for national upscaling. Likewise, the Ministry of Environment has included the project interventions as the main pillars of adaptation in agriculture in the draft National Adaptation Plan that is currently under development.

Several measures have been adopted to improve results as the project progressed. The different activities undertaken to build the capacity of the partner NGOs for example to enhance their management and communication skills has improved their abilities to engage with community members and effectively manage the different activities was among these measures. The capacity building of the WUAs was another measure that has improved their abilities to undertake the different water management activities. The change of the goats' supplier was another that has also improved the types and physical conditions of the goats received. Likewise, the extension of the goats' loan cycle to be 13 instead of 6 months was also to improve the results from this lending mechanism.

- Several studies on climate effects on agriculture and associated economic impacts in Egypt have been consulted during the development of the project. Information and data from several studies, reports and publications on the socio-economic status of the Southern Egypt area has also been key in the design of the project. Intensive consultations with the various stakeholders of the project has also generated a wealth of information that has effectively influenced the design

of the different interventions and implementation mechanisms. It has also effectively smoothened implementation and avoided many challenges that would have surfaced with an otherwise weak design.

-The projected also produced several knowledge products such as flyers, brochures, visibility printed materials as well as on-line materials that the different project stakeholders and local governments have access to. In addition, the project stakeholders had the opportunity to visit project activities in the field and compare studies with local scenarios. While such visibility tools raised awareness about the project, climate change and feasible adaptation techniques, they also offered a window for feedback from the various stakeholders engaged in the different activities and committees. This feedback was very beneficial in informing implementation.

6. Innovation: description of any innovative practices or technologies that figured prominently in this project – *Please refer to the lessons learned tab in the PPR, specifically the section on "innovation"*

Building climate resilience of vulnerable rural communities is multidimensional issue in which several stakeholders have different, yet complementary roles to play. To effectively and sustainably do this, the project had thus to innovatively bring numerous stakeholders, to work together. This was done through a 3-parallaleled approach that:

-Built ownership among the different stakeholders as a means for enhanced results and sustainability of the project.

· **Encouraged the different stakeholders to work collaboratively towards one goal**, thus build synergies and enhance efficiency

· **Enhanced capacities of the different stakeholders** as needed to enable them to play their respective roles in implementation, sustainability and replication of the project activities

The project stakeholders included local communities, local universities and the national agriculture research Center that provided technical support, the local directorates of Agriculture, Irrigation, and Vet service and local Community Based Associations. Innately, each of these stakeholder groups had its own needs, priorities, governance and/or governing regulations as well as way of doing things. To overcome this challenge, the project inclusively brought them together through several mechanisms as follows:

-Local communities where the activities were implemented. Local communities were involved since the project identification and design through in-depth consultations to ensure relevant interventions as well as feasible implementation mechanisms that could ultimately be sustained after the project lifetime. Engagement of community representatives in the implementation was thereafter facilitated through **Project Support committee that met monthly**. They agreed 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 directorates of relevant Ministries (Agriculture, Irrigation, Education and Social Affairs) and local universities and the Agriculture Research Centre were engaged for the required **technical inputs and data**.

- For sustainability at the local level, small **community-based non-governmental organizations** were contracted for **the execution of activities related to community mobilization and organization of awareness** raising events and field trainings. In addition, these NGOs were capacitated to facilitate activities, supervise the works for improved irrigation, and manage the revolving funds for the animal lending scheme. They were also to be responsible to solicit technical expertise on behalf of the community, when needed after the project lifetime.

- Local steering committees in each Governorate were formed to review progress, discuss challenges and guide next steps. The Committees included Directors of Irrigation, Agriculture, Vet and Social Affairs and the partner CBOs and met quarterly.

The project has also used innovative techniques such as theatre performances to mobilize the communities. Staged live performances (rather than recorded replays) have very effectively attracted the attention of villagers, informed them about climate change issues and raised their interest to participate in the project activities.

In addition, the project had to look for innovative ways to overcome challenges it faced throughout implementation. Examples of these innovative workarounds were the housing of the WUA in the local partner NGOs as formal committees under the NGO. This out-of-the box solution enabled the project to address the need for the formal establishment of these WUAs with a delay in the issuance of anticipated national legislations that would allow for this. It also allowed for these WUAs to benefit from the resources and support of the NGOs.

7. Description of the vulnerable communities and social groups affected by the project, and how they have been engaged and empowered – *You might want to refer as well to the section on "community/national impact" in the lessons learned tab of the PPR*

The project provided an integrated package of nature-based solutions that helped smallholders increase their productivity, diversify their livelihoods and reduce their losses due to climate change. These smallholders are very vulnerable; they rely mostly on cultivating small plots of land to feed their households through self- consumption of their produce, and in case any, selling the meager surplus that they have. By adopting the project interventions, these farmers increased productivity and reduced losses in their traditional crops, introduced high-value crops, augmented their income sources, etc., ultimately safeguarding their already stressed livelihoods in the face of climate-induced impacts.

The project improved farmer's adaptive capacity through engaging them in training, demonstrations, farm-to farm visits. For sustainability, replication and mainstreaming of the different adaptation techniques that it is introducing, the project built the capacity of the local partner NGOs as well as concerned government staff at the local level.

The project was thus a direct contribution to increasing resilience and enhancing livelihoods of these most vulnerable groups to be able to face the reductions in productivity and increased stress of resources as a result of climate change.

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 would have naturally been men. To promote women's participation and create a stronger gender-sensitive impact that is observant of local customs and traditions, the project undertook several measures as follows:

-women only sessions were organized to overcome women usually shying away from participation in mixed sessions. In mixed sessions, female-friendly spaces were created.

-In trainings where women were involved, the distance to training venues were minimized and flexible timing of sessions were set in consultation with them.

- 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.

-Women were specifically targeted to benefit from activities where their participation is culturally acceptable, primarily animal raising loans and the agro-processing activities. This enhanced their access to finance and enable them to generate income. It was a direct contribution to their financial empowerment.

-working with the local partner NGOs to encourage women participation in the Project support committees at the village level

-to the extent possible, encouraging nomination of women in the different steering committees

8. Description of how long-term institutional and technical capacity for effective adaptation has been strengthened – *Please refer to the lessons learned tab, section on "readiness interventions"*

The project design and implementation has given ample learning opportunities not only from the results, but also from the different processes. Its participatory approach engaged the different stakeholders in a way by which they learned about climate change, its impacts on agriculture, different adaptation techniques as well as how such techniques could be deployed to safeguard livelihoods against climate impacts. This on-the job training, along with technical support, exchange visits, equipment and premises upgrade if and when needed, has enabled different stakeholder to realize how they can effectively contribute to building resilience and has substantially enhanced their capacities to actually assume responsibilities in this regards, contributing to the different project outcomes as well as.

Further, several governmental focal points and officials, volunteers, community members and farmers have been trained on several aspects such as communication skills, climate-mart agriculture, strategic planning, computer skills, and animal keeping among others. NGO members have been capacitated in the domains of financial and project management as well as loans management. Through its engagement with academia, the project has supported the learning of university and secondary agriculture of climate adaptation techniques in agriculture.

9. An overview of complementarity and/or coherence of with other climate finance sources in the context of this project (synergies with other projects, national plans etc.) – *Please refer to the lessons learned tab, section on "complementarity and coherence".*

The project's activities created synergies and complemented several national plans as well as programmes that aimed to alleviate poverty and support vulnerable groups in Southern Egypt. Among these plans was the 2004-2022 Poverty Reduction Strategy of the Ministry of Planning.

Recognizing that poverty in Egypt has a strong regional dimension in that Sothern Egypt is distinctly poorer than other parts of the country, the strategy put development of Southern Egypt at the heart of its priorities. In particular, it underscored the agriculture sector and the need to facilitate the creation of micro and small enterprise, all of which the project activities have supported.

The project's in-kind loans for animal husbandry have particular relevance to national poverty alleviation strategy. With their gender implications, these loans supported the strategy's' objectives of women's advancement and the closing of the gender gap. Along the same lines, these income diversification and augmentation loans were very much in coherence with the objectives of increasing income and employment opportunities.

The projects' activities on improving irrigation efficiency were in direct coherence with the National Water Resources Management Plan issued in 2005 where increasing efficiency in irrigation to minimize losses and optimizing usage of water resources were highlighted as top national priorities.

The projects' environmental benefits had direct synergies with the 2002-2017 National Environmental Action Plan of Egypt. Although climate change was not t identified as an environmental threat at the time the plan was issued, many of the project activities addressed priority agenda items, which included:

- Water conservation through increased irrigation efficiency and protection of water quality to close the rapidly widening gap between limited water resources and the escalating demand for water

- Sound environmental management of agriculture and rural development, including management of agriculture waste, the sustainable use of land by finding a balance that attains the greatest benefits while protecting and enhancing the environment, reduction in the use of chemical agricultural inputs, the enhancement of women, and poverty alleviation as a means to prevent overexploitation of natural resources

-Combating desertification in the Lake Nasser area and managing drought through heat and drought tolerant varieties

- Cooperation with NGOs as important partners in achieving sustainable environmentally-sound development

To maximize benefits, the project has also built synergies with other donor activities and projects of relevance. Among these were:

1) the 'Sustainable Agriculture Investment and Livelihood Project (SAIL) of IFAD that aimed to build climate resilience in other parts of the country (namely Middle and Lower Egypt) where the two projects shared experiences and collaborated in raising awareness about climate change impacts and adaptation potentials in general

2) the Green Trade Initiative if UNIDO that supported value addition through technical support in simple agro-processing, packing, marketing and exporting. With a focus to providing technical expertise in crop value addition, this project offered excellent opportunities for complementarity in the project's value addition activities, whereby agro-processing units were established through their technical input complemented with the projects' equipment and construction of the units.

3) FAO, where heat and drought tolerant varieties were the FAO- supported programmes of breading heat and drought tolerant crop and animal varieties in the Agriculture Research center.

10.Sustainability, scalability and replicability – *Please refer to the lessons learned tab, section on "climate resilience measures"*

Experience showed that the effectual design and successful implementation of the 'Building Resilient Food Security Systems to Benefit the Southern Egypt Region' Project catalyzed impact well beyond a one-off project. The mid-term evaluation of this project has in particular recognized the effectiveness of its knowledge sharing and learning results on farmers in the Southern Region. The potentials for scaling-up and replication were also underlined, supported by the project's evident spillover effect. The project's participatory approach that engages and builds capacity of stakeholders (e.g. reliance on local NGOs, partnerships with local Government and community engagement), creating an enabling environment for replication and sustainability, was also noted.

Adoption by farmers throughout Southern Egypt was another indicator of strong replication potential of the project interventions. Although it was difficult to find farmers that were willing to participate in the different activities at the start of the project in 2013, this soon changed. Witnessing the concrete and substantial results achieved on the ground, farmers realized how they can effectively safeguard their production and livelihoods through the various new techniques that the project introduces. This resulted in a rapid surge in numbers of farmers requesting to participate in project activities and the development of waiting lists to accommodate the increase in demands. It also resulted in farmers adopting many of these techniques at their own costs. Farmers from neighboring villages also visited, expressing interest in replication of the interventions.

The well-demonstrated potential for scaling up of the project has also enabled the replication and upscale of its activities from 14 villages in 2013 to reach 49 villages by project completion in 2020.

With regards to sustainability, several measures have been put in place to ensure the continuation of project benefits after it ends. Among these measures are:

- Anchoring revolving loans and activities with local NGOs and building their capacities as well as building the capacities of the concerned government offices, such extension offices to replicate and sustain the activities;
- Involving beneficiaries in decision making, planning, implementation and monitoring of activities through entities such as project support committees, steering committees and Water User Associations;
- Ensuring increasing cost-sharing by farmers in improving agriculture productivity and water saving interventions also strengthened ownership and sustainability;
- Promoting and supporting participation of women in different committees, trainings provided for NGOs, activities implementation, as well as greater access to financial recourses by giving higher priority to women in micro-loans;
- Reducing impact of agricultural production on the water and land resources through provided package of agricultural interventions (land consolidation, new seeds, intercropping…etc.) that save in inputs and ensure higher yields of the already limited land. Additionally, canal lining saves in water consumption and saves in energy cost (up to 55% saving);
- The project's alignment, not just with the national strategies and priorities, but also its alignment with and direct participation in the technical aspects of the Ministry of Agriculture's action plans. This was represented in the adoption of the varieties that the

ministry targets spreading as part of its strategy. It was also seen in the adoption of raised bed farming, and the rehabilitation of canals, both of which are part of the Ministry of Agriculture's nationwide aims. Furthermore, the project also made major contributions to the National Wheat Campaign through applying and spreading the general recommendations issued by the Crop Research Institute (affiliated to the Ministry of Agriculture), especially Southern Egypt. All these factors create a direct benefit for state organizations in supporting the project's sustainability on an institutional level;

- The project's reliance in its technical aspects on 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 centers affiliated to the Ministry of Agriculture). Even the experts who cooperated with the project on an individual basis belong to the same authorities, which created organic ties and mutual concerns in the project interventions with the related research institutes;

- The project's reliance on 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, especially as the seeds used are breeding (fundamental) seeds, which means they can be used for replanting for 4-5 years.