AFB/B.30/9
03 October 2017

Adaptation Fund Board
Thirtieth Meeting
Bonn, Germany, 12-13 October 2017

Agenda item 9

# REPORT OF THE PORTFOLIO MONITORING MISSION IN EGYPT

## CONTENTS



## INTRODUCTION

### Context and scope of the mission

1. As part of the Knowledge Management (KM) Strategy and the secretariat's work plan for the fiscal year 2017 (FY17) which was approved by the Adaptation Fund Board (the Board) at its twenty-seventh meeting (Decision B.27/33), the Adaptation Fund Board secretariat (the secretariat) conducts missions to projects/programmes under implementation to collect and analyze lessons learned through its portfolio. So far, such missions have been conducted in Ecuador, Senegal, Honduras, Nicaragua, Jamaica, Argentina, Uruguay, Mongolia, Turkmenistan and Georgia. This report covers the FY17 portfolio monitoring mission that took place in Egypt from 30 April to 5 May 2017 for the project "Building Resilient Food Security Systems to Benefit the Southern Egypt Region" implemented by the World Food Programme (WFP), which is a Multilateral Implementing Entity (MIE) of the Adaptation Fund and executed by the Ministry of Agriculture and the Ministry of Environment of Egypt.

2. The mission targeted this project for the following reasons:

a) To learn from a number of adaptation options in response to climate threats affecting water management and agricultural production in drylands;
b) To learn from successful awareness raising strategies, participatory approaches to adaptation and community ownership;
c) It may allow drawing lessons from the project's approach to gender-related issues;
d) to draw lessons from the monitoring and reporting system(s) that have been used to improve project management

## Methodology

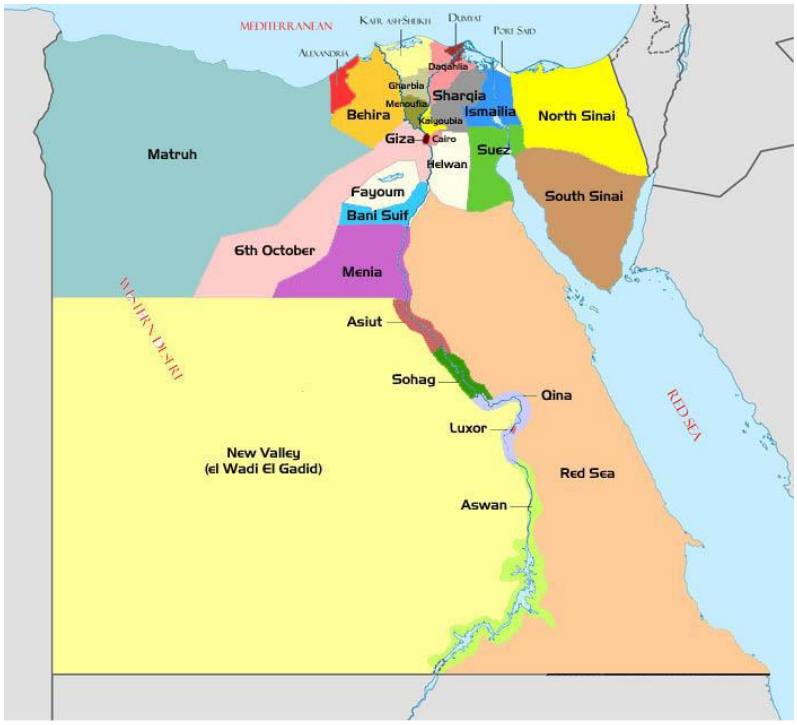
3. The secretariat was represented by a senior climate change specialist and a program analyst. The mission was carried out from April 30th to May 5th 2017, and included field visits to project sites. The methodology used for the monitoring mission comprised qualitative semi-structured interviews with key stakeholders from communities, local government, non-government entities, academia, ministries and the WFP Country Office. The mission combined meetings with government officials, Project Implementation Unit (PIU) and WFP staff members, local NGOs, and communities. The mission visited project sites in Luxor and Aswan, and met with different government representatives in Cairo. A set of guiding questions had been prepared for the mission and shared in advance with WFP (see Annex 1). These questions covered the aforementioned objectives.

## PROJECT/PROGRAMME CONTEXT AND PROGRESS TO DATE

*Context*

4. Egypt is one of the world's most vulnerable countries to the potential impacts of climate change. A country with a growing population (currently 87.9 million and expected to exceed 120 million by the year 2020), where food security is threatened by limited water resources (current per capita water resources are 630 m3), and arable land resources (only 3.5 percent of total land area). It is comprised of three agro-ecological zones, namely Lower, Middle and Southern (also known as Upper). Land resources are further threatened by a number of desertification factors; in fact, most of Egyptian land is desert. Only 3.5 percent of its 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. Egyptian agriculture is dominated by smallholdings of less than 0.4 hectares, and expansion through land reclamation is limited by water scarcity and inefficiency of water use.

5. The project's intervention area is Southern Egypt (below map), which is comprised of five Governorates: Asiut, Sohag, Qina, Luxor and Aswan. The project' s objectives are to: 1) improve the adaptive capacity of the Southern zone of Egypt in the face of anticipated climate-induced reduction in food production through the introduction and use of water-saving irrigation and other adaptation techniques; the establishment of agro-forestry greenhouses and plots with sub-surface irrigation, including nurseries for growing trees and new varieties; and the development of livestock and poultry hubs for selection and breeding of new heat-resistant varieties; and 2) build institutional capacity at the national, regional, and local levels to enable sustainability and replication throughout the zone and the country to understand climate trends and impacts; replicate adaptation interventions through the training of government technical staff; document and share lessons learned and best practices; share project results; mainstream new approaches in local and regional planning; and target universities through including these lessons in the curriculum. The two objectives are cornerstones of Egypt's National Adaptation Strategy.




Picture 1: Map of the Egypt governorates

(Southern Egypt/Project Area: Asiut, Sohag, Qina, Luxor and Aswan)

6. The project, implemented by WFP, and executed by the Ministry of Agriculture and the Ministry of Environment, has two components: **Component 1:** Adaptation to climate change through technology development and transfer; **Component 2:** Capacity building for climate knowledge and adaptation replication.

*Progress to Date*

7. The project was approved by the Adaptation Fund Board (the Board) at its eighteenth meeting, and the agreement was signed by WFP in October 2012. The inception workshop was held on 31 March 2013 and marked the commencement of the project implementation. The

expected duration of the project is five years. In line with the performance-based grant financing used by the Fund, WFP had already submitted three annual project performance reports (PPR) to the Board at the time of the mission. To date, the Board has transferred the amount of US$ 5,935,284 or 86% of the US$ 6,904,318 approved for the project. The project's implementation progress has been rated highly satisfactory every year since the project's inception. As of April 2017, the following results have been achieved:

- The project works in 14 villages as per the target set in the project document. The new target is 20 villages with an expansion plan to reach 35 villages, following demands by the Ministry of Agriculture;
- 14 Water User Associations (WUA) have been established, and are hosted in project partner NGOs. The forecasts provided on a 5 days' basis, come from the Egyptian Meteorological Authority and they target mainly youth and extension workers. The information is disseminated through network or loudspeakers by the Early Warning Unit. It took an average of 6 months before the farmers would follow the recommendations;
- 40 Climate Change information centers have been established and they operate in two ways, through the NGOs and the Directorate of Agriculture. Now the at governorate level there is permanent governmental staff based in the Directorate, as a result of the project;
- Adaptation knowledge embedded in government extension services, with 280 government extension workers trained on management of agrometeorological data;
- As part of the strategy for income diversification, 22,565 women were engaged in lending revolving schemes activities (goats, ducks), and about 25,000 beneficiaries attended trainings on reduction techniques of climate risk to livestock;
- Thanks to the project 17 improved irrigation canals (Mesqas) have been built so far in order to improve efficiency of water usage for agricultural irrigation.

## MEETINGS, SITE VISITS AND FINDINGS OF THE MISSION

8. The representatives of the secretariat met with a number of stakeholders during the week of the mission, discussing various aspects of the project implementation and execution, and undertook field visits in the governorates of Luxor and Aswan. The agenda of the mission is provided in Annex 2 of this report. This section summarizes the findings of such visits and meetings during the week of the mission.

### Adaptation options to build resilience in agricultural production in dryland areas

9. In the project scope area, the concept of climate change was almost entirely unfamiliar not only to the local communities, but also to a large portion of governmental officials. Thanks to the project, smallholder farmers could get support by experts, including representatives of the Sugar Cane Center (located under the Agricultural Research Center) in demonstration fields. Trainings are offered periodically in the following areas: selection of crops and seeds, plant treatment, use of fertilizers (the use of chemical fertilizer comes after the organic fertilizer), composting, inter-cropping, harvesting, and post-harvesting techniques, among others. In one of the visited sites in Boghdady village, smallholder farmers adopted aromatic plants which are more heat tolerant (i.e. blackseed, fennel, etc.). Additionally, due to higher demand from pharmaceutical companies, now medicinal plants have been introduced in the Nile delta valley.

10. The ministry of irrigation is responsible for the irrigation system, starting with the Nile River and ending with branch canals, however, it has no authority or responsibility in terms of the mesqas, which are located in the farmers' land. Irrigation canals are classified into main (first-level) canals, branch (second-level) canals, distribution canals (mesqas, or third-level canals which service areas from 15 to 50 ha) and irrigation ditches (merwas, which service areas up to 5 ha). As part of optimal irrigation low-cost solutions planned under the project, 17 mesqas have been built so far (open *mesqas* or *mesqas* with pipes depending on the particular area). Due to lack of farmer organizations, mesqas used to be clogged by waste and in turn would jeopardize the crops. The Water User Associations (WUA), established and strengthened under the project, constitute the basis for all water saving activities within the project, and they continue following up with maintenance after the construction of mesqas. The challenges related to this project activity was that the mesqas are not straight but mainly built according to plots distribution (which is fragmented); additionally, in Egypt, the average period for renting agricultural lands is 5 years up to 20 years.

Picture 2: Mesqa view in Eldaify village

11. In the project targeted areas there was generally minimal tendency of adopting optimal efficiency in irrigation using low cost technology. The majority of people do clearing of irrigation canals, and less than 1% adopts any other measures to conserve water. To implement canal lining as part of improved irrigation activities, the project collaborated with the Ministry of Agriculture. Canals used to be 2 m wide, but after construction are 75 cm wide, thus can be longer and can provide irrigation to a greater area of fields. People participating in activities are given a minimum wage in cash for their work contribution.

12. In total, 1,055 *feddan*[1] distributed among 4,220 beneficiaries underwent land consolidation and laser leveling, while raised bed planting was implemented across 529 *feddan.* Thus, the total area where one or more optimal irrigation efficiency, low-cost solution was put in place amounts to 1,819 *feddan*. The implementation of land consolidation underwent various challenges, such as: the existence of personal conflicts between farmers in neighboring lands, and/or the existence

[1] A feddan is a unit of area, corresponding to 4,200m2 or to 0,42 ha.

of trees and palms which had to be removed as part of the borders, or in order to enable laser leveling. After the first months, awareness campaigns in local language were organized, and farmers gradually gained trust on the project and tested new ways. They started with 4 acres, and in the second year a total of 63 acres of land were used for land consolidation[2].

Success story:
For the cultivation of wheat, an NGO engaged in project activities, received a tractor from the project, which is in turn leased to farmers (as communal asset), offering them a way to self-sustain their involvement in project activities. Additionally, the project helped distributing new varieties of wheat, which are drought tolerant in upper Egypt. Every month a follow up visit is conducted by experts working in the department of wheat from the Agricultural Research Center, combining theoretical and practical learning. As a result of this activity, the wheat production in Eldaify village, increased from 18 to an average of 26 *ardab* (150kg), thus contributing to food security.

13. In the project area, the most important factors that prevent farmers from applying any climate change adaptation practices are lack of knowledge and uncertainty about the impact of such practices. To build resilience in agricultural production, the project focused on four heat resistant crops: i) Improved variety of wheat, which is the main crop in the region contributing to food security; ii) sorghum, more heat tolerant, requires less water, claims the land for shorter periods (about three months), is more salt resistant (even absorbs salt from the soil) and more diseases resistant; iii) Cowpeas, as an intercropping crop with sorghum, since it contributes to income diversification, improves and enriches the soil; and iv) an improved variety of sugar cane. One of the recommendations in some villages under the project scope, such as in Elmansouria were a field visit was conducted, was to shift to sorghum. The yield now, thanks to improved seeds varieties, has almost doubled. Moreover, sorghum has different functions, as it can be used as animal feed and for decorative purposes;

14. The introduction of the four crops was combined to a package of improved agricultural practices, and some water saving solutions. The most important of these are:

- New heat-tolerant varieties
- Crop consolidation, which allows laser leveling, saves up to 10% of land, increases productivity, decreases efforts and cost)
- Raised bed planting (saves 25% of water and fertilizers and 40%-50% of seeds, eases harvesting, reduces harvesting loses)
- Laser leveling of soil (saves water, improves productivity)
- Intercropping
- Changing planting date

[2] The majority of smallholder farmers own less than 3 acres, most project beneficiaries own less than 1 acre.

Picture 3: Farmers of Eldaify village attending training on improved wheat harvesting techniques

**Awareness raising strategies, participatory approaches to adaptation and community ownership**

*At local level*

15. Community involvement was key to effectively achieve common objectives. Project planning and design involved consultation and cooperation with numerous stakeholders, at central and local levels. The project had one year of stakeholder engagement and detailed design of the adaptation interventions, before activities began from March 2013 in 14 villages in Asuit, Sohag, Qina, Luxor and Aswan. Innately, each of these stakeholder groups has its own needs, priorities, governance structures and/ or governing regulations as well as way of operating. Thus, establishing measures and tools that integrate inputs, create synergies and facilitate cooperation among diverse players is a critical aspect of successful and sustained realization of climate change adaptation objectives. However, the most active and effective level of participation is the community level, where the implementation of project activities widely depends on the local partner NGOs as well as the beneficiaries themselves. To encourage farmers to participate in project's activities, all initial costs were paid by the project. After showcasing the results, it was easier to involve others. The project is also relying on local religious leaders to use their influence on farmers to adapt new processes.

16. In general, the community engagement model has proven to be efficient also for replication purposes. One successful aspect of this is the key role played by local NGOs, that operate as extension services and are the key partners of this project. Field offices have also been involved in all project activities, and are responsible of Climate Change information centers under the Directorates. Furthermore, NGOs were approached by the project in order for them to be directly involved by organizing awareness sessions on managing microcredit loans (activity targeting women). Every year the project meets with NGOs involved in project's activities in May for the yearly planning of activities. Before some NGOs had just charitable activities, thanks to the AF

project they could expand their scope of action, and are now engaged in agricultural and microcredit programs.

Success story:

A Civil Society Organization in a village located in Aswan, reached the local branch of project representatives, who then went to visit their village *Elmanshia Elgadida*; the main problem in that area was the infestation of sugar cane with pests and heat waves that were decreasing wheat yield. The project officer surveyed applications received from interested farmers and the CSO organized awareness sessions about the project before giving them the new variety of seed. Before the project, they used to receive sugar cane seeds from Chennan governorate, but after trying these new seeds they are much more satisfied and wheat losses due to the negative effects of climate change have decreased.

17. As a complement to the livestock revolving schemes activity, the project targeted the improvement of governmental veterinary units in project villages, thank to which more than 25,000 people could have access to improved veterinary services. In a specific case, the project put in contact one of the NGOs engaged in project activities and the veterinary unit in Elmanshia. A needs assessment was conducted in collaboration with the NGO to see what equipment was needed to support their work and to rehabilitate the unit. This veterinary provides informative session, vaccines, vitamins, etc. Thanks to the project the unit is now fully operation and the equipment provided (i.e. sonar), has helped improving the animal productivity.

Picture 4 - Improved Veterinary Unit in Elmansouria

18. As part of awareness and outreach activities, a total of 7 videos have been produced, a Facebook page with more than 1,200 followers and a YouTube channel have been created.

Furthermore, as outreach activity, theatrical plays were performed at community level, and women were involved in the performance.

*At national level*

19. Universities have been working with the project for three years in mainstreaming Climate Change and Adaptation in their curriculum. Students are sent to the field, they participate in summer trainings and in exchange visits. For example, Aswan University cooperates with the project under a signed agreement. In this University, there are 2 institutes and 18 faculties, of these faculty of Agriculture and Natural Resources, and 1 faculty of Fisheries, and three farms were developed to demonstrate irrigation techniques. They do research in the field of livestock and agriculture, biotechnology and crop modification. They have a quality assurance project under ERASMUS programme and to get accredited by the European Union in releasing a Certificate on Climate Change, Sustainable Development and Food Security, through training and classes in partnership with four European Universities. Moreover, the University just started a Master degree and many students registered in the program of Soil and Natural Resources. Other Universities (i.e. Cairo) are going to help in supervising students who will do research on Climate Change issues.

20. In the framework of the Agricultural Climate Adaptation Strategy (ACAS), the Agricultural Research Centre (ARC) founded the Central Laboratory for Agro-metrology (CLAM). The laboratory established Climate Monitoring Stations (CMS) at the regional level. Other stations belong to the Egyptian Meteorological Authority (EMA). Those systems are neither linked to each other nor to any institutions that deliver climate information to farmers. In this context, the project, in collaboration with experts from the Institute of Field Crops (IFC) affiliated to the Agriculture Research Center (ARC), developed the first version of the software for the "Climate Change and Adaptation Online Application" (CCAOA), including a monitoring and early warning system. The CCAOA application is available in the Android store, and is proved to be successful as the second generation of farmers in Egypt is computer literate. It can be accessed at the following web address: http://climatechange-eg.org/

21. Thanks to the project, climate-monitoring centers were established in each directorate within the NGOs and supplied with computers, internet and related equipment. Two volunteers from within the communities were trained on managing the centers. The NGOs broadcast the recommendations on a 5 days' basis to the village. One of the NGOs providing Early Warning Systems (EWS), states that the recommendations were not followed by the farmers in the beginning, but with results people started going to the NGO asking for information (Smallholder farmers could see the difference with their neighbors who were following a manual irrigation scheme).

> "*I observed the outcomes of my harvest, against my neighbor who didn't follow the recommendations*"
> – Farmer in Boghdady village

22. Before the project, Climate Change was not an aspect of the national wheat campaign. Now, through lobbying at central level, Climate Change is streamlined in wheat campaigns. And the project joined the wheat campaign to plant 300 *feddan* of wheat. As part of this national

campaign the Ministry of Agriculture organized 300 demonstrative field visits, 180 with support from the AF project. Furthermore, as part of institutional capacity building, 280 government extension workers have been trained on management of agrometeorological data[3].

23. The National Adaptation Plan (NAP) update process is currently ongoing and it is developed by an intersectoral non-governmental Expert Group (of which the WFP is part), and by a governmental committee working group, where the former Ministry of Agriculture and the AF project coordinator participate representing the Ministry of Agriculture. About 70% of agriculture related activities in the action plan are from the current project. Agriculture Directorates will have the responsibility to implement, including at the local level, the new NAP. Planning at governorate level is conducted through the Agricultural Directorate, not from national plans. The Directorate implements just some aspects of the Climate Change strategy for the agricultural sector (i.e. provision of Early Warning Systems to farmers and prevention measures on wheat), but do not receive specific recommendations from ministerial level.

> "*This project made the Ministry of Agriculture be aware of different methods to introduce wheat and drought tolerant varieties*" – Director of Agricultural Research Center in Kom Ombo district.

24. Climate Change was a secondary topic at Directorate Level. After the start of the project, early warning units were established in 5 districts, and they have a monthly program to raise awareness among farmers for example through the organization of field visits. Extension workers from the Directorate of the Ministry of Agriculture are stationed in different districts, they receive trainings in Alexandria with role to disseminate successful practices to other villages, and they prepare monthly work plans as a regular task. The Directorate of Agriculture in Aswan suggested to expand project activities to other villages and have demonstration plots also with date palms, other than wheat and sorghum, being the second primary crop in Aswan after sugar cane. Furthermore, exchange visits between farmers, could be organized as a way to disseminate know-how and good practices. In new interventions, the Directorate can support in the selection of new sites, can provide data for beneficiaries under income diversification activities, and they can support with extension workers.

25. Another partner of the AF project, is the Agricultural Research Center (ARC), that has 13,000 workers and 22 institutes. They have pioneered the use of GIS and remote sensing in agriculture, and they have identified the next step to be integrating GIS into EWS. The ARC does training on Climate Change issues for people in the field, and it helped universities introduce new courses on Climate Change in the Agriculture curriculum. In Egypt, the administration for seeds' production is centralized, and 35% of seeds given to farmers are produced by the ARC, which

[3] There are approximately 200 extension workers in each governorate, and approximately 1 per village.

has 52 stations doing breeding for different crops. It has also 5,500 demonstration plots at commercial level in the whole country. As per the meeting with the ARC representatives, it is noted that in Egypt they don't have a long-term forecasting system operational. The reason to explain this, is that long-term forecast could be more suitable for rain fed agriculture, whereas in Egypt the agriculture is mostly rain-fed.

26. Against this backdrop, the type of activities that the Fund is supporting is the kind of programme WFP and the government want to scale up. As part of the future country programme, WFP is looking at potential funding through the Green Climate Fund (GCF) building on this project's activities. Furthermore, through the Directorate of Agriculture, there is the willingness to expand project activities in all the governorates. The Ministry of Solidarity and Ministry of Agriculture are looking at developing a large project on micro-credit, building on lessons learned and capacity built during this project.

**Project's approach to gender-related issues**

27. Gender was addressed from the project's design phase. Through household visits and the organization of women focus groups sessions, the project assessed awareness of females on 22 different issues, which were taken into account in the project's design. About ¼ of project beneficiaries, which correspond to 137,000 people, are women.

28. Similar to the situation in the field of agriculture, livestock production had been negatively affected by climate change and no efforts have been made to address the issue, thus increasing food insecurity in the region. In Egypt, agricultural activities are mainly carried out by men, whereas livestock production of small animals and poultry are more a female activity. To have a gender balance, women were targeted to have access to specialized livestock (goats, ducks) financing schemes to help them diversify their livelihoods. Nevertheless, this context with a patriarchal cultural system, posed some challenges to this activity, as the majority of their husbands did not accept for the loan to be signed by their wives. As a compromise, the project and the local communities agreed that the women would obtain the goats while a male member of the family (the husband in the case of married couples or a close relative in the case of single women) would be in charge of formalities.

29. This activity relies on a revolving lending mechanism, whereby credit and repayment are in-kind transactions in the case of goats, and monetary transactions in the remaining areas. The loan cycle was one year for the goats (one year after delivery, beneficiaries are obligated to deliver from the goats' offspring the same number of goats they received to the NGO), and three years for the ducks with an interest rate of 3% per year, that is in turn providing revenues for the NGOs involved in this activity. Goats were chosen because they can tolerate high temperatures, they are easy to feed as can eat different kinds of fodder and are, thus, inexpensive. The number of goats that each beneficiary can take charge of, was determined in consultation with the beneficiary (between one and three), and were vaccinated beforehand. About 25,000 women have been trained on raising goats and ducks, and on loans' management, thanks to the NGOs involved in this activity. One of the NGOs, which scope of action was on women empowerment

activities, has expanded its activities thanks to this project, being now engaged in microcredit and agricultural activities.

> "*We participated in different projects before, but this one is the best as it tackles different dimensions*"
> – Director on NGO

30. Ducks given under the project are cheaper than market prices: 50 pounds for 2 ducks in the project and 75 pounds in the market. This activity constitutes a way to tackle the negative effects of climate change through income diversification, as besides relying on agricultural activities, families can sell goats, goat cheese or ducks in the markets.

31. The AF project besides being pioneer in the micro-credit for ducks, was considered successful in the implementation of the gender component, which will be showcased in the WFP gender policy document.

Picture 4: women of Benban Bahary village attending one of the duck's keeping training

**The use of monitoring and reporting to improve project management**

32. The results management framework of WFP did not include Climate Change Resilience in 2011-2012, when the AF project was designed. Nevertheless, the results log frame was tailored to be aligned to AF results framework. The new WFP results framework included a resilience building indicator to be part of the corporate Standard Project Report (SPR).

33. As part of the Fund's reporting requirement, the project has undertaken a Mid-Term Review (MTR) in September 2015. Once finalized, the report has been shared with key stakeholders. Beneficiaries and stakeholders were generally in agreement with the MTR findings and recommendations. The PIU has also estimated the MTR as reflecting the reality of the project and its challenges. A management response has been approved by the project's Board. Among the 22 recommendations, 21 have already been implemented by the project. Such changes included minor changes for some indicators to reflect better the goal and ground-level reality of the project (e.g. removal a poverty reduction indicator).

34. The MTR indicated the need for more detailed indicators for the activities to help collect lessons and showcase results from the project. A monitoring plan was developed, it includes a monitoring schedule, methodologies, etc. An M&E officer is in the Project Management Unit. The NGOs involved in the implementation of project activities receive capacity building for monitoring, handling loans, and in disseminating meteorological information, since the Climate Information centers are hosted by NGOs.

35. As part of the Implementing Entity's project performance reporting (PPR) commitments, WFP provides financial annex to PPRs to show how much has been spent against what was originally planned. Nevertheless, WFP representatives state that PPR template in excel sheet is challenging, especially reporting in narrative as does not allow spell check. Gender disaggregated data was reported since 2014, when the new WFP gender policy was adopted.

36. After the agreement between WFP and the Ministry of Agriculture was signed, the first four months have been challenging to follow both parties' procedures and financial monitoring. The Ministry of Environment has a monitoring and evaluation unit, and the Ministry of Agriculture receives quarterly technical and financial reports from the EE (Agency for Rural Development Projects). With a centralized monitoring system in place, they analyze all the projects to take decisions and implement strategies. Every project goes under a specific sector in the M&E framework. Monitoring and evaluation follows up on performance of the Directorates, which have database that includes information on agricultural statistics, even though is managed at the central level.

37. The National Environmental and Social Safeguards are similar to those of the World Bank. The project is followed by the department of Environmental Impact Assessment at the Ministry of Environment for safeguards assurance.

## LESSONS LEARNED

**Innovation**

38. In terms of innovation, the project team had to think about out of the box solutions. For example, the Water User Associations (WUAs) used to be nonoperational. The establishment of the WUAs was the point of departure and the basis for all other water-saving activities. Since the law regulating those associations is not yet endorsed, the project, in consultation with the

beneficiaries, decided upon a creative solution to overcome this legal obstacle, namely establishing the associations within the framework of the partner NGOs, as a specific committee and as part of their structure. This required NGO membership from the water users, helps in setting binding rules for its members and in creating the basis for WUAs' long term sustainability.

39. One of the challenge of the project was to empower the NGOs through trainings. Regarding the procurement of goats, the number of suppliers is scarce within the country. The NGOs are thus approaching the Animal Research Institute in Cairo that produces heat tolerant goats, then the cross breeding is done by the NGOs locally, and mortality has decreased. The innovative aspect is that the NGOs are taking the lead in this coordination. Farmers are now buying seeds from the NGOs under an agreement between the Agricultural Research Center and the NGOs. The NGOs are, in turn, contacting directly the Agricultural Center for the provision of seeds. An area where the NGOs think they could improve, would be through the introduction of advanced accounting skills trainings. Now they have their own database for micro-credit and agricultural activities (both hard and soft copies).

40. To encourage farmers to participate in project activities, in the beginning all costs were paid for by the project. The importance of developing practices taking into account local culture is key, for instance in Egypt where the "word of mouth" proved to be an important aspect of spreading confidence about the project. After the showcase of results was easier to involve others. Thus, these two factors: empowered NGOs and changing mind-set of farmers can ensure a long-term sustainability of the project after its finalization.

**Stakeholder engagement**

41. Stakeholder engagement proved to be successful by involving NGO and communities from the very beginning of project design, creating right means for sustainability. The project involved one year of stakeholder engagement and detailed design of the adaptation interventions, before activities began from March 2013 in 14 villages in Asuit, Sohag, Qina, Luxor and Aswan. Innately, each of these stakeholder groups has its own needs, priorities, governance structures and/ or governing regulations as well as way of operating. Thus establishing measures and tools that integrate inputs, create synergies and facilitate cooperation among diverse players is a critical aspect of successful and sustained realization of climate change adaptation objectives.

42. This stakeholder engagement model and experience has been shared with the Ministry of Agriculture and the Ministry of Social Solidarity, as there is the willingness from their side to replicate this model in Upper Egypt (especially the micro-credit model) in the next fiscal year. Nevertheless, it is noted that the flow of coordination and articulation between national and local planning is not completely efficient. Through field visits and interviews with stakeholders and representatives from local Directorates of Agriculture, it is noted that they do not receive specific planning recommendation from central level and they, consequently, are not fully aware of how they are aligned in the national strategies.

**Science-based adaptation solutions**

43. This project has proven to be a very good example of the use of (bio-)technology to address climate-related issues. The Agricultural Research Centre (ARC) has played a lead role in providing farmers with heat-tolerant seeds and organizing a number of demonstration fields in its research stations. Being a very strong and financially viable institution, the ARC could be more involved in the future in scaling up this project's experience and further integrate its work in

addressing climate-related issues in the agriculture sector in Egypt with its commercial mandate (including the production and distribution of seeds to agricultural producers in the country).

44. At national level, there is lack of long-term forecasts and modeling allowing to conduct an informed and evidence based decision making with regards to Climate Change. It is unclear how at the national level it is decided how to switch from one crop to another. Forecast models deal with two parameters: precipitations and temperature, nevertheless the former is not used in Egypt as there is no rain fed agriculture. Decisions are taken based on heat and chilling waves.

## ANNEXES

### Annex 1: Key questions

A set of questions was prepared for the objectives of the mission, which were applied for the mission.

| Mission objectives | Key questions for the mission |
|---|---|
| Objective 1: to collect lessons learned from adaptation options tested to building resilience in agricultural production in dryland areas, at different levels:<br>• At the local level, lessons from the package of optimal irrigation efficiency, low-cost water solutions piloted by the project;<br>• At the local level, lessons from adaptive agricultural practices and income diversification options proposed by the project;<br>• The alignment of the adaptation interventions with the national agricultural and adaptation/disaster reduction strategies, and level of integration of adaptation in local, regional and national plans. | 1) Based on what previous experiences were the project adaptation options selected?<br>2) What were the main challenges faced by the project in proposing and implementing its identified adaptation options?<br>3) What were the most innovative options proposed through the project and how have they been accepted by the farmers?<br>4) Given the potential shift from farmers' agricultural practices, have there been any strategy from the project to get a buy-in from farmers to test alternative revenue-generating activities? Please describe the challenges faced.<br>5) What has been the approach to build stakeholders' capacity through the project? Are there any lessons to be learned?<br>6) Have the establishment of Water User Associations yield any lessons learned in promoting water efficient technologies?<br>7) At the local and regional level, have there been any adaptation plans developed?<br>8) How have the adaptation measures been aligned with the national adaptation strategy? Were there any steps taken to ensure they were aligned?<br>9) How are the project activities aligned with local, regional or national agriculture strategies? Were there any steps taken to ensure they were aligned? |
| Objective 2: to learn from the project's awareness raising strategies, participatory approaches | 1) How have the community and key stakeholders been mobilized during project development and implementation? Please describe the challenges, successes and lessons learned. |

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| to adaptation and community ownership<br><br>• The experience of establishing a climate information system through the Climate Change and Adaptation Online Application (CCAOA);<br><br>• Community and stakeholder arrangements to implement the adaptation measures. | 2) What made the participatory approach successful in ensuring community ownership?<br><br>3) Was there a particular role for and approach taken to target private sector organizations and universities?<br><br>4) How have the local extension services been involved in project?<br><br>5) How was the CCAOA established? Please describe the challenges and steps taken to ensure sustainability of the system.<br><br>6) Please describe how and on which aspects the arrangements for this project have been innovative. Were there any challenges and lessons to highlight? |
| Objective 3: to draw lessons from the project's approach to gender-related issues<br><br>• How gender issues have been approached during project development;<br><br>• How gender issues have been approached during project implementation. | 1) How have gender issues been integrated in the project design?<br><br>2) Have the implementing entity gender-oriented policies been applied during the design of the project?<br><br>3) Was there a particular approach/tool used to ensure gender issues are integrated in the project implementation arrangements and activities?<br><br>4) Which system has been set up by the project to monitor how gender issues have been taken into account in the project implementation, i.e. through the monitoring of gender-sensitive indicators? |
| Objective 4: to draw lessons from how monitoring and reporting have been used to improve project management<br><br>• How relevant indicators were defined by the implementing/executing entities, and measured during implementation;<br><br>• How the communities have been involved in monitoring of natural resources; | 1) How were the indicators defined at project design stage? How have the indicators been measured during implementation?<br><br>2) How was the MTE conducted in 2015 seen by the project stakeholders?<br><br>3) Did the MTE help improve project performance and impact on the ground?<br><br>4) Have changes been implemented to project design following the MTE?<br><br>5) What, if any, could be improved in MTEs as a tool for reflection within the project? |

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| • How the mid-term evaluation (MTE) has been used to inform and readjust project activities. | 6) How did the MTE helped in increasing the efficiency and effectiveness of the adaptation options tested by the project?<br><br>7) How did the MTE helped in improving community ownership and stakeholder arrangements to implement the adaptation measures?<br><br>8) How did the MTE helped in identifying ways for improving gender mainstreaming in the project?<br><br>9) Are there any early lessons learned from using the Fund monitoring and reporting tools (e.g. strategic framework and alignment table, core indicators, Project Performance Reports templates and results tracker, Mid-Term Evaluation)? |

**Institutions/stakeholders visited/met**

- United Nations World Food Programme (Implementing Entity), Egypt Country Office
- Ministry of Agriculture and Land Reclamation (MALR)- The Executive Agency for Rural Development Projects
- Agricultural Research Center (Institute of Field Crops – Institute of Sugar Crops – Climate Change Information Center)
- Ministry of Environment – The Department of Climate Adaptation
- The Project Implementation Unit
- Local authorities (Directorates of Agriculture – Social solidarity – Veterinary)
- University of Aswan
- Community-based Organizations: Community Development Associations in Mansoria, Daraw, Aswan; Benban Bahary, Daraw, Aswan; Halfa 3, Luxor; Kommeir, Luxor; Samhoud, Qena; Lo'a, Assuit; Women Development Association in Nego'e Kebly, Luxor; New Rural Community Development Association in Gharb Tahta, Sohag, Luxor, Aswan.
- Project Beneficiaries

**Team Mission**

Mr. Daouda Ndiaye – Adaptation Fund Board Secretariat

Ms. Martina Dorigo – Adaptation Fund Board Secretariat

Ms. Ithar Khalil – World Food Programme Egypt Country Office

Mr. Rupak Manvatkar – World Food Programme Rome

Mr. Ahmad Qabil - World Food Programme Egypt Country Office

Mr. Othman Elshaikh – AF Project Coordinator

**Annex 2: Agenda of the Mission**

| Date | Time/Objective of the meeting | Name of the Institution/stakeholder |
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| 30/4/2017 | WFP Cairo office<br>Ministry of Agriculture – executive Agency for comprehensive development | Dr. Menghestab Haile (Country Director)<br>Dr Ithar Khalil ( project coordinator )<br>Dr Ali Hozayen ( EACDP Supervisor general ) |
| 1/5/2017 | Agricultural research center<br>Institute of field crops<br>Institute of sugar crops<br>Climate change information center<br>Travel to Luxor | Dr Assad Hamada ( head of wheat department )<br>Dr. Ahmed Zaki ( head of sugarcane department )<br>Dr. Mahmoud Medany ( Head of climate change information center ) |
| 2/5/2017 | Project management Unit<br>Field visit to Nego village | Othman Elshaikh (project manager)<br>Meeting in CDA in Nego Keply; visit water saving sites; agriculture interventions field; loan BENEFICIARIES |
| 3/5/2017 | Travel to Aswan<br>Field visit Banban village | Meeting in CDA in Elmansoria; visit agriculture intervention field; water saving technique loan BENEFICIARIES |
| 4/5/2017 | Faculty of Agriculture Aswan university<br>Agricultural directorate (Aswan)<br>Back to Cairo | Dr Ahmed Ghallap (Dean)<br>Eng. Gamal Elsayed (Director of agriculture)<br>The early warning unit |