



## FINAL PROJECT REVIEW REPORT

2017

### “Addressing climate change risks to farming systems in Turkmenistan at national and community level”

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**Brief project description:** The proposed project aims to overcome the above barriers to addressing immediate and long-term adaptation needs in the water sector in Turkmenistan in order to achieve greater water efficiency and productivity under climate change induced aridification. The project will therefore aim to strengthen water management practices at national and local levels in response to climate change induced water scarcity risks to local farming systems in Turkmenistan. The project takes a comprehensive approach towards achieving this objective by encompassing national level water policy and local community level action to improve water efficiency and supply services.

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## **ACRONYMS**

AF	Adaptation Fund
AWP	Annual Work Plan
CME	Community Mobilization Expert
FTA	Field Technical Assistant
ICTA	International Chief Technical Adviser
LPC	Local Project Coordinator
LS	National Expert on efficient use of land resources in the context of climate change
MAWE	Ministry of Agriculture and Water Economy
MNP	Ministry of Nature protection of Turkmenistan
NC	National Consultant
NCCM	National Consultant on community mobilization
NRE	National Research Expert
PA	Programme Assistant
PIU	Project Implementation Unit
PM	Project Manager
PS	Programme Specialist
RTA	Regional Technical Advisor
SCTEPLR	The State Committee of Turkmenistan on environment protection and land resources
UNDP CO	United Nations Development Programme Country Office
UN PFD	United Nations Partnership Framework for Development
WS	Specialist on sustainable water supply of local communities

## EXECUTIVE SUMMARY

This project was relevant to Turkmenistan's national climate adaptation needs and priorities, and the climate adaptation needs and priorities of the local communities in the three pilot regions of the project in Nohur, Karakum, and Sakarchaga. The project results and progress achieved toward the expected outcomes were overall very positive.

The key project results include:

- The adoption of the new Water Code (2016), to which the project contributed significantly, is one of the key successes of this project. The new Water Code includes articles that enable community-based management of water resources, by expanding the authority over management of the water resources to the water users' groups and associations.
- Multiple expert policy recommendation documents ((draft Law on Water Users Associations, recommendations on the reform of irrigation water pricing, revisions to the Law on Daikhan Associations, etc.) provided to the Government for considering as part of reforming rural water and land management.
- Completion of multiple field-level adaptation measures/water infrastructure improvement projects in the three pilot regions taking into account the specifics of each of these agroecological zones.
- Based on the VCA assessment, the socio-economic report on impacts of climate change risks onto local economies of three project regions was prepared including cost-benefit analysis of all adaptation measures/investment activities conducted in pilot regions of the project.
- Numerous community-level capacity development activities related to establishing Water User Groups (WUGs) in pilot regions of the project. The formation and the operation of the WUGs was supported by the development of WUG operation guides and manuals. Project ended up closely working with 8 WUGs established in the pilot regions and supported them financially, with grant funds for implementation of adaptation measures.
- Series of trainings conducted during lifespan of the project enabled to strengthen capacities of local population in pilot communities to efficient use of water and land resources and their resilience to adverse effects of climate change.
- About 20 booklets and brochures related to concrete adaptation measures and best practices in this field were printed in three languages – Turkmen, Russian and English and distributed to beneficiaries in the communities, to educational institutions, to government agencies.

The project experienced an initial slow start-up process related to multiple factors, including formal government registration as a foreign assistance project, staff turnover, and other factors. However, since the project has been fully up and running, there has been significant progress in implementation of the project workplan and multiple results have been achieved through speed up implementation of project activities.

This report is organized in a logical way of describing summary of project results by components of the project, review of achieved progress and used implementation strategy, as well as monitoring and evaluation activities implemented for efficient management of the project. The report is also supplemented with Lessons Learnt Report and financial overview and utilization charts.

## I. CONTEXT

The project objective is to strengthen water management practices at both local and national levels in response to climate change-induced water scarcity risks that are increasingly affecting farming systems in Turkmenistan.

The project is comprised of three main components:

1. **Institutional capacity to develop climate resilient water policies in agriculture strengthened;**
2. **Resilience to climate change enhanced in targeted communities through the introduction of community-based adaptation approaches;**
3. **Community-managed water delivery services introduced to benefit over 30,000 farmer and pastoralist communities in the three target agro-ecological zones.**

The project assessed and delivered concrete water adaptation measures to local vulnerable communities in the three typical agro-ecological regions, while also strengthening national level water legislation and pricing to ensure water availability for the non-state sector farmers. This combination of outcomes ensures that concrete actions implemented through AF resources are sustainable beyond the lifetime of the project.

The project is structured so that most its activities are at a community level to deliver concrete adaptation benefits to identified communities in three typical agro-pastoral regions (mountainous, desert and oasis). The project worked directly with selected communities to help improve their resilience to increasing aridity and water stress through identifying and implementing effective and locally acceptable adaptation measures. For example, improvements of local water management options and communal water delivery services, seasonal water rationing and more flexible payout mechanisms were introduced. The project also reaches out to communities that do not benefit from the irrigation services and practice rain-fed agriculture. For them improvement of water retention and harvesting techniques are critical for long term availability of water. The project therefore aims to deliver local level improvements in water access and management.

In order to support the scale up of community level adaptation solutions, at a national level, the project supported the implementation of a series of legislative modifications, particularly to the water code, its subsidiary legislation and regulations. These changes were supplemented by socio-economic impact assessments of climate change with cost-benefit analysis of adaptation measures. The assessments, and related capacity development efforts of local technical officers will allow policy makers to adjust water pricing schemes, set productivity targets and target those communities who are currently most disadvantaged. The project will help to apply progressive (graduated pricing) and differentiated water tariff that allows cross-subsidies across water users of varied categories (e.g. farmers engaged in commercial farming versus small holder farmers on marginal lands). Introduction of this policy will have strong implications on future improvements in water service delivery to more disadvantaged farmers who will benefit from improved services and cross-subsidization.

This project is developed in the light of the high level of government interest and commitment to providing improved living conditions for the population of Turkmenistan on the one hand, and the interest in providing a system of “environmentally sustainable economic management,” as expressed in Outcome 3 of the UNDAF, on the other.

## PROJECT RESULTS SUMMARY

### **Outcome 1: Institutional capacity to develop climate resilient water policies in agriculture strengthened**

The project provided recommendations and significant inputs to the new Water Code. The project initiated and supported discussions on various topics related to the package of recommended amendments developed. The project team of national consultants generated a package of amendments, including related to:

- the concept of "association of water users";
- the rights of water users in relation to the establishment of WUAs / WUGs;
- the transition of water management to the basin principle and establishment of basins' councils;
- the provision of the Cabinet of Ministers the right to transfer on the balance or for the use of the interfarm collector and collector-drainage networks of WUA/WUG;
- the competences of state bodies and local authorities related to water resources management;
- the norms of the differentiated approach in determining the tariffs for water supply services;
- the determination of the legal regime of water protection zones; etc.

In October 2016, the Mejlis of Turkmenistan approved the Law on the adoption and enforcement of the new Water Code of Turkmenistan. The newly adopted Water Code includes articles that enable community-based management of water resources by expanding the authority over management of the water resources to the water users' groups and associations. Approximately 80 percent of the recommendations of the project were adopted.

Revised Law "On Pastures" with recommendations of AF Project Experts was adopted by the Government of Turkmenistan in 2015, which included establishment of Groups of Shepherds in order to improve pasture management and reduce degradation of pastures.

At the local level, based on the VCA assessment, a socio-economic report on impacts of climate change risks onto local economies of three project regions was prepared with the participation of all relevant stakeholders. A preliminary cost-benefit analysis was conducted and clear methodology of calculating the differentiated water tariffs for water supply services was developed. 2 consultative workshops were organized to discuss the findings of the conducted studies on the socio-economic impacts of climate change risks on local economies of three project regions – Sakarchaga in Mary velayat (irrigation area), Karakum (desert area) and Nohur (mountainous area) in Ahal velayat.

At the National level, the report was discussed in the joint seminar with the participation of the representatives from the Ministry of Agriculture and Water Resources, Ministry of Economy and Development and the State Committee of Turkmenistan on Environment protection and land resources and other concerned ministries.

In addition, several draft sub-laws have been drafted by the project experts, including: The Rules of water use by WUGs in the area of irrigated agriculture, mountainous areas, and desert zones; the Law on WUAs; the Law on Amendments, additions and changes to the Law of Turkmenistan "On Farmers' Associations"; and Regulation on the introduction of differentiated tariffs for the water supply services.

A draft law on Water Users Associations (WUA) was developed by the project experts and submitted to the Cabinet of Ministers for review.

In the framework of this component, project stakeholders benefitted from the expertise exchange with specialists from Kazakhstan in the framework of development of cooperation South-South Cooperation on Climate Change.

**Outcome 2: Resilience to climate change enhanced in targeted communities through the introduction of community-based adaptation approaches**

In three typical agro-ecological regions – mountains (Nohur), desert (Karakum) and oasis (Sakarchage) various adaptation measures were implemented, necessary for the sustainable development of the varying sectors of the Turkmen agricultural community: from standard irrigated agriculture, to desert and mountain farming. In Nohur (mountainous area) and Sakarchaga total irrigated area has expanded using various hydraulic structures. In addition, to fully meet the drinking water needs of the local population, particularly those conducting small-oasis agriculture and animal husbandry in the desert, hydraulic structures were built which stem from traditional methods of accumulating and storing water (wells, sardoba, kaks (rain pits)). In the mountainous region of Nohur, the system of available natural springs was restored, dams and reservoirs were reconstructed, and the area under drip irrigation was enhanced, all of which were necessary for the growth and welfare of local communities.

In Nohur the project has supported the construction of small-scale dams as watering points for livestock, as well as supported construction of specific irrigation measures and techniques, such as drip irrigation and water storage reservoirs which generally benefitted by all community members.

Based on VCA assessment and investment plan for the Nohur pilot region, implemented measures include the following:

Description of adaptation measures in Nohur	Quantity
Construction of dams	8
Repair of dams and springs	6
Reconstruction and replacement of the water pipe between the spring «Gozbash »* and a reservoir	3 km
Construction of reinforced concrete basins for water storage	3
Drilling of a new wells	2
Reconstruction and repair of the existing drip irrigation system	20 ha
Afforestation of the catchment	10 ha
Local nursery and growing seedlings of local species of trees	0.5 ha
The organization of the production of organic-compost and bio-humus	15



Construction of typical dam for water harvesting in Nohur



Construction of concrete basin (capacity - 400 m<sup>3</sup>) for water storage



Reconstruction of the drip irrigation system (20 ha - 10 ha fruits, 10 ha - vegetables)

Abovementioned adaptation measures contributed to better management of available water resources (water saving) in the area and led to increasing the income of residents. It also helped to strengthen the capacity/resilience of local population and communities to rational use of water and land resources in the context of climate change.

Local community established an Information and Resource Center as the result of trainings provided by the Project Experts. The Resource Center became such a popular and useful location for all villagers (about 150 families – over 700 residents) to learn about water saving techniques, crop production and water distribution, pest and disease control. This is also the place where WUG Managing Board and members conduct regular meetings, resolve issues, make decisions, etc.

In Karakum the project has supported the construction and repair of traditional wells and sardobs, as well as cleaning of takyrs and kaks. Other measures included sand dune fixation and afforestation measures and local nursery.

Based on VCA assessment and investment plan for the Karakum pilot region, implemented measures include the following:

Description of adaptation measures in Karakum	Quantity
Construction of a new wells	15
Repair of the existing wells	13
Construction of new sardobs	15
Repair of existing sardobs	4
Cleaning of takyrs and kaks	4
Sand dune fixation and afforestation	10 ha
local nursery and growing seedlings of local species of trees	0.3 ha



Sand fixation by planting saxaul trees in Karakum



Construction of sardob



Construction of wells using the traditional method



Accomplished concrete adaptation measures demonstrating their benefits with evidence contributed to the greater awareness of the local population in climate change induced risks for agriculture and possible adaptation measures for efficient use of scarcely available water resources in desert conditions.



In pilot site Sakarchaga, the project helped to reconstruct the drainage systems, construct and repair water regulating facilities, introducing laser levelling of the fields to decrease water wastage, restoring wastelands, et. The implemented measures include the following:

Description of adaptation measures in Sakarchaga	Quantity
Construction of water regulating devices	16
Repair of water regulating devices	2
Reconstruction and cleaning of on-farm opened collectors	31,5 km
Construction of the new open collector	5 km
Rehabilitation of earlier used abandoned lands	50 ha
Land leveling of irrigated lands with application of modern equipment	150 ha
Installation of water pump with transformer	1
local nursery and growing seedlings of local species of trees	0.3 ha



1. Construction of water regulating devices with one and two outlet/discharges



2. Land leveling of irrigated lands with application of modern equipment



3. Reconstruction and cleaning of the inter-farm drainage collector

These measures are projected to increase the income of local communities. Water regulating structures will help to evenly and fairly distribute irrigation water, and the proportional and transparent distribution of irrigation water among communities will help to improve water use efficiency and increase revenue for tenants and farmers in the Sakarchaga pilot region.

Construction of new drainage collector and cleaning of existing collectors will help to reduce soil salinity, thus contributing to the increase of agricultural yields.

Better water management helps to improve soil productivity (nutrients not washed away, subsoil salty water not raised to the surface of soil, etc.), helps to prevent desertification of fertile lands, in addition to increased yield and income.

Research was conducted on determining (a) suitable volume of water to be applied by furrow on cotton, (b) suitable methods of water application via furrow; and (c) benefit of this new method, e.g. crop yield, saved water, increased fertilizer efficiency. The project successfully introduced AquaCrop (FAO) and NRCS SURFACE methodologies (USDA) and results of simulations were presented under the leadership of an international expert during two seminars in 2016 attended by representatives of ministries, research institutions, agricultural university professors and students. The participants recognized this as an important and advanced tool for further research and application at national, regional and community levels.

### **Outcome 3: Community-managed water delivery services introduced to benefit over 30,000 farmer and pastoralist communities in the three target agro-ecological zones.**

After it became clear that the establishment of Water Users Associations as planned by the project is not likely to be feasible without adopting relevant national legislation, the project shifted to supporting the formation of Water Users Groups, which could be viewed as prototypes of WUAs. The project sought to create a model of the public structure responsible for water management at the local level in the country.

The project worked with a larger number of groups/tenants (that exist under daikhan associations) but then gradually focused on working with a total of eight (8) WUGs in the three target regions. After agreement and approval of establishment WUG by local authorities and farmer associations, 8 WUGs are been established.

The structure of the 8 WUGs which the project supported varied:

- in Nohur one WUG was established based on 1 village (Konegummez) which forms a daikhan association together with the neighbouring village. Here the WUG members do not own land, farmers produce agricultural produce in their plot of land and engaged in livestock production which makes most of the income that provides the means of subsistence for their families. Therefore, their group is more like to a Cooperative of Agricultural Producers, with strong incentive to working together;
- in Karakum two WUGs was established based on 2 livestock farms as part of the local daikhan association. In Karakum, members of the WUGs are predominantly engaged in livestock, they do not own land and irrigated agriculture is not an important component that provides means of subsistence for their families. Therefore, these WUGs are more viable as Associations of pasture users;
- in Salkarchage five WUGs were established based on the existing 5 brigades of the daikhan association "Zahmet"(which has more than 20 such brigades). The local water management system in Sakarchaga is the most structured, as in this region the land use is almost entirely dominated by individual farmer leaseholders working in cultivated agriculture, primarily producing cotton and wheat for the state orders.

The project has conducted multiple trainings in each project region to organize WUGs with clear objectives, institutional capacity and management skills, including trainings on "Organizational

Development of Water User Groups”, “Management and Annual assessment of WUG activity”, etc.

Composition of the Management Committees of Water Users Groups (WUG) has been identified and approved by the daikhan association in three pilot regions. Jointly with the AF project national experts, members of the Management Committee of WUG have identified and developed goals, objectives and functions of water user groups and the rules of water user groups in the irrigated area of agriculture, in conditions of the desert and mountainous areas, which was approved by the chairmen of the daikhan associations in pilot regions.

International Consultants of Company MetaMeta Research were hired to develop a WUG Establishment Guidebook/Manual, which was translated into three languages. These Experts visited with two missions and met with representatives of all 8 established WUGs in 2016. Representatives of all 8 WUGs attended 5-day training and were awarded with Certificates for successful participation in the WUG Development Training of trainers. Four trainers were also trained (two male and two female) for WUG further support.

It has been observed that the presence of WUGs have improved community-based water management principles at the local level. They introduce joint planning, management, decision-making and management of hydraulic structures (farm drainage collectors, local dams with water reservoirs, wells, sardobs, kaks etc.)

Based on the identified needs, and after receiving training on proposal writing, the WUGs developed and approved plans for further implementation of adaptation measures in the settlements. With the assistance from the project team, funding proposals were developed by the WUGs with the active participation of the local communities.

In 2017, established WUGs developed community project proposals and UNDP channelled funds through the WUGs as grants to let them learn fund management in practice. The measures funded were selected from a shortlist of 12 project proposals by the WUG members with the active participation of Archins and heads of daikhan associations. Projects were selected on the basis of their potential to: (a) improve the delivery of water services; (b) leverage funding under government social protection or other funding mechanisms, and (c) operate sustainably over time.

**Pilot region Nohur, WUG “Cheshme”:** construction of water pipeline with length of 5,250 meters to deliver water from the reservoir in the mountains to Konegummez village.



This grant project is aimed at overcoming barriers related to lack of water by way of construction of water supply system of polyethylene pipeline with length of 5,250 meters from the water reservoir "Begench" in the mountains to Konegummez village in order to achieve maximum efficiency of water resources, reduce water losses and improve water efficiency in arid climate conditions of the region. The activities were directed towards the strengthening of water management at the local level and will meet 65% of prime-essential needs of the village, in response to the risk of water shortages for livestock, irrigation of gardens and for the household needs of the members of the Water User Group “Cheshme”.

**Pilot region Karakum - WUG "Charwa":** Construction of innovative kak with coated geomembrane in the bottom (village Bori, 170 km away in desert)

**Pilot region Karakum - WUG "Tebigat":** Construction of sardop and innovative kak coated with geomembrane in the bottom and covered with specialized film on the top (Bokurdak settlement)

These grant projects are aimed to overcome barriers related to lack of water, through the construction of an innovative kak and sardop to maximize efficient use of water resources, while reducing water loss and improving the performance of kaks in adverse climate conditions causing drought. The activities focused on providing water to villages Bori and Bahardok for prime-essential needs of the villages in response to the risk of water shortages for livestock and for household needs of the members of WUG "Tebigat" and WUG "Charwa".

1. Innovation kak (water pond in the desert) coated with geomembrane in the bottom to avoid seepage of the water in to sand constructed in Bori village (170 kms out in desrts)



2. Innovation kak (water pond in the desert) coated both with geomembrane in the bottom and special cover on the top to avoid seepage of the water in to sand and evaporation constructed in Bokurdak settlement.



The innovation has been introduced on Takyr (flat clay land in the middle of desert) by lining Kak (water pond) with special geomembrane on the bottom and special cover on the top for water saving. This will help to increase water availability and water loss in desert conditions, and relevantly will give an opportunity to improve pasture management, reduce desertification, fix drifting sands by preserving needed amount of grass, prevent long distance walking of animals for reaching water for drinking, and many more improvements.

**Pilot region Sakarchaga - WUGs «№1», «№10», «№12», «№13», «№15» (joint grant proposal):** Building adaptive capacity of members of the established WUGs and increase available water through the construction of 2,450 meters of water pipe to deliver water to residents of the "Zahmet" Farmers Association for household needs and the purchase of diesel water pumps for the needs of the tenants to supply enough water from the canal for irrigation of agricultural land, as well as establishment of information resource center to strengthening the capacity of established 5 WUGs.

This project is aimed at efficient management of water resources by digging two ditches to deliver water from the canal to the village to provide residents with fresh water for irrigation of

their gardens and to meet their household needs and the procurement of water pumps for delivering water to remote agricultural areas for producing high crop yields. In addition, project supported creation of the Resource Centre on the basis of FA "Zahmet" to strengthen institutional capacity of established WUGs for independent decision-making in the management of water at local level, to raise the level of awareness of the villagers on the issues of adaptation to climate change and measures to mitigate the possible risks associated with adverse weather conditions, sustainable use and equitable distribution of water, the study of international practices for the application of innovative approaches in agriculture, as well as opportunities for WUG members to hold meetings and workshops to address current issues.



Digging ditch to deliver water from the canal to the village



Diesel water pumps and refurbished Resource Center for WUG members

The experience from the project was shared with a group of experts and specialists from Kazakhstan, who visited Turkmenistan in 2015. They were introduced to innovative water saving/measuring tools, water disinfection techniques suitable for the stored water in sardobs; innovations related to pasture management and management of water distribution. In 2016, the Project organized an exchange visit for the delegates from Turkmenistan to Kazakhstan. The aim was to share experiences around adaptation measures and to learn the experience with WUAs in Kazakhstan. The group of experts from Turkmenistan included representatives from Parliament (Mejlis), Ministry of Agriculture and Water Resources, State Committee on Environmental Protection and Land Resources, local communities, WUGs, Farmers Union, and the representatives from target pilot regions from Turkmenistan. These visits were conducted in the framework of UNDP's "South-South" experience exchange programme.

## PERFORMANCE REVIEW

### PROGRESS REVIEW

#### (i) Overall progress towards the CPAP outcome and output(s)

Project was contributing to the UNDP Turkmenistan programmatic priorities at the time, namely United Nations Development Assistance Framework (UNDAF) Outcome 3: By 2015, the system of environmentally sustainable economic management expands people's opportunities to participate in social and economic development, especially in rural areas; and UNDP Country Programme (CPAP) Outcome 3.2 ("Environmentally sustainable use of natural resources contributes to effectiveness of economic processes and increased quality of life") and, in particular, Output 3.2.2: Local communities contribute to and benefit from sustainable use of natural resources

The project was in line with the Millennium Development Goals (MDGs), in particular, MDG7: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources). Now it is in line with the Sustainable Development Goals (SDGs), and in particular SDG 13 on Climate Action.

#### (ii) Capacity Development

The project has strengthened the capacity for efficient and effective water management in Turkmenistan at both the community and national levels. At the national level, the project supported systemic capacity development, through strengthening water management policies and regulations. At the community level, the project has held multiple community training events in each of the three pilot regions, related to climate change adaptation and water management approaches. The adaptation measures increased the interest and knowledge of local communities on general topics related to climate change and concepts of WUA/WUGs. In addition, a series of training events also contributed to increasing the motivation of water users to participate in decision making processes.

#### (iii) Gender Mainstreaming

The project included gender related issues in majority of its activities. The participation of at least 30 percent women in all three Management Committees was made requirement in the revised WUG Regulations. This helped to involve female members of the WUGs in decision making on every step. Women were actively engaged in the implementation of all project activities especially in pilot region Sakarchaga. As a result, the project team noticed during meetings with them that women not only are active participants in the WUGs but also concentrate their attention on improving the social conditions of life.

#### (iv) Impact on direct and indirect beneficiaries

The project estimates that the total population benefitting from the implementation of this project amounts to more than 69,400 (initial target was 62.000 people). This figure includes both direct and indirect beneficiaries: 35,420 direct beneficiaries (initial target was 32.000 people) and remaining are indirect beneficiaries (see Table below).

Project pilot area	Targets	The achieved results	Targets	The achieved results
	<b>direct</b>		<b>Indirect*</b>	
<b>Nohur</b>	4000	9876	4000	5000

Project pilot area	Targets	The achieved results	Targets	The achieved results
<b>Karakum</b>	8000	17545	8000	10000
<b>Sakarchaga</b>	20000	21450	18000	19000
<b>TOTAL</b>	<b>32000</b>	<b>35421</b>	<b>30000</b>	<b>34000</b>

#### (v) Communication and publicity

Articles on effective implementation of new innovative adaptive technologies and press releases related on workshops and training activities of the project were regularly published at UNDP Turkmenistan website, ALM website and national newspapers. Successful story devoted to the implementation of adaptation measures in pilot site Nohur was featured by Istanbul Regional Hub. About 20 booklets and brochures related to concrete adaptation measures and best practices in this field were printed in three languages – Turkmen, Russian and English and distributed to beneficiaries in the communities, to educational institutions, to government agencies. The project has produced a documentary film in partnership with one of the state TV companies.

The project has regularly participated in national initiatives and events such as Environment protection Day and Agricultural Exhibition-Fair, where wide-spread dissemination of project results has occurred.

### IMPLEMENTATION STRATEGY REVIEW

#### (i) Sustainability

Successful implementation of adaptation measures increased the interest and commitment of the national and local beneficiaries in the sustainable management of the water and land resources. The evidence of water saving and clear benefits of communal water management creates more motivation for the farmers get engaged with agricultural production and get involved in the WUGs. Better water management helps to improve the soil productivity and prevent desertification of fertile lands in addition to increased income for households. These factors contribute to the hope that local population will maintain provided by project adaptation infrastructure and keep implementing similar activities in the future. Experience of implementing grant projects at pilot sites fully managed by WUG members are evidence of this practice. Despite of the fact that there is a need for establishing mechanisms for irrigation water pricing and other water regulating procedures, the national government is committed to water sector reforms. The adoption of the new Water Code is already a promising step in this direction.

#### (ii) Participatory/consultative processes

In the early stages of the project implementation, the views and needs of the communities, pilot regions of the project in Nohur, Karakum and Sakarchaga were solicited and included as the basis for proposed measures and activities. A series of training events conducted for counterparts at national and local levels also contributed to increasing the motivation of water users to participate in decision making processes. In addition, during the implementation of adaptation measures representatives of local communities both men and women (60 and 40 percent respectively, on average) actively participated. They provided contribution to the project activities in each pilot region in a form of labour.

#### (iii) Quality of partnerships

The project has been highly successful in engaging the local community's and key national institutions involvement and building stakeholder ownership at the local and national level. Project was also collaborating with functioning at a time other UNDP environment related projects such as Sustainable Land Management Project (SLM) and regional Climate Risk Management (CRM) Project. The projects shared related objectives, organized joint workshops and worked with similar sets of stakeholders. The projects had generated synergies and efficiencies by sharing national technical experts, and by leveraging each other's resources in the three project pilot regions.

#### (iv) National Ownership

The State Committee of Turkmenistan on Environmental Protection and Land Resources (former Ministry of Nature Protection) was the official government executing partner of the project. The project benefitted from a good level of country ownership at the national and local levels. Conduction of regular Project Board meetings (at least once a year) contributed to better interdepartmental interaction and coordination of project activities. The Project Board included representatives of all relevant Ministries and institutions: The State Committee of Turkmenistan on Environmental Protection and Land Resources, Ministry of Agriculture and Water Economy, National Parliament (Mejlis), Ministry of Economy, the National Institute of Deserts, Flora and Fauna, National Committee on hydrometeorology, Parliament (Mejlis), the National Institute of Deserts, Flora and Fauna, local authorities and local communities.

### MANAGEMENT EFFECTIVENESS REVIEW

#### (i) Monitoring and Evaluation

The project's monitoring and Evaluation activities have been implemented generally in line with the plan outlined in the project document. The Project Board has met at least once per year. The Mid-term Evaluation was carried out at the approximate mid-point of the project (in 2014). Recommendations from MTE were discussed at Project Board meetings and response activities were included in following annual work plans. Regular monitoring, technical control and support for the implementation of the agreed adaptation activities have also been performed.

In May-June 2017, terminal evaluation of the project was conducted by independent external consultant as it was planned M&E activity in the Project Document. In general, the project results and overall progress achieved by implementation of the project was assessed positively. The project was considered relevant to Turkmenistan's national climate adaptation needs and priorities, and highly relevant to the climate adaptation needs and priorities of the local communities.

#### (ii) Timely delivery of outputs

Following the initial slow project start-up process related to multiple factors, including formal government registration as a foreign assistance project, staff turnover, and other factors, there has been significant progress in implementation of the project workplan and multiple results have been achieved. AWP's were developed and approved in close collaboration with national partners of the project and timely implementation of planned activities monitored. Project also applied good adaptive management measures in delivering outputs and targets. As an example, can be shown the approach the project took towards implementing the Water Users Associations in the three pilot regions, with turning them to the WUGs model.

The project needed an extension in part due to external reasons. Already at midterm, due to problems with project start-up process, the project activities were behind by around a year compared to the originally planned schedule. Also, there was a lack of clarity whether the new Water Code and other related legislation, to which project provided significant recommendations



and inputs (Water Code eventually was adopted in October 2016), would be adopted or not. In 2016, the project was extended by one year and it was approved by UNDP Regional office in Istanbul and Adaptation Fund.

## II. IMPLEMENTATION ISSUES

**Table 1: Issues Log**

### OFFLINE ISSUES LOG

Project Title: Addressing climate change risks to farming systems in Turkmenistan at national and community level		Award ID: 00074953			Date: 24 April 2017				
#	Description	Date Identified	Type	Impact & Priority	Countermeasures / Mngt response	Owner	Submitted updated by	Last Update	Status
	(Enter a brief description of the issue)  <i>(In Atlas, use the Description field. Note: This field cannot be modified after first data entry)</i>	(When was the issue first identified)  <i>(In Atlas, select date. Note: date cannot be modified after initial entry)</i>	<i>(In Atlas, select from list)</i>	(Describe the potential effect on the project)  <b>Priority = 5</b> (Enter priority on a scale from 1 (low) to 5 (high) Priority =) <i>(in Atlas, use the Management Response box)</i>	(What actions have been taken/will be taken to address this issue)  <i>(in Atlas, use the Management Response box)</i>	Who has been appointed to address this issue  <i>(in Atlas, use the Management Response box)</i>	(Who submitted the issue)  <i>(In Atlas, automatically recorded)</i>	(When was the status of the issue last checked)  <i>(In Atlas, automatically recorded)</i>	<i>(in Atlas, use the Management Response box. If solved, check the "Solved" box)</i>
1	Slow process of implementing grant projects at pilot sites due to local bureaucracies	April 2017	Problem	P=5	The issue was discussed with local project coordinators and local authorities were requested to speed up the approvals/permissions for implementation of projects at pilot sites	Project Manager	Project Manager	May 3, 2017	Solved
2	The possible	April 2017	Problem	P=4	All bidders/contractors	Project Manager	Project Manager	May 9, 2017	Solved

<p>challenges with contractors/bidders in accomplishing grant projects due to the issue of bank transfer of funds and influence of inflation and unstable currency exchange rates for budgeted procurements</p>				<p>were contacted to fulfil their original proposals for procurement of goods and providing services for implementation of grant projects</p>				
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Prepared by: ....., Rahmanberdi Hanekov, Project Manager  
 Approved by: ....., Rovshen Nurmuhamedov, Programme Analyst

Table 2: Risks Log

OFFLINE RISK LOG



Project Title: Addressing climate change risks to farming systems in Turkmenistan at national and community level						Award ID: 00074953		Date: 25 April 2017	
#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	Enter a brief description of the risk  <i>(In Atlas, use the Description field. Note: This field cannot be modified after first data entry)</i>	When was the risk first identified  <i>(In Atlas, select date. Note: date cannot be modified after initial entry)</i>	Environmental Financial Operational Organizational Political Regulatory Strategic Other <i>Subcategories for each risk type should be consulted to understand each risk type (see Deliverable Description for more information)</i>  <i>(In Atlas, select from list)</i>	Describe the potential effect on the project if this risk were to occur Enter probability on a scale from 1 (low) to 5 (high) P = Enter impact on a scale from 1 (low) to 5 (high) I =  <i>(in Atlas, use the Management Response box. Check "critical" if the impact and probability are high)</i>	What actions have been taken/will be taken to counter this risk  <i>(in Atlas, use the Management Response box. This field can be modified at any time. Create separate boxes as necessary using "+", for instance to record updates at different times)</i>	Who has been appointed to keep an eye on this risk  <i>(in Atlas, use the Management Response box)</i>	Who submitted the risk  <i>(In Atlas, automatically recorded)</i>	When was the status of the risk last checked  <i>(In Atlas, automatically recorded)</i>	e.g. dead, reducing, increasing, no change  <i>(in Atlas, use the Management Response box)</i>
2	Lack of equipment (ironing geomembrane) for the construction of a new innovative kak in pilot site Karakum	March 2017	Operational	P = 2 I = 5	Project Manager contacted the contractor who delivered the geomembrane in 2016. Contractor will be pushed to deliver the services as this was part of the contract	Project Manager	Project Manager	June 1, 2017	solved
3	Delay in delivery of film for the construction of a new innovative kak (cover on the top) in pilot site Karakum	April 2017	Other	P = 1 I = 4	Contractor was contacted and he promised the delivery of film around May 10	Project Manager	Project Manager	May 14, 2017	solved

Prepared by: ....., Rahmanberdi Hanekov, Project Manager

Approved by: ....., Rovshen Nurmuhamedov, Programme Analyst

### III. LESSONS LEARNED

Table 3: Lessons Learned

<b>PROJECT LESSONS-LEARNED REPORT</b>	
<b>Project Title:</b>	Addressing climate change risks to farming systems in Turkmenistan at national and community level
<b>Country:</b>	Turkmenistan
<b>Related CPAP Outcome</b>	<b>3.2 Outcome:</b> Environmentally sustainable use of natural resources contributes to effectiveness of economic processes and increased quality of life
<b>Project Description and Key Lessons-Learned</b>	
<b>Brief description of context</b>	<p>Climate change is projected to have significant impacts on water resources in an already arid Turkmenistan. Water availability and supply are likely to suffer from increasing shortages due to elevated temperatures, overall climate aridification and competition for water arising from regional trans-boundary water issues. Turkmenistan's inherent aridity and reliance on agriculture as a source of both income and food renders the country particularly vulnerable to these climate change impacts.</p> <p>Meteorological drought is a semi-permanent condition in Turkmenistan. The country receives on average only 191 mm of precipitation per year. The country is therefore inherently water scarce, characterized by a continental and very dry climate, with low levels of precipitation and moisture (35% on average). Turkmenistan is a predominantly arid country with over 80% of its territory characterized by desert and oases, with mountainous zones primarily along its southern borders. Water shortages and periods of drought are common, a situation which is likely to be exacerbated by climate change with consequences for development, economic growth and livelihoods. Almost half of the population is employed in the agriculture sector, and approximately 55% reside in rural areas.</p> <p>The government of Turkmenistan has come to realize that water is one of the key driving forces for its economic development, and under conditions of increasing scarcity water infrastructure needs to be upgraded to minimize losses to the system. The government therefore has dedicated significant budget allocations for technological upgrades in water infrastructure. This focuses on the upgrade of pumping stations and lining of canal systems. The largest investment has been in the construction of an artificial lake, Altyn Asyr, and associated canal infrastructure to collect drainage water, which will eventually be used for irrigation purposes following natural purification. The Government understands, however, that an approach based on supply side infrastructure may not be sufficient. It has begun a large-scale investment in high efficiency irrigation technologies, including (subsoil) drip irrigations systems, mobile sprinklers, and waste water capture and reuse, and has committed to scale up these activities in the new Agriculture and Water Strategy. Because prospects for development of new supplies are limited in Turkmenistan, improvements in efficiency are paramount for reliable supplies during the periods of hydrological drought in more arid conditions to be brought about by climate change.</p> <p>The government is also concerned with rising water deficits. In this regard, the importance of rural development and social sectors has been underscored by the current government, and it has recently pledged significant resources toward these priorities.</p>

<p><b>Brief description of project</b></p>	<p>The proposed project aims to overcome the above barriers to addressing immediate and long-term adaptation needs in the water sector in Turkmenistan in order to achieve greater water efficiency and productivity under climate change induced aridification. The project therefore aims to strengthen water management practices at national and local levels in response to climate change induced water scarcity risks to local farming systems in Turkmenistan. The project takes a comprehensive approach towards achieving this objective by encompassing national level water policy and local community level action to improve water efficiency and supply services.</p> <p>The project is structured so that the majority of its activities are at a community level to deliver concrete adaptation benefits to identified communities in three typical agro-pastoral regions (mountainous, desert and oasis). The project worked directly with selected communities to help improve their resilience to increasing aridity and water stress through identifying and implementing effective and locally acceptable adaptation measures.</p> <p>AF project focused on the development of community level water management approaches in those regions where there is significant potential for diversified non-state agriculture, horticulture and livestock management. It will also seek to ensure water availability for the non-state sector by addressing the lack of fiscal incentives for more efficient water use in the state sector, and developing progressive tariffs.</p>
<p><b>Key project successes</b></p>	<ul style="list-style-type: none"> <li>➤ The project developed a package of amendments, additions and changes to the draft Water Code of Turkmenistan (the concept of "association of water users and water users groups WUA", rights of water users on the establishment of WUAs / WUGs, the transition of water management to the basin principle, the right to transfer on the balance or for the use of the interfarm collector and collector-drainage networks, fixing the norms of the differentiated approach in determining the tariffs for water supply services, etc.) which was adopted by Parliament of Turkmenistan in October 2016</li> <li>➤ Project experts contributed to the adoption of Law on Pastures by introducing amendments and recommendations into it</li> <li>➤ Based on the VCA assessment, the socio-economic report on impacts of climate change risks onto local economies of three project regions was prepared including cost-benefit analysis of all adaptation measures/investment activities conducted in pilot regions of the project</li> <li>➤ More than 35,000 people at pilot communities of the project greatly benefitted from concrete adaptation measures related to water management and efficient use of land and water resources in the context of climate change such as construction of water basins, dams, wells, sardops, nursery, drip irrigation, sand fixation, water regulating devices, drainage collectors, land levelling, etc.</li> <li>➤ Series of trainings conducted during lifespan of the project enabled to strengthen capacities of local population in pilot communities to efficient use of water and land resources and their resilience to adverse effects of climate change</li> <li>➤ More than 10 booklets and brochures related to concrete adaptation measures and best practices in this field were printed in three</li> </ul>

	<p>languages – Turkmen, Russian and English and distributed to beneficiaries in the communities, to educational institutions, to government agencies.</p> <ul style="list-style-type: none"> <li>➤ 8 water user’s groups (WUG) were established in pilot communities of the project with defined goals and organizational structure. As a group, they could develop and implement investment projects with funding from external sources and local contribution.</li> <li>➤ The innovation has been introduced in pilot Region Karakum by lining the bottom of 2 kaks (water pond in the middle of desert) with HDPE geomembrane and with special cover to avoid evaporation which will help to increase water availability in desert conditions</li> </ul>
<p><b>Project shortcomings and solutions</b></p>	<ul style="list-style-type: none"> <li>❖ The project experienced an initial slow start-up process related to multiple factors, including formal government registration as a foreign assistance project, staff turnover, and other factors. However, since the project has been fully up and running, there has been significant progress in implementation of the project workplan and multiple results have been achieved.</li> <li>❖ Project has experienced challenges in establishing Water Users Associations in pilot regions as one of the key targeted outcome of the project due to national legislation ambiguity. As a result, project adapted alternative model to WUAs in the form of the Water User Groups based on the brigades and/or leaseholders functioning within daikhan associations which is legally authorized by the charter of daikhan associations</li> <li>❖ Approval of the Annual Work Plans by government traditionally has taken longer time than expected and involvement of UNDP management accelerated the process of approval and implementing planned project activities on timely manner</li> <li>❖ Project faced challenges in the process of transferring funds to the account of daikhan associations for accomplishing grant projects by established WUGs due to daikhan associations’ difficult financial relations with government and private contractors. With the support from national project partners and local authorities at sites, project solved this issue by opening daikhan associations sub-account at “Daihan Bank” that will solely serve funds transferred for grant project purposes</li> </ul>
<p><b>Lessons learned</b></p>	<ul style="list-style-type: none"> <li>❖ Prior to final project approval, UNDP and government partners need to prepare any necessary formal agreements or arrangements to ensure immediate utilization of financial, human resources and smooth implementation of the project</li> <li>❖ Changing the legislative basis to recognize climate impacts is rather a long multi-year process and depends upon national policies and</li> </ul>

	<p>processes, so having an objective of adopting or amending legislative documents in related area can be too ambitious within timeframe of the project</p> <ul style="list-style-type: none"> <li>❖ The project has been highly successful in engaging the local communities and building stakeholder ownership at the field level, and involvement of key national institutions, but there are opportunities for extending engagement of additional relevant national stakeholders</li> <li>❖ Community level adaptation measures works out more efficiently through grant arrangements than through commercial tenders as grants allow communities to take ownership of the project, since they are directly involved in carrying out the labor and contributing their own resources for co-financing</li> <li>❖ It was observed that some of the climate resilient water management adaptation measures implemented in pilot regions such as drip irrigation, water harvesting and others was picked up by neighboring households/communities, so there is potential for replication of the project results in a more broader level</li> <li>❖ One notable lesson learned is the approach the project has taken toward implementing the process of establishing water user associations in the three pilot regions as one of the objectives of the project. Local farm systems in Turkmenistan are managed by farmers' associations called "Daihan birlashik" meaning union of farmers. The project avoided setting up a new community-based organization that would overlap with Daihan birlashiks and rather developed the capacity of brigades/group of leaseholders within farmers' associations to operate as Water User Groups as well. Despite of adoption of new Water Code of Turkmenistan which includes provisions on the concept of "association of water users and water users groups" as well as communal management of water resources and introduction of differentiated tariffs for the water supply services, establishment and full-fledged functioning of Water Users Association is feasible only after adoption of the Law "On WUAs"</li> </ul>
<p><b>Follow-up Actions</b></p>	<ul style="list-style-type: none"> <li>❖ Continue high-level discussions with the Government over linking project successful accomplishments related to efficient use of water and land resources in the context of climate change and national plans and programmes on development of agriculture and rural communities, and promote their replication to other communities of Turkmenistan</li> <li>❖ Monitor the developments around established WUGs in pilot sites. Their information base (resource centres) should be regularly supported and updated to increase their chances of sustainable operations and contribute to climate resilience of the agriculture-based rural livelihoods (possibly by SCRL project)</li> <li>❖ The experiences and best practices of the climate resilient water management approaches supported by the project in the pilot regions</li> </ul>



	<p>must be disseminated in regional and national levels,</p> <ul style="list-style-type: none"> <li>❖ Publish and disseminate user friendly instructions on adaptation measures accomplished in pilot regions of the project to be introduced to the communities (possibly by SCRL project)</li> <li>❖ To follow-up on research initiated in Sakarchaga within the framework of SCRL project as new project pilot sites are very similar to Sakarchaga and given the fact that all related equipment procured for these purposes by AF project was transferred to a new project</li> </ul>
<b>Project Information</b>	
<b>Award ID:</b>	00059797
<b>CO Focal Points:</b>	Rovshen Nurmuhammedov, UNDP Programme Specialist Hanekov Rahmanberdi, Project Manager
<b>Partners:</b>	The State Committee of Turkmenistan on environment protection and land resources Ministry of Agriculture and Water economy Institute of Desert, Flora and Fauna Local Authorities Local Communities

#### IV. FINANCIAL STATUS AND UTILISATION

##### Financial Summary

Overall project budget is USD 2,799,104.00, consisting of US\$2,700,000 Adaptation Fund Grant and US\$94,104.00 UNDP TRAC Funds. Outcome 1 of the project was planned for 13 percent of the project budget, Outcome 2 was planned for 48.1 percent, and Outcome 3 was planned for 29.6 percent. Project management was budgeted at 9.3 percent of the total budget. In general, actual disbursements have been kept up with the level of disbursements planned in the project budget. There was overspending for Component 2, mainly in budget lines 72105 - Construction & Engineer works and 71200-involvement of International Consultants. Over expenditure on adaptation measures is mostly related with increasing the expectations of the local community's and the late introduction of the research subcomponent to the project.

The project management budget was slightly exceeded, which is mostly connected with the one-year extension of the project.

##### Financial Overview

(see Table below)

Table 4: Financial overview for the whole duration of the project

	Expenditures 2012	Expenditures 2013	Expenditures 2014	Expenditures 2015	Expenditures 2016	Expenditures 2017	Total expenditures
<b>Outcome 1: Institutional capacity to develop climate resilient water policies in agriculture strengthened</b>	28,430	99,239	67,590	57,315	51,733	20,500	<b>324,807</b>
<b>Outcome 2: Resilience to climate change enhanced in targeted communities through the introduction of community-based adaptation approaches</b>	35,570	190,420	531,363	275,548	319,552	50,130	<b>1,402,453</b>
<b>Outcome 3: Community-managed water delivery services introduced to benefit over 30,000 farmer and pastoralist communities in the three target agro-ecological zones</b>	16,730	77,915	88,245	185,623	218,549	130,037	<b>717,099</b>
<b>Project Coordination and Management</b>	23,953	33,782	75,805	82,758	45,363	13,500	<b>275,161</b>
<b>Adaptation Fund</b>	<b>104,683</b>	<b>401,356</b>	<b>763,003</b>	<b>601,244</b>	<b>615,547</b>	<b>214,167</b>	<b>2,700,000</b>
<b>UNDP TRAC</b>	<b>0</b>	<b>0</b>	<b>24,521</b>	<b>21,541</b>	<b>26,807</b>	<b>26,235</b>	<b>99,104</b>
<b>Subtotal</b>	<b>104,683</b>	<b>401,356</b>	<b>787,524</b>	<b>622,785</b>	<b>642,354</b>	<b>240,402</b>	<b>2,799,104.00</b>
<b>Grand total</b>							<b>2,799,104.00</b>

## Trainings

During project lifespan, the project team conducted more than 20 trainings targeting local communities/WUG members in three pilot regions of the project (Karakum, Nohur and Sakarchaga), covering such topics as adapting to climate change, organizational development of local water users, assessment of local needs and needs of water users in planning of local adaptation measures; establishment and management of WUGs; conflict resolution, etc. Below is a list of conducted trainings.

	Title of the training	Dates	Status
<b>2013</b>			
1	Training "Adaptation to climate change"	Karakum 21-23/06/2013 Nohur 05-07/07/2013 Sakarchaga 15-17/07/2013	<b>Completed</b>
<b>2014</b>			
1	Training "Organizational development and partnership of water users"	Sakarchaga 04-05/04/ 2014 Karakum 11-12/04/2014 Nohur 15-16/03/2014	<b>Completed</b>
2	Training on methods of justification of local adaptation projects	Karakum 23-24/04/2014 Nohur 05-07/05/2014 Sakarchaga 14-16/05/2014	<b>Completed</b>
3	Training on development of local projects	Sakarchaga 01-02.08.2014 Karakum 05-06.08.2014 Nohur 09-10.08.2014	<b>Completed</b>
<b>2015</b>			
1	Sustainable use of water resources in the Karakum desert	12 June	<b>Completed</b>
2	Sustainable water use in Kopetdag mountainous areas	6 -7 June	<b>Completed</b>
3	Leveling of irrigated land using laser equipment	11 -12 June	<b>Completed</b>
4	Methods of grafting fruit trees	13 - August 14	<b>Completed</b>
5	Rational use of mineral fertilizers	18 - 19 August	<b>Completed</b>
6	The use of drip irrigation in desert conditions	27 - August 27	<b>Completed</b>
7	The use of drip irrigation in the mountains	01 - September 2	<b>Completed</b>
8	Rational use of irrigation water at the farm level	07 - 08 September	<b>Completed</b>
9	The impact of climate change on desert pastures watering conditions	21 - 22 September	<b>Completed</b>
10	The impact of climate change on mountain pastures watering conditions	28 - 29 September	<b>Completed</b>
11	Methods of harvesting and water saving in the context of climate change	13 - 14 October	<b>Completed</b>
12	Modern methods of improving the yield and productivity of mountain pastures in Turkmenistan	15 - 16 October	<b>Completed</b>
13	Methods of harvesting of precipitation water and water saving technics in the context of climate change	October 19 - 20	<b>Completed</b>
14	Modern methods of improving the yield and productivity of desert pastures in Turkmenistan	21 - October 22	<b>Completed</b>

	<b>Title of the training</b>	<b>Dates</b>	<b>Status</b>
15	The management of water and land resources, taking into account climate change effects	30 - 31 October	<b>Planned</b>
16	Methods to improve soil fertility	02 - 03 November	<b>Completed</b>
17	Activities against salinization of irrigated lands	10 - November 11	<b>Completed</b>
<b>2016</b>			
1	Seminar on conducted research on social-economic impact of adaptation measures in Ashgabat	March 2016	<b>Completed</b>
2	Working meeting on discussion of developed draft amendments and recommendations to Water Code and other regulatory acts and transfer of these document to government bodies	June 2016	<b>Completed</b>
3	TOT on establishing Water users groups and presentation of WUA Manuals developed by MetaMeta research Co.	July 2016	<b>Completed</b>
4	Seminar on water saving technologies conducted by Antonas Maziliaskas	October 2016	<b>Completed</b>
5	Workshop on reducing salinity levels, improving soil nutrient and using different irrigation technologies conducted by Antonas Maziliaskas at the Turkmen Agricultural University	December 2016	<b>Completed</b>
<b>2017</b>			
1	Organizational development of WUGs in pilot site Sakarchage	30-31 March	<b>Completed</b>
2	Organizational development of WUGs in pilot site Karakum	13-14 April	<b>Completed</b>
3	Organizational development of WUGs in pilot site Nohur	20-21 April	<b>Completed</b>
4	Management and Annual assessment of WUG activity in pilot site Sakarchage	26-27 May	<b>Completed</b>
5	Management and Annual assessment of WUG activity in pilot site Karakum	5 - 6 July	<b>Completed</b>
6	Management and Annual assessment of WUG activity in pilot site Nohur	20-21 July	<b>Completed</b>