UNDP Uzbekistan Sustainable Development Cluster

Sustainable Water management in Rural Areas in Uzbekistan

Component 2: Technical capacity Building

Project #: 00090379 EU-WATER

(Implemented by UNDP)

Midterm Review Report for UNDP

by

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Contents

Abbreviations

DRM	Dual Reflection Method
MWR	Ministry of Water Resources
MTR	Midterm Review Report
BISA	Basin Irrigation Systems Authority
ISA	Irrigation System Authority
WCA	Water Consumer Association
EU	European Union
GIZ	German International Cooperation Agency
MoE	Ministry of Economy
MoF	Ministry of Finance
MTR	Midterm Review
NIM	National Implementation Modality
NPC	National Project Coordinator
NTA	National Technical Advisor
TIIAME	Tashkent Institute of Irrigation and Melioration
TSAU	Tashkent State Agrarian University
ToT	Training of Trainers

Acknowledgement:

The MTR could not had been done without the intensive support by the UNDP country office and the entire UNDP project team to provide any information demanded. Major thanks are also devoted to the MWR and officials at BISA and WCA level to support the open discussion and to share personal impressions about the project progress and its future.

1 Executive summary

Project information Table

Project Title: Sustainable Management of Water Resources in rural areas in Uzbekistan: Technical Capacity Building (Component 2)
Starting date: January 1, 2016
End date: December 31, 2019
Budget: 5,000,000 EUR
Period evaluated: January 2016 – June 2018
Expected Output(s): Water management services, practices and techniques are strengthened and harmonised within a national framework.
Specific Objectives: Technical Capacity Building
The evaluated component 2 is part of the EU Programme on "Sustainable Management of Water Resources in rural areas in Uzbekistan" aims to provide further assistance in the water sector of the Republic of Uzbekistan. The program consists of three interlinked components: C1: "National Policy Framework for Water Governance and Integrated Water Resources Management (IWRM)" implemented by GIZ. C2: "Technical Capacity Building" C3: "Awareness Raising".

Brief Project Description:

UNDP in Uzbekistan is responsible for the implementation of the Component 2 (hereinafter the project) on "Technical Capacity Building", which focuses on building capacities in water resources management and the efficient use of water in rural areas with special emphasis on water use in agriculture. The project aims at strengthening institutional frameworks and technical capacities for water management at basin, water consumer association (WCA) and household /farm levels while increasing the awareness on effective rational water use.

Project Progress Summary:

The project is fully operational and under implementation. At 6 pilot sites, drip irrigation kits had been installed at households. The technical and operational capacity of 7 Water Consumer Associations is already successfully increased. Water distribution works and canals had been refurbished in the 6 pilot regions. Training to technical experts at BISA, ISA level had been given. Works are coordinated where required with Component 1. Close interaction with staff at MWR takes place.

MTR Ratings & Achievement Summary Table

Evaluation Rating			
Assessment of intervention	**Rating**	**Sustainability (1-4)**	**Rating**
Relevance (1-2)	2	Policy and regulatory framework	5[1]
Effectiveness	5	Financial Resources	5[2]
Efficiency	6	Overall likelihood of sustainability	5
Overall Project Outcome rating (1-3)	5,5		
Monitoring and Evaluation	**Rating (1-6)**	**Gender mainstreaming**	**Rating (1-6)**
M&E design at entry	5	GM strategy at entry	6
M&E plan implementation	5	GM at implementation	5[3]
Overall quality of M&E	5	Overall quality GM	5

[1] The development of policies and the regulatory framework can be strongly addressed in the second half of the project. The progress depends to a large extend on external developments. Nevertheless, the project and its intrinsic link to the MWR has a huge potential to achieve concise policies to strengthen the further elaboration of WCA's as well as to support the decentral maintenance & repair of critical infrastructure

[2] The MWR already invited the project during the MTR to elaborate ideas for financial instruments that may support the maintenance and repair of water infrastructure. With sufficient effort during the second half of the project lifetime, success is highly likely.

[3] The Gender balance in the project team is very high. To date it is unclear how more female experts can be appointed at WCA, ISA, and BISA level. Increasing the number of female agronomist at household irrigation spots is likely.

Concise summary of conclusions

The project results demonstrate effectively how the chain of (i) functioning water supply at BISA and ISA level, (ii) operational facilities and services at WCA level, and (iii) the provision of reliable information on water quantities can lead to a point that farmers are proactively interacting with the WCAs and to an increasing tendency to pay the fees for water. Trust and cooperation amongst stakeholders and end-users had already been achieved. There is a strong interest from stakeholders outside the pilot sites to develop a similar capacity at more WCA's

By this, the project has reached a unique position to increase from now on capacities for a strategic development planning and for true maintenance of infrastructure at household level, farm level, WCA level and BISA/ISA level.

Mechanisms should be developed to initiate and to finance the further development of infrastructure and services within the existing pilot sites. This should also include effective pathways how the scaling out to other districts can be effectively reached. The close interaction with the MWR will ensure a strong political endorsement and hence a significant operational sustainability of the project.

Future directions of the project should include three tracks: (i) a specific capacity building for a strategic maintenance, (ii) a further intensification of agri-business innovation to develop less water consumptive economies, and (iii) a stimulation of capacities for innovation, creativity and out of the box thinking capacities in modern educational programs for young professionals.

It is recommended that the project will contract an international consultant who will be supporting the project in bringing best practices in creation of development/maintenance fund for WCA and to assist the project in providing advice for the MoWR in formulating its Development Strategy/Concept.

To further concretize strategies for the development of local agri-business innovation hubs, the project should benefit from contracting additional expertise outside Uzbekistan to support the design of the roadmap process and to get where necessary assistance in its elaboration.

The project should be extended cost-neutrally by 1 year. This additional calendar time would be essential make up delays that had been externally caused in the beginning of the project by the organisational reforms within MoWR as well as by the difficulties to get the review of capacity building modules assessed by UNESCO. The time should be also used to continue the required multi-stakeholder dialogues, especially when in it comes to the co-development of strategies to secure the long term maintenance of infrastructure.

2 Introduction

2.1 Purpose of the MTR and objectives

The MTR is requested within the description of the action of the "Technical Capacity Building" Component of the EU Program and will determine the progress being made toward the achievement of project outcomes and will identify course correction if needed.

It will focus a) on the effectiveness, efficiency and timeliness of project implementation, b) will highlight issues requiring decisions and actions and c) will present initial lessons learned about the project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization and timing of the mid-term review was closely coordinated between the Sustainable Development Cluster (SDC) of UNDP CO in Uzbekistan and the Consultant.

The presented mid-term evaluation report is an evidence based stand-alone document that substantiates its recommendations and conclusions.

The MTR will serve as a means of validating or filling the gaps in the initial assessment of relevance, effectiveness and efficiency. In this context, the MTR will suggest critical elements to increase the impact and sustainability of the project.

The MTR will serve to:

- Strengthen the management and monitoring functions of the project;
- Enhance the likelihood of achievement of the project objectives through analysing project strengths and weaknesses and suggesting measures for improvement;
- Contribute to organizational and development learning;
- Enable informed decision-making;
- Assess the sustainability of the project's interventions;
- Create the basis for replicating successful project results achieved so far.

The MTR includes

- Review the project's relevance to national priorities and provide recommendations for adjustment as needed;
- Review the progress towards achievement of Project objective and outcomes as set out in Document, results framework and other related documents;
- Assess potential contribution of the project to the achievement of Outcome results with joint Government of Uzbekistan and UNDP programmatic frameworks of UNDAF 2016-2020,CPD 2016-2020, SDG goals 1,4,6,10,13 and Action Strategy of Uzbekistan for 2017-2021;
- Assess the degree to which the project implementation processes at all levels (community level, policy support, etc.) are being carried out through participatory approach;
- Assess the degree to which the resources and funding for the above project directions being used effectively and efficiently;
- Assess the extent to which a knowledge base is being established to build the capacity of key stakeholders to address the relevant development problems;
- Assess sustainability of the project interventions;
- Critically analyse project implementation and management arrangements including inter-agency cooperation;
- List and document lessons concerning the project design, implementation and management.

In all above assessment points, gender equality and women empowerment has to be reflected as a crosscutting issue.

2.1.1 Scope & Methodology: MTR approach

Principle approach

The Mid-Term Review was conducted by using methodologies and techniques suitable for the evaluation purpose, objective and evaluation questions as described in this TOR. The Consultant, in consultation with UNDP and other stakeholders, determined the specific design and methods for the exercise during the initial inception period and outlined the detailed methodology in the inception report prepared. This evaluation was done in line with the evaluation policy of UNDP.

The MTR was subject to any project progress that was achieved in the period between 1.1.2016 and 28.6.2018

The methodology of the MTR facilitated a process that created a forum for dialogue and focused consideration (among the project's partners and stakeholders) of the progress made thus far on achieving the objectives, but also on the overall approach to project implementation.

The review process had been designed in understanding that the sustainability of the project should be the upmost priority. In this context, sustainability is understood as a perspective for long term continuation beyond the project lifetime.

Upmost attention was given to gather stakeholder opinions, highlighting their individual learnings and to map potential fields of attention that will affect the sustainability of the project.

A comprehensive and detailed cross check off the rich variety of available policies at national and international level and its temporal are not subject to the review. The MTR will show rather in an exemplary manner possible interactions and linkages to relevant policies that should be further developed during the remaining runtime of the project.

The following background information had been analysed to set the project progress in context:

Table 1: Overview on background documents

Policies	File name	provided
EU level		
EU-Central Asia relations, factsheet	eeas_-_european_external_action_service_-_eu-central_asia_relations_factsheet_-_2018-06-24.pdf	EEAS Website
FACTSHEETS EU-Uzbekistan relations	eeas_-_european_external_action_service_-_eu-uzbekistan_relations_-_2018-07-06.pdf	EEAS Website
Council conclusions on the EU Strategy for Central Asia (19 June 2017)	st10387en17-conclusions-on-the-eu-strategy-for-central-asia.pdf	EEAS website
UN level		
Country programme document for Uzbekistan (2016-2020)	CDP_2016-2020_ENG.PDF	By UNDP
Practical Roadmap on Further Cooperation between Uzbekistan and the United Nations for 2017-2020	Roadmap_2017-2020_ENG_Nov%27_GOV - UN finalized.docx	By UNDP
Uzbekistan United Nations Development Assistance Framework 2016-2020	UNDAF 2020.pdf	By UNDP
Project documentation		
Proposal	UNDP_Project_Document_Technical Capacity Building_English_signed.pdf	by UNDP
Annual work plan 2018 Logframe and expected outputs	AWP 2018_Rev E_EU Water_signed.pdf	by UNDP
Annual work plan 2017 Logframe and expected outputs	AWP_ENG_2017.pdf	by UNDP
Annual work plan 2016 Logframe and expected outputs	AWP_signed_2016.pdf	by UNDP
Combined delivery report 2016	CDR_2016_signed.pdf	by UNDP
Combined delivery report 2017	CDR_ 2017.pdf	by UNDP
2016 Progress report	Technical Capacity Building_Progressl Report_June-Dec 2016_Cleared by SD Cluster JLV Comments_all revised__Abbos_a (1).docx	by UNDP
2017 report	EU Water Project_90379_Annual Progress Report 2017.pdf	by UNDP
BASELINE ASSESSMENT OF EXISTING AND PAST TRAINING MODULES By UNESCO	Baseline Assessment Report_FINAL_revised.pdf	By project
Capacity and Needs Assessment of Institutions responsible for training provision Final Assessment report by SIC ICWC	Baseline assessment report	By project
Capacity and Needs Assessment of the Water Management Players and Improved Advisory Mechanisms Final Detailed Report (Output 3) By NBT	Eng_UNDP_Capacity and Needs Assesment of Water Management Organisations _ Final Report by NBT.pdf	By project
REPORT of the baseline assessment Target SSG "ZARKENT"		By project

Tashlak district, Fergana region By: Gulchira Ishmatova, Consultant, community development planning specialist		
Background information		
FAO Aquastat, Uzbekistan Water Report 39, 2013 , minor rev. 2014	UZB-CP_eng.pdf	FAO http://www.fao.org/nr/water/aquastat/countries_regions/UZB/#top

Dual reflection method (DRM)

The principle aim of the project – Sustainable water management in Rural Areas in Uzbekistan – is to provide better water security to farmers, nature and to create inclusive growth in the region. Especially the Component 2 deals with institutional changes, improvement of water management and capacities to maintain professional water management after the lifetime of the project.

Realizing such ambitions require changes. Changes in perceptions on certain issues. At the same time innovation and development will lead to changed perceptions as well. The development is hence related to wide context of changing experiences, changing mind sets and changing professional habits. There are numerous examples from past water resources management projects, which indicate that the impact of a project goes by far beyond achieving the technical milestones alone. Mapping the learning is hence key.

Learning and experience is often related to tacit knowledge, knowledge that is difficult to transfer by paper to third persons. Consortia / project teams who maintain nevertheless an explicit documentation of the additional learning that took place during the project (even in the form of anecdotal narratives, simple interviews), are hence in a position to include the changes in their planning of future interventions.

Within the DRM (1) stakeholder groups and project participants basically reflect in facilitated group discussions the personal lessons learned and the individual perception of key outcomes. The personalized stories of change will be then (2) quantitatively compared with the a priori promised outcomes of the project as well as the reported outcomes of the project. This will not only facilitate a strong stakeholder participation, but also help to internalize the true achievements from a multiple perspective. Deviations against the originally planning will be discussed to identify a) shared ownerships for corrective measures as well as b) structural barriers that cannot be overcome during the lifetime of the program. During all steps the efficiency of project implementation, the effectiveness of the programme approach used, and the potential sustainability will be centrally considered.

The Dual Reflection Method, which is applied during the MTR, comprises two tracks:

1) Reflection by Key persons and Key stakeholders from the project on their personal experiences gained.

2) Reflection by the Consultant on changes (technical and non-technical) that had been induced by the project.

The reflection by Key persons should be documented in an unbiased way and should be done prior to the technical presentation by the project members and the reflection by the consultant.

2.1.2 Field visits, Stakeholder interviews and focus group discussions:

Due to some unexpected changes, the program was slightly modified in comparison to the original agenda. The MTR was conducted according to the schedule below.

Time	Agency	Participants	Discussion
Arrive Tashkent on June 18, 20:45 and accommodation in the Silverstone Hotel			
DAY 1: Tuesday, June 19			
09:00 – 10:00	UNDP CO	SDC Focal Point, National Technical Adviser, International Consultant	Work plan for activities defined in the ToR for International Consultant. Discussion of the mission objectives and future inputs of the consultant. Introduction of the DR approach
10:10 – 11:30	Departure/arrival to Glistan		
11:30 - 12:00	Lower-Syrdarya Basin Irrigation System Authorities	Deputy Head of BISA National Technical Adviser, International Consultant	The project pilot activities role in basin water resources management development, water saving, capacity building
12:00-15:00	Pilot sites in Gulistan rayon (Office of Yuksalish WCA, Canal Yuksalish, Households)	Director of Yuksalish WCA National Technical Adviser, International Consultant	Pilot activities (construction/rehabilitation, equipping, training) quality, efficiency and expected outcome
15:30 – 18:00	Departure/arrival to Samarkand		
DAY 2: Wednesday, June 20			
Samarkand			
9:00-9:30	Zarafshan Basin Irrigation System Authorities	Head of BISA Deputy Head of BISA National Technical Adviser, International Consultant	The project pilot activities role in basin water resources management development, water saving, capacity building
10:30 – 16:00	Pilot sites in Payarik rayon (Office of Khuja Buston WCA, Canal Khuja Buston, Farm "Yangi Nav" (drip irrigation), Households) Jombay rayon (Right Bank canal)	Director of Khuja Buston WCA, Asliddin Makhmudov pilot specialist National Technical Adviser, International Consultant	Pilot activities (construction/rehabilitation, equipping, training) quality, efficiency and expected outcome

Time	Agency	Participants	Discussion
16:00 – 18:00	Departure/arrival to Karshi		
DAY 3: Thursday, June 21			
Karshi			
9:00 - 10:00	Amu-Kashkadarya Basin Irrigation System Authorities	Deputy head of BISA Head of KMK ISA, Head of Department, Pilot specialist International Consultant National Technical Adviser	The project pilot activities role in basin water resources management development, water saving, capacity building
10:30-15:00	Pilot sites in Karshi rayon (Office of Shirkent Omontepa WCA, Canal R-19 and Omontepa, Households)	Director of Shirkent Omontepa WCA National Technical Adviser, International Consultant	Pilot activities (construction/rehabilitation, equipping, training) quality, efficiency and expected outcome
15:00-21:00	Departure/arrival to Samarkant		
DAY 4: Friday, June 22			
9:00 – 12:00	Travel to Tashkent		
12:00-13:00	UNDP CO	RR/DRR, HoU, International Consultant	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots. Discussion on the following consultations with national and international partners in Tashkent
14:00 – 14:30	EUD	Ovidiu Mic, Head of Operation UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant,	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities.
15:30 – 18:00	Project Office	Project staff, International Consultant, National Consultants, MWR	Work in the office.
DAY 5: Monday, June 25			
09:30 – 10:30	Tashkent Institute of Irrigation and Engineers of Mechanization in Agriculture;	Uktam Umurzakov, Rector Takhirjon Sultonov, Vice-Rector	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities. Discussion on capacity development in water sector

Time	Agency	Participants	Discussion
		UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant	
14:00 – 14:30	SR Institute of Irrigation and Water Problems	Ilkhom Makhmudov, Director UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant,	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities. Discussion on research development in water sector, water metering device calibration
15:30 – 18:00	Project Office	Project staff, International Consultant, National Consultants, MWR	Work in the office.
DAY 8: Tuesday, 26			
09:30 – 10:30	Tashkent Institute of Irrigation and Engineers of Mechanization in Agriculture;	Professorial-teaching staff and students UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant,	Lecture on innovation in agribusiness as structural solution in water saving
14:00 – 15:00	Ministry of Water Resources	Ravshan A. Mamutov (Deputy Minister) Ulugbek Madaminov (Head of Department for Attracting Investments and their Monitoring, Focal person for the UNDP project). UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant,	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities. Discussion of water management development in the light of the ongoing fundamental reforms in water sector
15:00 – 16:00	CAREC	Shakhnoza Umarova (Director) UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant,	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities. Cooperation between the three component performers of the EU program
15:00 – 18:00	Project Office	Project staff, International Consultant, National Consultants, MWR	Work in the office.
DAY 9: Wednesday, June 27			
9:30 – 10:30	GIZ in Uzbekistan	Caroline Millow (Coordinator Component 1) UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant	Introduction and discussion of objectives of the mission. Briefing about results of visiting to pilots and other project activities. Cooperation between the three component performers of the EU program
14:00 – 15:00	UNDP	RR, DRR, Head of SDC	Briefing with senior management on the mission

Time	Agency	Participants	Discussion
		UNDP Sustainable Development Cluster (SDC) Focal point, PM, NTA and International Consultant	
15:00 – 18:00	Project office	Project staff, International Consultant	Work in the office. Discussion on outcomes of the mission and plan for home desk study/ next steps
DAY 10: Thursday, June 28			
Departure from Tashkent 08:15 AM			

3 Project Description and Background Context

3.1 Environmental, socio-economic, institutional, and policy aspects

Uzbekistan is a landlocked country in Central Asia, with a total area of 447 400 km2. It is bordered in the west by Kazakhstan, in the northeast by the Aral Sea, in the north by Kazakhstan, in the east by Kyrgyzstan and Tajikistan, and in the south by Afghanistan and Turkmenistan. The country gained its independence from the Union of Soviet Socialist Republics (USSR) in August 1991. For administrative purposes, the country is divided into 12 provinces (vilayats) Andijan, Bukhara, Fergana, Jizzakh, Kashkadarya, Khorezm, Namangan, Navoiy, Samarkand, Sirdaryo, Surkhandarya and Tashkent (which includes the capital city of Tashkent), plus one autonomous republic: Karakalpakstan in the far west near the Aral Sea.

Reliable and safe supply of fresh water resources is one of the most important global environmental challenges (Rechkemmer 2004). Water resource management must become economically more efficient, ecologically sustainable, and also socially justifiable, especially so in the water crisis regions. The Amu Darya River basin in Central Asia (CA) is one of these crisis regions where management of water resources is unsustainable and uneconomic, bearing great potential for social conflicts. CA is a region in economic and political turmoil, change, and transition. It depends almost completely on irrigation, and especially in the lower Amu Darya region, water is the basis of the livelihoods of the 3.6 million people living here. Although the Amu Darya completely originates outside, in the mountain glaciers of the upstream countries Tajikistan, its water is the source of wealth.

Agriculture (in 2009) accounts for 38 per cent of the GDP and is therefore the largest economic sector. In 2009, the cultivated area was an estimated 4.65 million ha, of which 92.5 percent was under temporary crops and 7.5 percent under permanent. Only 18 percent of the cultivable area, an estimated 25.4 million ha, is cultivated because of the water shortage. (FAO Aquastat)

3.1.1 Water management authorities in Uzbekistan

Until 1996, the water management was carried out by the Ministry of Land Reclamation and Water Resources (MLRWR) of Uzbekistan.

The Ministry of Agriculture and Water Resources (MAWR) was formed after the unification of MWRLR and the Ministry of Agriculture, and the Department of Water Resources (DWR) was established under it. State administration and water use governance were implemented by the Cabinet of Ministers, local public authorities, as well as specifically authorized state administrative bodies, which regulate the water use either directly or through basin (territorial) administration and other state authorities. The specially authorized state administrative authorities to regulate the water use were: the MAWR (surface water), the State Committee of the Republic of Uzbekistan on Geology and Mineral Resources (groundwater) and the State Inspection on oversight of safe conduct of work in industry, mining and domestic sectors of the Republic of Uzbekistan under the Cabinet of Ministers of the Republic of Uzbekistan (thermal and mineral water). (ANARBEKOV ET AL., 2018)

During the execution of the Component II Project In 2018, the water sector was again subject to a significant reform. According to the Decree of the President of Uzbekistan Shavkat Mirziyoyev #5330 of February 12, 2018 "On measures to radically improve the system of agriculture and water sector governance" the Ministry of Agriculture and Water Resources was split into the Ministry of Agriculture and Ministry of Water Management. (http://www.cawater-info.net/water_world/uzbekistan_e.htm)

The main tasks and scope of work of the Ministry of Water Management of the Republic of Uzbekistan are (http://www.cawater-info.net/water_world/uzbekistan_e.htm):

- Implementing a unified policy on water resource management, as well as coordinating state bodies, water-management agencies and other organizations in the area of rational use and protection of water resources, prevention and elimination of harmful impacts of water;
- Sustainable and wise water supply to the territories and economic sectors, reclamation of land;
- Ensuring reliable operation of the irrigation and land reclamation system, reservoirs, pumping stations, and other water-management and hydraulic facilities; organizing protection of large and important sites of the water sector;
- Increasing responsibility of water users and consumers for careful and rational use of water resources, improving culture of water use;
- Implementing scientific and technical achievements, modern water-saving technologies, best water practices, innovative methods of water management and water use;
- Developing water sector professional development system, intensifying integration of water-management agencies with education and scientific entities, taking measures for practical implementation of scientific achievements;
- Developing interstate relations in the area of management and use of transboundary water resources, attracting foreign investments and technical assistance (grants), as well as intensifying interactions with international water organizations.

After the transition from administrative-territorial to basin principle of irrigation systems management in 2003, according to the Decree of the Cabinet of Ministers № 320 dated 21 July, the Basin Irrigation System Authorities (BISA) were established and consisted of the Main Canal Management Organization 2 (MCMO) and Irrigation System Authorities (ISA) (ANARBEKOV ET AL., 2018).

The BISA are now acting under the Ministry of Water and consists of:

- Ministry of Water Resources of the Republic of Karakalpakstan;
- Naryn Karadarya Basin Irrigation System Administration;
- Amu-Bukhara Basin Irrigation System Administration;
- Syrdarya-Zarafshan Basin Irrigation System Administration;
- Amu-Kashkadarya Basin Irrigation System Administration;
- Lower Zarafshan Basin Irrigation System Administration;
- Naryn-Syrdarya Basin Irrigation System Administration;
- Zarafshan Basin Irrigation System Administration;
- Amu-Surkhan Basin Irrigation System Administration;
- Lower Syrdarya Basin Irrigation System Administration;
- Chirchik-Akhangaran Basin Irrigation System Administration;
- Syrdarya-Sokh Basin Irrigation System Administration;
- Left bank Amudarya Basin Irrigation System Administration.

BISAs operate the water infrastructure in the river basins such as water reservoirs, dams, water intakes (gravitational and pumps), and riverbed protections. ISAs operate at canal levels and drainage networks in the irrigation systems, operate the pumps and deliver water to the WCAs. WCAs comprise the farmers as members of the associations and should take care of the canals and other water infrastructures distributing water amongst the farms. Fees for water delivery services are collected in accordance with supplied water volume (Comp II Proposal).

3.1.2 Relevant context and Frameworks at UNDP Level

The following section highlights sections from existing development frameworks and UNDP policies that are of relevance for the execution and follow up of the component II project.

Uzbekistan United Nations Development Assistance Framework 2016-2020

(UNDAF 2020.pdf)

The UNDAF for the period 2016-2020 represents the strategic vision of the United Nations System's contribution to the national development needs and priorities of Uzbekistan (in line with United Nations General Assembly resolution A/RES/62/208) The UNDAF frames the work of the following United Nations Agencies: UNAIDS, UNDP, UNESCO, UNFPA, UNICEF, UNODC, UNV, UN Women, WHO, ILO, FAO, UNECE, UNCTAD and IAEA.

The UNDAF 2016 – 2020 builds up on the results from the UNDAF 2010-2015, which led amongst others towards a better understanding by the Government of the UNDAF and the functioning of the Agencies.

The UNDAF 2016-2020 is a result based approach and provides a set of envisaged results that has been agreed between the Government and the United Nations System in core areas of cooperation to enable the realization of the country's human development potential.

The Government of Uzbekistan and the United Nations System have agreed to pursue a set of eight Outcomes grouped into four thematic areas:

- Inclusive economic development with a focus on employment and social protection
- Health and education to fully realize human potential
- Environmental protection to ensure sustainable development
- Effective governance to enhance public service delivery and the protection of rights

The UNDAF 2016-2020 provides relevant background information and context to evaluate the Component II project. In particular it states the aspiration to move toward a post-MDG framework approaches, to stock taking the MDG and to support effectively the SDG Framework. In this view Uzbekistan has put forward an ambitious goal to become an urbanized upper-middle-income country by 2030, while also reducing the level of vulnerabilities to 8 to 9 percent of people.

Despite Uzbekistan's impressive economic growth, some key development disparities, including by region or wealth quintile, persist between different population groups. For example, gaps in human development indicators between rural and urban areas and between well-of and disadvantaged regions still are found (1.1.7).

UNDAF emphasized the need for additional efforts to address a shortage of quality jobs, especially for the most vulnerable groups and for women. As a result, considerable sections of the workforce are employed in the informal sector, often in temporary and insecure jobs. Uzbekistan continues its measures to ensure a more inclusive economic growth and economic development model (1.1.8).

Sustainable economic growth to ensure broad opportunities for human development has been identified as a key priority of the Government. As also outlined in Section 1, to achieve this goal the Government envisions formulating targets for sustainable development and deepened structural transformations in the economy;

Under the Thematic Area 1 - Inclusive economic development, with a focus on employment and social protection- specific demands (2.3.14) for (i) further improving the business environment for sustainable growth of entrepreneurial incomes and higher employment; (ii) empowering people for self-realization and employment through development and implementation of pilot projects in rural areas; (iii) improving the efficiency of public spending to ensure sustainable social development of the country's regions (iv) improving labour market services; and developing modern technological

infrastructure for the labour market are listed and provide a relevant framework for innovating the agribusiness sector to support the governments priorities to create new jobs and to create opportunities for the youth (2.1.15).

The demand for developing public private partnerships is clearly mentioned as well as the scaling up of earlier interventions to promote business services for entrepreneurs and inclusive market initiatives (2.3.2.4)

The Uzbekistan Development Strategy "vision-2030" (under formulation) is considered as a relevant framework for the national implementation.

The framework recognizes the challenge that Uzbekistan's naturally growing population and its aspirations to become an urbanized middle income country will concur with an increasing demands for in finite natural resources (water, land, energy). In this view, the way the country uses its natural resources requires significant strengthening to achieve efficiency. In section 1.1.19 the relevant link between access to land and water and economic consequences is clearly stated and it highlights that shrinking access to both water and irrigated land have contributed to (i) reductions in income-generating opportunities and (ii) to labour migration from rural areas in recent years. In this view UNDAF 2016-2020 emphasizes strongly the need for an effective management of scarce water resources, as well as irrigated and non-irrigated land, which in total is vital for rural livelihoods, food and environmental security, and the economy.

UNDAF 2016 -2020 also recognized clearly the challenge that inclusive growth in Central Asia must developed in the context of natural disasters, including floods, landslides, droughts and earthquakes, and where the international share of river basins puts another dimension of complexity to the effective management of water resources.

Table 3: Relevant UNDAF indicators for the Component II project

UNDAF targeted outcome	**Selected indicators of relevance for Component II UNDP project**	**Area of relevance**
Outcome 1. By 2020, equitable and sustainable economic growth through productive employment, improvement of environment for business, entrepreneurship and innovations expanded for all.	Indicator 1.4: ranking in the WB's Doing Business index`	Indirect relevance as water security is key for agribusiness development
	Indicator 1.5: the share of small business in the industry and exports, in%	indirect relevance as water security is key for agribusiness development
Outcome 6: By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate change	Indicator 6.1: % of low-income rural population particularly in environmentally vulnerable areas	Indirect relevance as water security is key for agribusiness development at household and farm level
	Indicator 6.3: Water use efficiency per hectare of irrigated land	Pilot site activities & monitoring of results
	Indicator 6.4: % of degraded irrigated and non-irrigated land	Pilot site activities & monitoring of results
Outcome 7: By 2020, the quality of public administration is improved for equitable access to quality public services for all	Indicator 7.1: availability of institutional capacities at central government for policy coherence, planning, resource management and operational coordination (roadmaps) for better public service provision	Indirect relevance as related to the interaction of key players in developing strategies for linking water resources management and agricultural growth
	Indicator 7.4: extent to which public institutions provide, use and assess quality data	Pilot site activities & monitoring of results
	Indicator 7.5: extent to which data is open, including through open government/ open data national mechanism, and used by media and CSOs for public oversight.	Pilot site activities & monitoring of results

Country programme document for Uzbekistan (2016-2020)

(CDP_2016-2020_ENG-marked.pdf)

The country programme takes inspiration from the President's 2010 Concept, which sets a people-centred development vision "to build an open, democratic and law-governed State with a stable developing economy and a society respected in the world, in which a person, the person s interests, rights and freedoms are the highest value, not in words, but in practice." (initiated under presidency of I.Karimov). National ownership/capacity development will be key implementing principles.

Within the country program, Uzbekistan, is recognized as a double-landlocked country with a population exceeding 31 million, being Central Asia's most populous country with almost equal shares of rural/urban residents, and with two thirds of the population below 30. Furthermore the country

program specifies Uzbekistan as middle-income country with its specific challenges for inclusive growth, where per-capita gross national income is estimated at $1,880 in 2014.

UNDP will support the Government in enhancing human development through interventions in inclusive economic development and social/environmental sustainability. Central to this are institutional capacities and rule of law, including law-making, effective implementation and dispute resolution. Investing in, engaging women as participants, and promoting women in decision-making is a cross-cutting priority for UNDP.

The program outlines UNDP contributions to national results and serves as the primary unit of accountability to the Executive Board for results alignment and resources assigned to the programme at country level.

The program consist of 4 outcome areas:

- By 2020, equitable and sustainable economic growth through productive employment, improvement of environment for business, entrepreneurship and innovations expanded for all.
- By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate change
- By 2020, the quality of public administration is improved for equitable access to quality public services for all.
- Legal and judicial reforms further ensure strong protection of rights, freedoms and legitimate interests of citizens.

The four country programme outcome areas are fully aligned with three key priorities of the UNDAF, 2016-2020, and are: (a) inclusive economic development, with a focus on employment and social protection; (b) environmental protection to ensure sustainable development; (c) effective governance to enhance public service delivery; and (d) protection of rights.

In this view the Country Program provide a relevant strategic framework with a large range of development targets and related indicators to monitor its progress.

While aspects such as transparency, accountability and good governance are elementary for any development initiative, a few items are of particular relevance for the execution of Component II project.

... "Achieving equitable economic growth is a development priority. The national MDG report2015 suggests regional/rural-urban disparities persist. (p.2) ... The Government sees entrepreneurship and small and medium size enterprise development as main sources of job creation, and is keen to improve the business environment. For the past five years, Uzbekistan has continuously ranked below 140 in World Bank's Doing Business reports. Recently, the Government declared its intentions to deregulate state-owned enterprises to provide another push for private sector development[4].

Improving management and equitable access to natural resources is crucial for sustainable economic growth and the well-being of excluded populations, particularly in rural areas. Key determinants include: Quality of access to natural resources (land/water/biodiversity/energy); resilience in coping with natural and human-made disasters, including drying Aral Sea, and other existing environmental problems such as climate change. Current use of water for agriculture, which uses nearly 90 per cent of available freshwater, is unsustainable, with up to 40 percent water losses in irrigation network and nearly half of irrigated lands degraded. Uzbekistan is a net exporter of energy, yet reported shortages and interruptions of supply hinder economic growth, job creation, education and healthcare,

[4] Presidential Decree number 4609, 7 April 2014. (p.2)

disproportionately affecting rural people and, owing to differing roles in family, community and work force, rural women in particular, according to the common country assessment 2014 (p.3).

Deepening inclusive and effective governance is central to sustain implementation of national reforms and international commitments. Public administration is constrained by a lack of legally binding principles for service administration and by a top-down, centralized system, which makes it difficult to respond to diversified needs. The civil service requires transformational change toward a transparent, merit-based and professional system. Given that the share of women is 16 per cent in the Parliament, 6.5 per cent in the Cabinet of Ministers and 19 per cent in local government,10systemic addressing gender gaps could open up women's potential in decision-making at all levels (p. 3).

... Under inclusive economic development, UNDP will continue to enhance national capacities, particularly in evidence-based policymaking, and will support formulation of integrated national development strategies, ensuring equitable economic growth and increased opportunities for decent employment. This will include special attention to Vision 2030 and formulation of national sustainable development goals (SDGs) (p.4).

... UNDP puts resource efficiency at the core of country programme work on environmental protection to ensure sustainable development. UNDP will promote sustainable, transparent, equitable and accountable management of natural resources and upscale interventions in energy efficiency and promotion of renewable energy. It will help to strengthen communities" coping capacities to climate variability and climate-related hazards, and will help the country meet its obligations vis-à-vis international environmental conventions. UNDP, together with United Nations specialized agencies such as the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO), will advocate for good agricultural practices and incentives to improve farming and water use efficiency). Improved access of rural households to electricity, water and natural gas will have a positive net impact on the well-being of women and children, therefore UNDP will support women's access and ownership of ecosystem goods and services, as well as community-based, gender-sensitive climate and disaster-resilient solutions.

.... To ensure sustainability, UNDP will focus on integrating principles of sustainable natural resource use into policymaking, legislation and institutional reforms through partnerships with the European Union, the German Agency for International Cooperation (GIZ), the Swiss Agency for Development and Cooperation (SDC), the World Bank and the Asian Development Bank (ADB), as well as through resources from the Global Environment Facility and the Green Climate Fund (p. 5).

The country program lists a number of specific Outputs that are of contextual relevance for the execution of the component II project. A selection is listed in Table 4.

Table 4: selected relevant outputs for the execution of the Component II project.

INDICATIVE COUNTRY PROGRAMME OUTPUTS	Relevant outputs to which the Component II will directly or indirectly contribute	Nature of contribution
NATIONAL PRIORITY OR GOAL: Sustainability of economic growth to create opportunities for human development.	Output 1. National data collection, measurement and analytical systems improved to monitor progress on the post-2015 agenda and SDGs	Indirect
	Output 2. Public-private policy dialogue strengthened to improve business climate, to introduce streamlined procedures to ease doing business, and to promote inclusive market development in the country.	
NATIONAL PRIORITY OR GOAL: Promoting energy efficiency of the economy through introduction of modern technologies/development of renewable energy" Promoting mechanisms/instruments of effective use of natural resources" Support to population on adaptation to climate change, including in the Aral Sea region" Enhancing the early warning system and eliminating consequences of environmental/human-induced disasters	Output 2. Water supply/efficiency of water resource management improved at national/basin/ farm levels. (Indicator 2.a: Integrated Water Resource Management plans Indicator 2.b: Water consumption per hectare of cultivated land using improved mechanisms/innovative technologies.	direct
NATIONAL PRIORITY OR GOAL: Democratization of public administration. Reform of information and ensuring freedom of speech/information. Formation/development of civil society institutions. Further enhancing of law-making process and rule of law	Output 1: Strengthened institutional capacities for integrated strategic planning. (Indicator 1.a: Availability of roadmaps for policy coherence, planning, resource management and operational coordination for equitable service delivery.)	To be specified

Country programme document for Uzbekistan (2016-2020)

(Roadmap_2017-2020_ENG_Nov%27_GOV - UN finalized.docx)

The present "practical roadmap on further cooperation between Uzbekistan and the United Nations for 2017-2020" also draws on the Government's Action Strategy 2017-2021, the draft national SDG targets and UNDAF 2016-2020. It outlines key actions to undertake that aim to foster the attainment of the strategic priorities of the Action Strategy and overall, to contribute to sustainable development in Uzbekistan as well as to fulfilment of the Government's commitments under a range of UN human rights instruments.

.... The United Nations System supports the Republic of the Uzbekistan in achieving the ambitions articulated in the Sustainable Development Agenda, under the overall framework of the Government's national development priorities, as described in the comprehensive and far-reaching "Action Strategy for 2017-2021 on the further development of Uzbekistan" adopted in February 2017. The Action Strategy highlights five priority areas, namely public administration reform, judicial and rule of law reforms, liberalization of economy, development of social sector, and friendly neighbourhood policy and ethnic tolerance. The national Action Strategy presents a reference framework for the UN and is a comprehensive mid-term national policy strategy vision that embraces development, human rights, and peace and security aspects. It also advocates for evidence-based approaches, inclusive processes, participatory and well- grounded through consultation process. These are in sync with the agenda 2030 and generally in line with global SDG aspirations, to which the UN in Uzbekistan is fully committed.

...The United Nations Development Assistance Framework (UNDAF) for the Republic of Uzbekistan represents the strategic programme framework agreed between the Government of Uzbekistan and the United Nations System for the period 2016-2020. It draws on the full range of knowledge and resources of the United Nations System to deliver development results, and is in line with the Sustainable Development Agenda and the Government's national development priorities. The strategic objectives articulated in the UNDAF correspond to key priorities in the Government's Action Strategy.

....For UN agencies, funds and programmes operating under the UNDAF, the Roadmap will guide the development of joint biennial work plans under the UNDAF, which will be approved by the UNDAF Joint Steering Committee. For other UN entities operating at global and regional level, the Roadmap will inform their bilateral support programmes with the Government of Uzbekistan.

The overall scope of support offered by the UN in fulfilling the Roadmap will include economic and human development, effective governance and evidence-based policy making, rule of law and human rights, social and environmental protection, peace-building and disaster risk reduction. Thus, the Roadmap will serve as a living document that will contribute to the National Action Strategy, the SDG agenda, and the UNDAF commitments to the country as a shared responsibility of the UN and the host Government. All efforts will be made to mobilize and secure resources to fulfil the obligations in the roadmap through coordinated advocacy with the donor partners.

Table 5: UN CDP priorities where relevant to the component II project

Thematic field	Activities specified	*Link to UNDAF and SDGs* *Specific UN contribution*
I. Enhancing cooperation to implement the Action Strategy and the Sustainable Development Goals	#1. Supporting National SDG monitoring and reporting	UNDP will support through UNDP/ President's Office "Policy Research for Sustainable Development" project for 2017-2019, launched in May 2017, with a component on enhancing national capacities on monitoring of SDGs implementation
II. Strengthening regional cooperation and partnerships on cultural and humanitarian affairs	#64 Conducting a high-level international conference under the UN auspices "Central Asia: One Past and Common Future, Cooperation for Sustainable Development and Mutual Prosperity" in Samarkand.	November 10-11, 2017 Samarkand, https://www.un.int/uzbekistan/news/tashkent-host-high-level-conference-afghanistan-global-and-regional-powers-afghanistan%E2%80%99s
III. Cooperation to mitigate the Aral Sea disaster and environmental challenges	#82. Using UN's mechanisms to attract donor assistance in socially significant projects and programs to mitigate the Aral Sea disaster and improve the environmental and socio-economic situation in the Aral Sea region.	The Activity comes within the UNDAF outcome 1 By 2020, equitable and sustainable economic growth is expanded for all through productive employment and improvement of the environment for business, entrepreneurship and innovations and outcome 6: By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate change. Linked to SDGs 1, 2, 3, 4, 6, 8, 10, 11 and 13 This action will be supported through ongoing UN Joint Programme "Building the resilience of communities affected by the Aral Sea disaster through a Multi-Partner Human Security Trust Fund for the Aral Sea" implemented by UNDP, UNFPA, UNESCO and UNV (2016-2019)
	#85. Attracting funding to design and implement the project on "Promoting sustainable food systems and Climate Smart Agriculture practices in Uzbekistan" in the amount of $6 million.	The Activity comes within the UNDAF outcome 6: *By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate change* and linked to SDGs 2 and 13
	#93 Reducing pressures on natural resources from competing land use in non-irrigated arid mountain, semi-desert and desert landscapes of Uzbekistan	The Activity comes within the UNDAF outcome 6: *By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate change.* Linked to SDGs 12 and 15 The action will be supported through the ongoing UNDP/GEF/ State Committee on Land Resources, Geodesy, Cartography and State Cadastre "Reducing pressures on natural resources from competing land use in non-irrigated arid mountain, semi-desert and desert landscapes of Uzbekistan (LAND)" project (2014-2018)
	#94 Implementing a joint project on	The Activity comes within the UNDAF outcome 6: *By 2020, rural population benefit*

	technical capacity building for Sustainable Management of Water Resources in rural areas in Uzbekistan	*from sustainable management of natural resources and resilience to disasters and climate change.* Linked to SDGs 2, 6 and 13 Contribution will be made through EU-funded UNDP/ Ministry of Agriculture and Water Resources "Technical capacity building for Sustainable Management of Water Resources in rural areas in Uzbekistan" project (2016-2019), with a component on capacity building for sustainable water being implemented by UNESCO

3.1.3 Relevant context and Frameworks at EU Level

The following section highlights selected aspects in view of the EU Central Asia cooperation that are of relevance for the execution and follow up of the component II project.

Principle EU-Uzbekistan relations

Bruxelles, 15/06/2017 - 00:00, UNIQUE ID: 161004_11, accessed 2018-07-13

https://eeas.europa.eu/headquarters/headquarters-homepage_en/11047/EU-Uzbekistan%20relations

"Relations between the European Union and the Republic of Uzbekistan have been developing steadily since its independence in 1991. The signature of the Partnership and Cooperation Agreement (PCA) in 1996 paved the way for a broader bilateral relationship. Political dialogue; trade in goods; business and investment; intellectual, industrial and commercial property protection; legislative cooperation; economic cooperation; cooperation on matters related to democracy and human rights; cooperation on prevention of illegal activities and the prevention and control of illegal immigration; cultural cooperation and financial cooperation in the field of technical assistance are all covered in the PCA.

Since 2007, the EU and Uzbekistan have held annual Dialogues on Human Rights as well as Justice & Home Affairs in Brussels and Tashkent. EU relations with Uzbekistan are embedded in the regularly reviewed EU and Central Asia Strategy for a New Partnership, which outlines the overall cooperation objectives, policy responses and priority fields for the EU's engagement in Central Asia.

The new leadership of Uzbekistan under President Mirziyoyev has launched significant reforms of the judiciary, administration and security services and is making strides to improve the business climate. The EU encourages these and other reforms and in particular their effective implementation. Several human rights defenders have recently been released from prison and the UN High Commissioner for Human Rights visited the country for the first time in May 2017. The UN Special Rapporteur on Freedom of Religion or Belief and the OSCE Representative on Freedom of the Media also paid visits to the country in October 2017. The EU has engaged with the new leadership through repeated visits of the European Parliament, the EU Special Representative for Central Asia, European Financial Institutions and EEAS/Commission officials. This process is complemented by concrete measures to support the Uzbek reforms, e.g. cooperation to implement the EU-Uzbekistan Memorandum of Understanding on cooperation in the field of energy has been renewed in February 2017."

Development Cooperation
(https://eeas.europa.eu/headquarters/headquarters-homepage_en/11047/EU-Uzbekistan%20relations)

"The EU's development cooperation with Uzbekistan and other countries in Central Asia is based on a multi-annual regional cooperation strategy adapted to the situation and needs of each country.

The Government of Uzbekistan embarked upon a structural reform aiming at transforming a Soviet-style economy based on cotton and its primary processing to an industrial and agro-industrial economy. The EU Multiannual Indicative Programme 2014-2020 supports this development policy shift - it earmarks €168 million for support to Rural Development in four subsectors: [i] diversification/productivity; [ii] sustainable management of natural resources and ecosystems; [iii] employment and income generation; [iv] enhancement of socio-economic living standards of the most vulnerable groups in rural areas.

This allocation under the EU Development Cooperation Instrument (DCI) is complemented by several thematic programmes, including the Instrument for Stability, the European Instrument for Democracy and Human Rights, the Non-State Actor programme, as well as assistance provided by a number of EU Member States. Thematic cooperation also covers human and social development, sustainable management of natural resources, nuclear safety, and migration and asylum. Uzbekistan is also eligible for the Investment Facility for Central Asia (IFCA), which was launched in 2010 to blend EU development assistance with loans from European financial institutions for the 5 countries in Central Asia. In 2017, the European Bank for Reconstruction and Development (EBRD) has renewed its co-operation with Uzbekistan. The European Investment Bank (EIB) signed a framework agreement with the country in October 2017.

The Central Asia region is particularly prone to natural hazards, including earthquakes, floods and landslides. Improving the capacity of national institutions and local communities to prepare for and respond to disaster is a priority for EU humanitarian action in the region. Under its current Disaster Preparedness Programme, the Commission is funding community-based initiatives to increase the resilience of the population to recurrent disaster. Between 1994-2015 EU humanitarian funding to Central Asia has been in excess of €222 million."

Renewing the European Union's (EU) Strategy for Central Asia

https://eucentralasia.eu/2018/02/towards-a-new-eu-strategy-for-central-asia/

"Ten years after the inception of the European Union's (EU) Strategy for Central Asia, in June 2017 the European Council initiated a process to develop a new strategy by 2019. The 'reviewed and renewed' strategy will take into account geopolitical developments, Central Asian preferences as well as the EU's 2016 Global Strategy. This process offers an opportunity for all stakeholders – Central Asian governments, EU member states, human rights defenders and the research community, among others – to play a role in re-shaping the EU's policy towards the region. After a decade of relationship-building and cooperation, it is time to evaluate what worked and what did not, and gather and apply lessons learnt to improve the new strategy amidst a drastically different international environment. "

The renewing of the EU Strategy for Central Asia is endorsed in the " Council Conclusions on the EU strategy for Central Asia" (st10387en17-conclusions-on-the-eu-strategy-for-central-asia.pdf)

The main objectives and priority areas of the 2007 EU Strategy for Central Asia and the Council Conclusions on the EU Strategy for Central Asia of 22 June 2015 remain pertinent. The Council reaffirms its commitment to develop a strong and durable relationship, based on joint ownership and aimed at fostering peaceful, prosperous, sustainable and stable socio-economic development of the Central Asia region in line with the EU Global Strategy and the joint commitment to Sustainable Development Goals (SDGs).

Specific emphasis is given to

- the security challenges faced by Central Asian countries
- the need to enhance the EU's strategic communication in Central Asia
- support education
- the importance of promoting a reliable and attractive climate for sustainable and responsible investments in Central Asia, together with stability of the legal framework, legal certainty, transparency, involvement of the business community and regional integration

- the integration of the Central Asian countries with each other and into international markets and transport corridors and to promote renewable energy and energy efficiency in Central Asia
- shared natural resources and their important role for the stability of the region

The Council takes note of plans to streamline the European Commission's regional development assistance programmes under two broad headings: sustainable growth/jobs and security/stability, while stressing that common solutions are required, without prejudice to further discussions regarding those programmes in the relevant fora.

Relevant High level policy dialogues to intensify the cooperation between the EU and Central Asia

The development towards the new European Union's (EU) Strategy for Central Asia is accompanied and marked by annual meetings of the High-level Dialogue, which provide an opportunity to exchange views and intensify cooperation on a broad spectrum of regional developments in and around Central Asia, with a particular focus on security.

On 10 November 2017 Uzbekistan hosts the EU – Central Asia meeting of foreign ministers in Samarkand, where the European Union will be representative by the High Representative for Foreign Affairs and Security Policy & Vice-President of the European Commission, Federica Mogherini.

The fifth round of the High-level Political and Security Dialogue between the European Union and the countries of Central Asia (Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan) took place on 9 July 2018 in Ashgabat, Turkmenistan. Afghanistan was invited to take part in the Dialogue as a special guest. https://eeas.europa.eu/headquarters/headquarters-homepage/48181/eu-and-countries-central-asia-held-their-high-level-political-and-security-dialogue_en

This year's meeting took place at a time of significant changes in Central Asia, including important domestic reform processes and positive momentum in regional cooperation illustrated by the informal Summit of Central Asian leaders held on 15 March in Astana, Kazakhstan. Participants in the Dialogue agreed that the new regional dynamics had created further opportunities for cooperation between the EU, Central Asia and Afghanistan. The EU presented the main orientations of its new Strategy on Central Asia, foreseen to be adopted in 2019.

Following the *International Conference on Water for Sustainable Development*, which European Commissioner for Development Neven Mimica attended on 20-22 June in Dushanbe, participants in the High-level Dialogue discussed prospects for regional cooperation in the management of water resources and the environment given their wide-ranging implications for security, confidence-building and crisis prevention. (Ashgabat, 10/07/2018 - 10:20, UNIQUE ID: 180710_3)

European Investment Bank (EIB) http://www.eib.org/infocentre/press/releases/all/2017/2017-272-eib-launches-operations-in-republic-of-uzbekistan.htm

The European Investment Bank (EIB) and the Republic of Uzbekistan signed in Washington a framework agreement establishing the legal basis for the EIB's activities in Uzbekistan, including the provision of finance and technical assistance. The EU bank can now support public and private sector projects in the areas of infrastructure, energy and energy efficiency and assist SMEs in the country.

Deputy Prime Minister of the Republic of Uzbekistan Jamshid Kuchkarov commented: "Uzbekistan attaches significant importance to the signing of the Framework Agreement with the European Investment Bank, which opens up additional opportunities for attracting European investments and technologies to the economy of Uzbekistan. We hope that engagement with the EIB within the

framework of this agreement will allow implementing investment projects with practical impact on the promotion of reforming various sectors of the economy of the country, including the attraction of advanced European technologies. The development of cooperation with the EIB is in line with the priorities of the reforms of the President of Uzbekistan Shavkat Mirziyoyev aimed at improving the business and investment climate within the framework of the Strategy for Development of Uzbekistan for 2017-2021".

Ambassador Peter Burian, the EU Special Representative for Central Asia, stated: "the launching of EIB activities in Uzbekistan, which is a strategically important partner of the European Union in Central Asia, is a positive moment for relations between Europe and Uzbekistan. The European Union is ready to provide technical assistance and to join forces with European as well International Financial Institutions in order to attract additional financing for fostering private sector development and enhancing corporate governance, as well as to promote renewable energy and energy efficiency. Working closely with the EIB will enable the country's authorities to better support the country's ambitious reform process, generating direct benefits for the people of Uzbekistan".

The launch of EIB operations in the Republic of Uzbekistan supports the EU Strategy for a New Partnership with Central Asia. This strategy recognises the increasing importance of Central Asia for the EU and aims to strengthen the links between the European Union and its neighbouring countries by promoting prosperity, stability and security.

The loans provided by the EIB Group in this region come from the lending window for Asia provided under the mandate from the European Council and European Parliament for the period 2014-2020. EUR 182 million of this has been made available for use in Central Asia. Additionally, the EU bank finances projects in Central Asian countries under the Climate Action & Environment Facility. This facility supports renewable energy and energy efficiency projects, projects that reduce greenhouse gas emissions and projects that increase the security of the EU's energy supply.

So far the EIB has signed operations amounting to some EUR 710 million in Central Asian countries to finance infrastructure projects and SMEs.

3.1.4 Summary

The efforts of the EU to strengthen the ties with Central Asia are driven by the principle desire for social and political stability in the region. Any effort of the EU in Central Asia must be set into the context of initiatives that are driven by China (Belt and Road Initiative), Russia and the US.

While the EU predominantly supported initiatives for strengthen the regional dialogue, aspects of human rights, and good governance, there are interesting signals to strengthen entrepreneurships, business diversification, and innovation, that are also reflected in recent activities from the EIB (though there is more focused emphasize on the climate and energy sector).

This effort and policy aim is not new and had been brought to the attention since the collapse of the Soviet Union. Nevertheless the recent initiatives characterizes a new momentum that needs to be considered in the future execution of the Component II project, implemented by the UNDP.

Ways must be sought to highlight project results that are likewise of stepping stone character for a more efficient resource use, as well as to demonstrate the further inclusive economic growth and the diversification of the private sector.

The UN country development plan, as well as the UNDAF provide additional frameworks, underlining that project initiatives that actually demonstrate an increase in efficient water use, improving

governmental capacities for a strategic planning, and to increase the development of local entrepreneurship will directly contribute to the expected outcomes specified.

The project dissemination strategy should be pro-actively linked to the related policy dialogues at EU and UN level.

3.2 Problems that the project sought to address: threats and barriers targeted

The proposed project contributes to the Global SDGs 6 (Clean Water and Sanitation) and 11 (Sustainable Cities and Communities) with the UNDAF Outcome #6 (*By 2020, rural population benefit from sustainable management of natural resources and resilience to disasters and climate* change) and is in line with the national priorities related to efficient use of natural resources (land, water, biodiversity).

The project aims at assisting national institutions responsible for training provision for improved technical capacity building of irrigation basin authorities, WCAs and farmers for sustainable water resources management in a changing environment. The planning and implementation of capacity building measures largely depends on the baseline and capacity needs assessment of BISAs, ISAs, WCAs, farmers and practitioners, as it will reveal the baseline information and identify further training needs to be introduced. Improved training provision by paramount in-house training providers will enhance institutional and technical capacities of basin authorities on water-use planning, delivery, effective on-farm water use, accounting and monitoring as well as on operation of drainage systems.

3.3 Project Description and Strategy

Fundamental pillars of the project will be the development and implementation of a unified capacity development programme for training providers and practitioners. A set of targeted activities and pilot demonstrations within the project will be embedded into the comprehensive capacity development programme designed for training entities and practitioners of the water sector. The training sessions will provide the theoretical knowledge, while pilot projects will strengthen the learning process by showing tangible evidence of energy and water saving measures.

The project approach is structured along 5 Result areas and two crosscutting issues.

- Activity Result 1. Enhanced capacities of national entities in charge of training provision
- Activity Result 2. Strengthened organizational set-up of the water management players and improved advisory mechanisms for improved water supply services
- Activity Result 3. Development and implementation of a unified model and approach of capacity building for water management players
- Activity Result 4. Enhanced links and networking with EU institutions and practitioners.
- Activity Result 5. Piloting community development plans with water management as a cross cutting issue.
- Crosscutting issues: Climate change & Gender and Water

Table 6: Overview on the project field sites

Fergana region	BISA	ISA	WCA	Villages
Fergana region	Syrdarya -Sokh	Isafayram-Shokhimardon	Zaramurob Turgunboy Canals: Zarkent Musajon Ismoilov Kuchatchilik Canals: Kuchatchilik	Zarkent Guliston
Syrdarya	Lower-Syrdarya BISA	Shoruzak-Syrdarya Canal Yuksalish	Yukasalish Canal: Yuksalish	Soyibobod
Smarkand	Zarafshan	Mirza-Pay ISA Canal Pravoberejniy	Hujabuston Canal: Hujabuston	Kupaki
Kashkardarya	Amu-Kash-kadarya	Karshi Main Canal ISA Canal R-19	Shirkent Omon Tepa Canal Omon-Tepa	Kovchin
Sukhandarya	Amu-Surkhan	Surkhan-Sherabad	Tallashkon Kelajagi Canal R-20	Bogobod
Khorezm	Left bank - Amudarya	Shavat-Kulavat Canal Daryalik Arna	Buzqala Canal: Buzyap	Kadriyat

3.4 Project Implementation Arrangements

The Component II, Technical Capacity Building, of the EU project Sustainable Management of Water Resources in rural areas in Uzbekistan, was initially implemented by the Ministry of Agriculture and Water resources of the Republic of Uzbekistan, now by the Ministry of Water resources of the Republic of Uzbekistan. The implementation is done through the National Implementation Modality (NIM) with full UNDP Country Office support (implementation support services), as per NIM guidelines. (Proposal)

At MWR, Minister Shavkat Khamraev is the National Project Coordinator. The Project Board will be responsible for making management decisions for the project, in particular when guidance is required by the Project Manager (PM).

The Project board consist of (i) senior beneficiaries from MWR, BISAs, ISAs, Local Authorities, WCAs, farmers, (ii) MWR and UNDP as executive partners, and (iii) donor representative from EU and UNDP Uzbekistan as senior supplier.

3.5 Project timing and milestones

Start Date: Jan. 1 , 2016

End Date: Dec. 31, 2019

Table 7: Project milestones (output targets)

Result Area	Targeted Outputs
Activity Result 1. Enhanced capacities of national entities in charge of training provision	2016: 1.1. At least 10 existing training modules and tools assessed 1.2. Capacities of 3 institutions responsible for training provision assessed 2017: 1.3. One pilot entity's material-technical base strengthened
Activity Result 2. Strengthened organizational set-up of the water management players and improved advisory mechanisms for improved water supply services	2016: 2.1. 6 BISAs and 6 WCAs capacity needs assessed in pilot regions (at least 30% women involved in the process). 2017-2018: 2.2. One BISA, one ISA and 7 pilot WCAs' material-technical base strengthened 2.3. Minimum three (3) extension centres established at selected BISA, ISA and WCA
Activity Result 3. Development and implementation of a unified model and approach of capacity building	2017: 3.1.1. One (1) comprehensive and unified capacity building programme developed and approved by MAWR for implementation at pilot regions. 2019: 3.1.2. The final version of the unified capacity building programme elaborated and submitted to the Government for approval and upscaling. 2017-2019: 3.2. At least two hundred (200) trainers trained, at least 30% of whom are women. 3.3. At least one thousand and five hundred (1500) water managers and users trained8, at least 30% of whom are women. 3.4. Following innovative water planning and management methods per pilot area/site will be tested: i) irrigation technologies, ii) water distribution and metering, iii) water and energy saving technologies.9 3.5. Ten thousand (10,000) m3/ha (2018).
Activity Result 4. Enhanced links and networking with EU institutions and practitioners	2017-2018: 4.1. Two (2) students (male and female) obtained their MS degree in water management 2016-2019: 4.2. Four (4) study tours conducted (one per year). At least, 30% are women participants.
Activity Result 5. Piloting community development plans with water management as a cross cutting issue	2016: 5.1. Baseline assessment of one community in each pilot region conducted with due consideration of and equal participation of women and men; 2017: 5.2. One (1) community development planning guidelines designed, that among others take into account the different needs of women and men in the community planning and published 2018: 5.3. At least 200 hundred relevant representatives of each pilot community and local authorities trained on community development planning, at least 30% of whom are women. 5.4. At least 50 rural householders per pilot region, at least 30% of whom are women. 5.5. Following innovative water planning and management methods per pilot community tested: i) water saving (irrigation techniques and agriculture measures), ii) energy saving technologies in water use. 5.6. Seventy five thousand (75,000) c/m water saved at household level at pilot communities 2019: 5.7. One (1) per pilot community

3.6 Reported progress by the project

The project is very much on track in its implementation. Progress reports are provided for 2016 and 2017. A concise overview on the practical implementation is also available in Презентация_ NTA 2.pptx (in Russian language). The project is well on track according to the milestones and deliverables that had been proposed. Given the delayed start in the beginning of the project and the extra amount of effort to adapt to the re-organisation from MAWR to MWR, the project should apply for a costneutral extension of 1 year.

3.6.1 Trainings 2016-2018 (July)

A significant amount of practitioner training along a total of 14 modules had already been provided by the project and had been well recognized by the participants and by stakeholders at WCA and BISA level that had been interviewed. The project office had been well able to handle the logistics with respect to the large amount of participants.

№	Name of the training	№ of training	№ regions	№ of participants
1.	Community development	6	6	124
2.	Hydrometry and Standardisation	15	13	415
3.	Water management senior specialists	6	6	152
4.	Online database and dispatch	6	6	58
5.	Water measuring devices	1	6	32
6.	Comparatory device	1	1	6
7.	Development of water users associations	6	6	57
8.	Hydrometry	6	6	78
9.	Metrology	6	6	78
10.	Water resource management	6	6	88
11.	Pumping stations and energy saving	6	6	163
12.	Irrigation and hydromelioration	6	6	80
13.	Water reservoirs and large hydrotechnical infrastructures	6	6	76
14.	Training of trainers in water resource management	4	7	50
Total		**81**	**13**	**1457**

Participants per year

2016 – 216

2017 – 1051

2018 (July) – 190

3.6.2 Expenditures

EU Water project				
Activity	2016	%	2017	%
Training(BISA, WCA, community)	23,889.56	17	111,737.78	9
Investments (WCA, BISA)	n/a		717,053.44	55
PR	8,080.97	6	21,414.42	2
Pilot specialist	n/a		14,000.00	1
Management (project staff salary, utilities, connectivity, vehicle etc.)	72,390.99	51	147,243.95	11
IC specialists	13,636.28	10	71,920.20	5
Total budget	141,429.84		1,314,557.39	

The spending financial resources is adequate to the proposed activities. Sufficient funds for the practical construction works had been spend up to 2017 (expenditures for the half 2018 will come on top). The funds for the remaining works are sufficient. During the MTR discussions with the project team and the lack of financial resources were not a priority issue.

3.6.3 PR and Promotion activities

The project organized sufficient self-capacity to handle the PR and promotion activities, including the making of documentary films. Future effort within the project team can be the spend to identify strategic needs and a targeted PR strategy especially to address the EU Delegation and the EU in general as key player for future activities in Central Asia.

4 Summary report of the field visits and focus group discussions

4.1 Preparation

Prior to the visit of the case study regions a detailed briefing was held at the UNDP premises. The discussion highlighted in particular the need to pay attention to the explanatory way of reporting progress by the stakeholders and the need to reflect also on the gender aspects when it comes to the household applications.

Agreements with UNDP were reached that the MTR should provide an in-depth and concise analyses with a strong emphasize on recommendations instead of delivering a merely lengthy reporting of details.

An in-depth introduction to the UNDP project office and the executing team had been arranged prior to heading towards the case study sites.

4.2 Field visits

For organisational reasons 3 out of 6 case study regions could be visited. Each interview took longer than planned, whereby the additional time was mainly required to gain the trust of the interviewees and to deepen the discussion thereafter.

The pre-formulated questions were used hence as a guiding framework. The later interviews were done with a reduced set of questions to ease the understanding for the interviewees.

4.2.1 Visit to the case study area - Syrdarya (19.6.2018)

BISA	**Lower Syrdarya**
Location	Gulistan, Syrdarya oblast
Interviewees	**Shavkat Israilov (Head of BISA)** **Obid Akhmadkulov (Deputy head)** **Ilkhom Solibaev (Head of water balance department, pilot specialist)** Interviewees declared that they are responsible for providing water to 2 Irrigation System Authorities (ISA) and 8 district water supply systems. There is contractual minimum water supply to be provided on the base of annual forecasting. In case of having less water available, reconsideration of water allocation must be made by the MWR
Baseline situation	After the collapse of the Soviet Union, it became an enormous day to day challenge to provide sufficient water security to the farmers. The BISA is very keen to combine technology and improved operations to provide water security and planning reliability to farmers. A strong expectation to the project had been, that the project delivers leading examples for a more effective water resources management
Key results reported	Important insight that sufficient water could be supplied to the users after reducing losses by 30% and operating the canal with a flow of 1.5 m3/s (instead of 4m3/s). Major results: 1) Canal had been actually repaired and reconstructed, and the distribution structure is working 2) Water losses had been effectively reduced 3) WCA & office became operational 4) Sufficient water is supplied to users 5) Water measuring and accounting improved (by provision 5 modern water discharge measuring equipment to each BISA)

	The project developed and provided very useful support for the dispatching unit and training related to the hydrological data collection.
Key learnings	Two relevant learning moments had been reported. Obid Akhmadkulov joined a study tour to Spain which provided great insight into nearly perfect water resources management and demonstrated how a concerted collection and distribution of water related information is actually able to depict the actual status within the area to be managed. For Ilkhom Solibaev, a key experience was that as a result of a proper water regulation and efficient water supply according to the farmers demand, the conflicts between WCA and farmers came to an end and that now a good cooperation at the pilot WCA was established.
Future orientation	According to the BISA, the activities of the water professionals (hydrometeorological monitoring & WCA) had reached a required reliability. Future works should concentrate on changing the mind-set of farmers, making them aware that water is limited source

Meeting at the BISA Lower-Syrdarya

WCA	**Yuksalish**
Location	Gulistan district, Soibobod village
Interviewee	**Sodiq Mirzaqulov (WCA Chair)** Interviewee reported his responsibility for the canal system. to provide water to the farms (58), and to supervise the staff of the WCA.
Baseline situation	Prior to the project, the possibilities to control the water distribution had been insufficient and the cooperation between the farmers and the WCA had been marked by conflicts over water supply. It was expected that the project should enable an effective control of water availability, water distribution and the actual abstraction.
Key results reported	The project provided effective combination of facilities (office), mobility of WCA staff, improved infrastructure (canal and control gates) as well as training to account and monitor the water flows. This combination empowered the WCA to provide actually the demanded service.
Key learnings	Key learning moment: being able to provide actual water after a request of a farmer to get temporarily additional water
Future orientation	Develop ways to effectively increase the control of actual water abstractions and water savings by farmers.

Newly renovated office building at WCA Yuksalish

Visit to the household farmer, Soyibobod Village, Gulistan district

The visit of the household farmer with a larger delegation did not favour to perform a formal interview. Instead a loose talk on his activities, and interests were held. (Same for all other household visits). The Interviewee reported his initial interest to proactively contribute to the project and indicated that such interest was not available e.g. in the neighbouring homesteads.

The drip irrigation kit had been successfully installed. The farmer explained very proudly his capability to intensify and to diversify now his garden production with the additional planting of fruit trees and vegetables.

He indicated an impressive enthusiasm and momentum, though the general appearance of the housing and arrangements indicates a lack of financial means to invest independent from the project into the production infrastructure. The farmer reported that he is now approached by other farmers to share his experience.

The discussion did not reveal any indication why the neighbouring farmers had not been interested to participate in the project and to intensify production or to produce crops at all.

Field visit Lower-Syrdarya region: Visit of household irrigation pilot, Soyibobod village (top left & right); completed works of distribution structures at the Yuksalish canal (middle left & right); Bank erosion (left bank) after the end of lined canals (bottom left); uncontrolled seepage to the fields from small canals (bottom right).

Visit to the refurbished canal, Yuksalish canal

Several points at the WCA canal were visited and the refurbished infrastructure presented. The improvement compared to the previous status is impressive. A number of challenges had been reported.

a) Right after the abstraction, the high water table of a parallel running earth canal to distribute the water to the fields caused a slope instability of the canal and related damages through erosion.

There is now an attempt to line the related sections, though it appears that the principle lay out of the scheme could be redesigned as well. It became obvious that such improvements can still not be realized independent from using financial resources of the project.

b) A leakage from field canals led to uncontrolled flooding of the fields. As this seemed to be outside the responsibility of the WCA, there is a lack of mechanisms that stimulate the farmers to prevent such causalities and to support the overall water saving in the system.

The visited refurbished control gates were in a good technical condition and meet the contractual requirements. Nevertheless hydro-technical infrastructure in Uzbekistan is exposed to extreme climatological conditions. Future attention could hence be given to increase the quality of the construction works to an upmost high quality in order to minimize the potential of future damages through erosion and to improve the frost-resistance. Likewise WCAs could also be trained to pay more attention on building up capacities for a permanent corrosion control and to keep the technical maintenance of the structures at highest level in order to prevent future non-functioning of critical infrastructures as much as possible.

4.2.2 Visit to the case study area - Zarafshan (20.6.2018)

BISA	**Zarafshan**
Location	Samarkand
Interviewees	**Sobir Valiev, Head of BISA** **Akmal Jumaev Deputy Head** Interviewees reported that their main responsibility is to distribute the water from the Zarafshan river (after passing the Taijk border) to the 4 oblasts and 28 districts via 6 ISAs. It was stated that the knowledge on both the demands and how much water will be available next day is critical for executing this task.
Baseline situation	Obtaining reliable information on actual water flows and demands had been a permanent challenge. Water was partly distributed in ancient earth canals. Next to the technical challenges, operational WCAs were considered as essential to organize actually the distribution of water.
Key results reported	Within the pilot region the combination of water saving (by drip irrigation) and the functioning WCA water can be actually provided to farmers. The Anti-erosion measurements at the Pravoberejniy canal had been stressed. The implementation of drip irrigation kits at household levels is considered as an important step Relevant support in water accounting and monitoring had been highlighted.
Key learnings	In contrast to the past situation farmers do now trust the WCA and report water demands. In the past there were frequent conflicts between the farmers and the WCAs. Now there was a recent incident that a farmer asked the WCA to reduce the water allocation for a certain day and underlined the greatly improved working relations.
Future orientation	Future developments should - enable more IS to provide sufficient water and to contribute to the food security at basin scale (in the context of a global need for food security)

	-strengthen the capacity for automatic monitoring of water flows, availability and use in the system to improve the basis for the planning of water resources allocation - organize outreach workshops to share experiences with other districts and village committees

Visit and interviews at the BISA Zarafshan

WCA	**Huja Buston**
Location	Payarik District, Kupaki
Interviewee	**Adurakhmon Karimov (chair of WCA)** Indicated responsibility for infrastructure and WCA staff, as well as for distributing the water, monitoring water availability in the morning, check of water intake conditions, and check how the farmers are using the water
Baseline situation	Prior to the project, the WCA was hardly functioning. Difficulties prevailed to reach out to the famers. No facility to convey people. There was a huge initial scepticism whether the project will be able to build an office facility as promised
Key results reported	The establishment of the WCA office building was considered as a breakthrough. It provide a magnet to the farmers for convening at the office premises. Information is now obtained from 22 hydro posts by telephone and the WCA can actually elaborate the scheduling of distribution. Farmers now indicate two times per week their request for water on paper.
Key learnings	The finalization of the building activities despite the initial scepticism and was a great relief. The availability of the office building as meeting facility makes now all the difference and makes the farmers actually communicating on water issues.
Future orientation	Success to obtain funds from the government to clean the canals should be repeated also by other WCAs. People are now aware of this pilot WCA and experience should be shared. Ways should be explored to rehabilitate and clean more canals, in particular the small canals.


Interview and new office building, WCA Hujabuston

Visit of tree nursery, Erkin Eshquvvatov.

The facilities of Erkin Eshquvvatov appeared impressively well maintained, though there are some seepage losses in the storage reservoir to be fixed. The water is used to run a nursery for fruit trees and grape seedlings. With his background as agronomist and experienced gained from a study to the US, he is not only running successfully the nursery, but also advising the farmers in the region on installing and scheduling the drip irrigation.

Information on contractual obligations to guarantee the advisory service also after the lifetime of the project had not been reported.

Visit of the household irrigation demo – Abdimumin, Kupaki village

The household farm produces wine grapes, tomatoes, and apple trees. The household farm appears to be in well-functioning condition. Water supply is organized by abstracting a small quantity of water from the canal with permission of the WCA. Training in drip irrigation is provided by the project and further advice is provided by Erkin Eshquvvatov to the farmer. Nevertheless, a specific irrigation scheduling had not been applied so far. Information on marketing aspects had not been provided.

Visit of the water distribution works – Huja Buston Canal

The visit of the distribution works revealed that the constructions are basically in a good technical condition. However, a dead cow had blocked one weir and let to significant flooding and uncontrolled overspills around the structures. The WCA chair immediately stated a communication to fix the problem. However the incident clearly revealed the sensitivity of the system related to unexpected causalities and the need for a continuous surveillance both by WCA staff and by the farmers.

Field visit in the Zarafshan region: Pumping station, reservoir and tree and grape nursery at "Yangi Nav" farm (top left & right); Drip irrigation at household farm (2nd row left); Favourable climate for vegetation and growth in the neighbouring village are (2nd right); Blocked weir and uncontrolled seepage at Huja Buston canal (bottom left and right);

Visit of the Zarafshan Right bank canal

The right bank canal of the Zarafshan River had been protected with heavy boulders against erosion by the project. Two weirs had been destroyed at the high slope regions of the Right bank canal. The sites for the reconstruction of the weirs had been visited.

According to the BISA, the missing weirs lead to circumstance that the canal cannot be operated at the full design capacity which leads to 30% of capacity loss.

Absent (left) and present weirs at Zarafshan right bank canal (right)

4.2.3 Visit to the case study area - Amu-Kashkadarya (21.6.2018)

Bisa	**Amu-Kashkadarya**
Location	Karshi
Interviewees	**Rustam Karshiev (first Deputy of BISA)** **Akbar Karimov (Deputy head BISA)** **Abror Tulanov (head of Karshi Main Kanal ISA)** **Bakhrddin Akhmedov (Head of industrial-technical division of ISA, Pilot specialist)** BISA reported responsibility for the entire system, where a significant part of the water resources are pumped from the Amu Darya river (57%) at an elevation of + 132 m. Out of the 62 pumping stations 14 are located in the pilot area ISA reported responsibility to maintain main canals, to provide water allocation plans to the WCAs, to ensure rational use of water resources. The responsibility of the Pilot Specialist comprised organisational issues and to control the implementation of the local construction works.
Baseline situation	Provision of service difficult due to conveyance losses and non-functioning WCAs
Key results reported	Rehabilitation of the canals and construction of the bypass works to avoid unwanted abstractions, improvement of monitoring capacities establishment of the WCA office.
Key learnings	Functioning WCAs are relatively new in Uzbekistan. People now increasingly understand that WCAs are non-governmental organisations and that they serve to organise the water distribution to farmers and households.
Future orientation	There is a need to increase experience in working with foreign parties, and expand functioning WCAs in the region.

Interview at the BISA Kashkadarya

WCA	**Shirkent Omontepa**
Location	Payarik district
Interviewee	**Khasan Sayfiew (Head of WCA)**
Baseline situation	Without functioning office facilities, it was difficult to reach the farmers, and the meetings had to be at places where contracts had to be negotiated under inconvenient conditions.
Key results reported	Completion of the office facilities, improvement of the R19 canal that minimized illegal abstractions. The new motorcycles increased the mobility of the WCA staff, which is now better able to inspect the condition of the canals and intake structures. Training to the WCA staff how to make and to handle contracts with the farmers had been a substantial support. Workshops at village on water saving was important to create local awareness. Important result is furthermore the understanding of the WCA staff which contacts can be approached for which questions.
Key learnings	The increased capacity to monitor water flows allowed the WCAs to substantiate their position against non-justified accuses by a farmer. With the provision of the office facilities, farmers use the WCA office to meet themselves. Instead of the previous necessity to travel to individual farmers, it is now very efficient that the farmers are coming to the WCA office.
Future orientation	Excavators would be desired to support the maintenance of small canals. Future workshops for the WCA staff (water inspectors) should involve aspects how to work with the farmers and how to handle conflicts


Interview at WCA Shirkent Omontepa (left) and new WCA motorcycle to enable the required mobility for maintenance and control (right)

Household 1, Kovchin area

Despite a recent case of death in the family, the project MTR team was still welcomed for a short visit.

The drip irrigation system was well implemented and maintained. The water is supplied by a pump. The production comprised vegetables (cucumber) and also few grapes.

Household 2, Kovchin area

The second household revealed a very organized agribusiness. Both of the married couple have an educational background as agronomist. Previously the household garden was used to grow alfa alfa to feed the family livestock (few cows). Previous irrigation was done by abstraction canal water 2 to 3 times.

The drip irrigation is recently installed and will be used to grow high value vegetables and fruit crops. Cash crops are basically sold at the Karshi fresh market, but avoiding retailers as much as possible. Groups of farmers sometimes negotiate the prices with milk collector in the morning. The household is very aware about the current pricing using oral information from the neighbourhood, from the internet or TV. Crops are also sold at the local village market.

Future plans are to establish green houses in the garden to allow an early growth of vegetables during the season.

It became obvious that the project did not provide new agronomic insights to the household and that there was a firm planning on the next steps.

Field visit in the Karshi rayon: Visit of household irrigation I and exceptional well maintained family house (top left & right); championing household irrigation demo II with very well maintained irrigation system and impressively strong agronomic expertise at both partners of the couple (middle left & right); reconstructed R 19 canal to minimize non controlled abstractions (bottom left & right)

Visit the R19 Canal reconstruction

The project constructed a bypass at the R19 canal. The construction works are completed and the canal is properly functioning.

4.3 Summary of findings from visiting the demonstration sites

In its entire dimension, the project is well implemented. In order to provide recommendations on further improvements and to multiple the project impacts, it is therefore of interest to detect areas that are not in the central focus yet.

Next to the technical, formal reporting of works and achievements according to the contract, the Dual reflection method focused on detecting personal learning moments of the interviewees. Indirectly it revealed then fields that obtained less attention.

The comparisons of the interview outcomes were made for the categories BISA – WCA – household farmers – along a set of themes. These themes were not communicated a priori with the interviewees in order to obtain an unbiased response.

It must be noted that this approach is mainly useful to indicate a very first snapshot of relevant priority areas and to identify awareness of individuals and institutions. Inherent restrictions to quality are in principle given by the very small number of interviews, the relative short duration per interview, and the lack of exploring possible reasons for the findings in more detail.

On the other hand it is interesting to note the answers are relatively homogenous and there is already a clear picture emerging, which allows to make a set of distinct recommendations to increase the impact even further.

As the responsibilities and strategic interests differ between water suppliers and water users, different reflection topics for the household farmers were chosen.

Personal enthusiasm about the project

All interviewees revealed after a varying time span of warming up and gaining trust, a comparable authentic enthusiasm about the project and the future works. This is a very important starting point for detecting areas that got less attention. All interviewees reported personal moments of learning and gaining insights.

Relevance of facilities

All interviewees and independent from the institutional setting highlighted the relevance for facilities. For the BISA it was mainly the existence of reliable water conveyance structures. For the WCAs it was mainly the availability of the office building and functioning distribution structures in the canal network. The household famers highlighted in particular their achievements in the production. In comparison to the BISA and WCA explanations there was less emphasize on the technical infrastructure itself. On the other hand, none of the households highlighted a demand to return to the traditional irrigation systems.

Relevance of Service (BISA and WCA)

All interviewees at BISA and WCA level highlighted the relevance of providing reliable service to the users. By this there is a clear recognition of the interaction between the existence of reliable infrastructure and fulfilling the organisational mandate. It is interesting that both the BISA and the WCA chairs highlighted the need of operational WCAs as key element to organise a proper water allocation of water resources. Likewise, all interviewees highlighted the need of proper information flows.

Additional infrastructure and rehabilitation works

It is interesting to note, that all interviewees at BISA and WCA level demanded for additional infrastructure (more km of canals lined, excavators, etc.) and there is a request to rehabilitate more

infrastructure outside the project pilots. In a first glance this is understandable, as the project had only a chance to restore infrastructure in an only exemplary way and scaling up of good experiences is always a must. Nevertheless it characterize also a situation where only the needs are reported to an external person, instead of reporting plans how to get it done.

Future M&R of infrastructure provided by the project

None of the interviewees referred to the need to maintain and repair (M&R) the works that just had finished by the project. This is surprising, as all interviewees realized and highlighted the vital need of reliable and operational infrastructure.

Strategic planning and institutional development

None of the interviewees reported proactively any ideas how to proceed with the strategic planning and the internal institutional planning. Even if the BISAs have little freedom to develop individual strategies, it is remarkable that even no programs and policies at state level had been reported to which the BISAs need to contribute to.

At WCA level there is naturally more freedom to develop own strategies for ensuring the sustainability after the project lifetime, to re-invest in staff and existing infrastructure. Nevertheless and especially in view of the relevance of infrastructure and services, it is remarkable that none of the WCA chairs emphasized this at least as a field of concern.

Maintenance and agronomic capacity

At the level of household irrigation it is interesting to observe that there is a gradient in capacity to re-invest in the own production facilities and skills. While the household at the Soyibobod village marks the lower range, the last family visited at the Kovchin village marks the upper and near ideal level.

The capacity to maintain the homestead is certainly a matter of financial means. It is outside the scope of the MTR to quantify other sources of family income, that could had been re-invested in the maintenance of the buildings and garden area.

Further agribusiness development

While only the household farm II at Kovchin village reported clear ambitions to develop the agribusiness steadily further, none of the other interviewees indicated any planning for future exploitation of opportunities.

Reinvesting in production systems & Strategic planning and institutional development

Again only the household farm II at Kovchin village reported distinct plans to strive for a greenhouse as well as indicating a capacity to adapt the production to market developments and emerging opportunities.

BISA / WCA	BISA Lower Syrdarya	BISA Zarafshan	BISA Amu-Kashkadarya	WCA Yuksalish	WCA Khuja Buston	WCA Shirkent Omontepa
Personal enthusiasm about the project	●	●	●	●	●	●
Relevance of facilities and technical infrastructure	●	●	●	●	●	●
Relevance to provide service	●	●	●	●	●	●
Additional infrastructure and rehabilitation works	●	●	●	●	●	●
Future M&R of infrastructure provided by the project	❍	❍	❍	❍	❍	❍
Strategic planning and institutional development	❍	❍	❍	❍	❍	❍

Summary of themes highlighted by the interviewees at BISA and WCA level (bold dot: addressed, open dot: not being addressed)

As summarized in the infographic above, there is hence a very homogenous picture for both the BISAs and the WCAs. There is a true need to enhance the capacity building towards the field of strategic planning and maintaining of existing infrastructure.

Reasons that might have caused such a development can at present only be guessed at. Future project activities should be used to gain more insights how, historical, educational, habitual, financial, and political reasons are driving such a situation. There is clearly a need of financial issues, and there is a lack of special funds to which the BISA and WCAs respectively can apply for.

Household farmers	Household farmer I Soyibobod village (Syrdarya region)	Household farmer I Darvishik village (Smarkand Region)	Household farmer I Kovchin village (Kashkadarya region)	Household farmer II Kovchin village (Kashkadarya region)
Personal enthusiasm about the project	●	●	●	●
Relevance of facilities and technical infrastructure	●	●	●	●
Maintenance	low	moderate	moderate	highest
Further agribusiness development	❍	❍	❍	●
Reinvesting in production systems	❍	❍	❍	●
Strategic planning and institutional development	❍	❍	❍	●

Summary of themes highlighted by the interviewees household irrigation level (bold dot: addressed, open dot: not being addressed)

The second infographic summarizes the results at the level of household irrigations. Certainly the number of samples is very low to allow a specific conclusion but it is remarkable that the gradient of responses vary along the different households with a noticeable influence by the prevailing managerial capacity and agronomic background. It is also worth to highlight that the household II at Kovchin village did not report any external income from other business than selling milk and vegetables.

According to the explanations from the project team, the first farmer visited had also an agronomic background. This might explain the individual interest to participate into the project in comparison to his neighbours. The example however shows nevertheless that agronomic background is important necessity but that the prosperous development of the farm or homestead also depends on further external factors.

Therefore the situation depicts also the relevance for an overall increase of developing agribusiness. Where people consider agriculture as a business and a source of income, they have more means to re-invest financial resources in the maintenance of infrastructure.

Future works in the project should hence clearly focus on the increase of agronomic training, support in marketing the products and to increase the capacity for strategic planning.

4.4 Meeting at the Delegation of the EU to the Republic of Uzbekistan,

A short meeting with Oividiu Mic (2018-06-22) revealed the strategic priorities of the EU. It became clear that for the EU it basically is of upmost relevance that the benefiting parties search for a continuation of the project activities and to maintain such by their own means.

For Central Asia the EU welcomes a strong regional cooperation amongst the Central Asian states.

In this view the project might explore ways to stimulate a local continuation in the establishment of further pilot WCAs, to stimulate the share of lessons learned within Uzbekistan and to exchange findings with the neighbouring states.

4.5 Meeting at MWR

A short meeting with the Deputy Minister, Ravshan A. Mamutov (Focal person for the UNDP project), and Ulugbek Madaminov (Head of Department for Attracting Investments and their Monitoring), Zokir Eshpulatov, head of water balance and water saving technologies division was held.

The Meeting at the MWR was used to share a preliminary insight on the MTR findings and to highlight the need for strengthening specific capacity at WCA level in the field of strategic planning, maintenance & repair of critical infrastructure.

The Ministry welcomed ideas for developing specific financial instruments and to host a round table expert discussion on this topic. The project might explore ways in the second half of its lifetime to deepen such aspects and to search the closest cooperation and ownership with MWR in this matter.

4.6 Meeting at TIIAME (2018-06-25)

TIIAME organised a welcome by the Rector O. Uktam Umurzakov and used the opportunity to raise the attention that local expertise by Uzbek educational institutes in practitioner training should be incorporated in the development of future curricula at upmost level. This is an understandable and very reasonable comment and the entire EU program (Component 1 – 3) should seek ways to consider this in an ongoing way.

4.7 Meeting with Component 1 (GIZ) and Component 3 (CAREC)

The meetings at the premises of GIZ and CAREC revealed no principle conflict from executing the components independently.

The Component 1 focus predominantly on the Integrated Water Resources Management and less specific on irrigation infrastructure. As both fields are nevertheless closely related, a strong interaction is desirable. Caroline Milow from GIZ highlighted the advantage of executing the projects independently in order not to block one by limited progress of the other, but indicated a very good working relation between both projects including a regular information exchange, that is also supported by the close vicinity of the project offices.

Shakhnoza Umarova from CAREC emphasized the fact that the component 3 started only recently and that it focus mainly on raising the public awareness on water saving.

The remaining execution of the Component II project by UNDP might in particular pay attention to get as close as possible involved in emerging working groups that will discuss future elaborations of the water strategy for Uzbekistan and to share the experiences with regards to increasing capacity in strategic planning for the maintenance of water infrastructure.

Considering the fact that the Component 3 focus on its own subject and will most likely not provide a service to the other components, the Component 2 should seek an intensification of own PR activities, preferably by involving the EU delegation and the MWR of the Republic of Uzbekistan.

4.8 Specific information to address gender issues within the project

The project advances women participation in all aspects of its implementation as well as it promotes gender related aspects in general. It particularly focuses on women empowerment and women participation in the following of its main areas:

Training programmes- the project encourages women participants to take part in all training activities and other training programmes. Since 2016, the project trained 2563 water management specialists in 6 pilot regions, including 119 women participants (4.6% from total amount of participants). The reason of low participation of women in project training programmes is the lack of women specialists in water management sector in Uzbekistan, however the project is continuing to encourage and involve more women specialists in its training activities. The ratio of women and men involved in water management sector in Uzbekistan is about 5% (women) and 95% (men). It is important to note that women working in water management organizations are mainly involved in finance, secretarial or laboratory work, and they are not technical experts in water management.

Community development- the project focuses mainly on women participation in the development of community plans and it involves mainly women residents in all communities in the formulation of community development activities and active participation in water management activities within the pilot communities in all 6 pilot regions of the project. As of 2018, 29 women residents (from total amount of 246 participants, 11.7%) took part in community planning activities of the project. The main reason for this is that women in rural communities are mainly involved in household activities and they are less motivated and less active in community activities, nevertheless, the project continues to engage more women residents in community development activities by motivating them through various training programmes.

Drinking water supply system activities- the project has constructed the drinking water supply system in Gulistan village of Fergana region which allowed all 4500 residents of the village to enjoy a safe drinking water, especially all women of the village (55% from the total residents) who always had a problem with the lack of access to a drinking water in households activities. All women of Gulistan village benefited from this drinking water supply system and now they have an access to a safe drinking water, and they were released from the water carrying activities.

Master Degree Scholarship for Female student- the project is funding the second year of master degree of one female student from TIIAME to obtain a double degree in water management from Wageningen university in the Netherlands in the frame of the partnership activities with EU institutions.

Gender based needs assessments – the project has conducted needs assessments of institutions responsible for training provision, training modules and water management organizations based on gender principles, and it covered gender based aspects and data. Please find attached the gender related information for further reference.

5 Findings and Progress per Activity area

5.1 Activity Result 1. Enhanced capacities of national entities in charge of training provision

Action 1.1. Baseline assessment of existing and past training modules and tools, fine-tuning and compilation into one single package

Targeted Output and proposed means of verification	***Results reported by the project***
2016: 1.1. At least 10 existing training modules and tools assessed	In total 59 training modules were collected, from which 40 training modules and 16 tools were assessed within the frame of baseline assessment.
Baseline assessment report agreed with stakeholders	Baseline assessment report was discussed and approved at the project board meeting held on 7 Dec 2017
Justifications for deviations if applicable:	The delayed submission of the baseline assessment report, that were implemented by UNESCO (through The UN agency to UN agency contribution agreement) is not a responsibility of the project management. The report is meanwhile available were used as basis for definition of training modules that were suggested to the MoWR for approval.

Action 1.2. Capacity and needs assessment of institutions responsible for training provision

Targeted Output and proposed means of verification	***Results reported by the project***
2016: 1.2. Capacities of 3 institutions responsible for training provision assessed	The project contracted extensive expertise to assess the capacities of responsible training institutes. More than 40 institutions responsible for training provision assessed (including Agrarian University, TIIAME, and 39 colleges. Needs and capacity assessment of institutions responsible for training provision is completed. Regulations on permanent and mandatory upgrading of skills and retraining of water management personnel is drafted.
Capacity and needs assessment reports agreed with beneficiaries	The Assessment Report was discussed and approved at the project board meeting held on 7 Dec 2017
Justifications for deviations if applicable:	There is no deviation to be assessed

Action 1.3. Strengthening material-technical base of training providers

Targeted Output and proposed means of verification	***Results reported by the project***
2017: 1.3. One pilot entity's material-technical base strengthened	One pilot entity's material-technical base strengthened. Scientific-research institute of Irrigation and Water Problems has been equipped with a comparative facility for testing of water flow metering equipment; Creation of a field training center for water saving technologies at the TIIAME is in progress. The decision of district governor on the allocation of land exempted from the state order is obtained with big delay. The design estimate documentation is developed and tender documentation is finalizing for announcement.
Transfer of equipment and materials completed (Handover Acts)	Transfer of the Comparative facility for testing of water flow metering equipment completed.
Justifications for deviations if applicable:	The delay is beyond the influence of the project management. Instead the fact that necessary administrative documents are under development in close cooperation with the Government still underlines the commitment of the Government.

5.2 Activity Result 2. Strengthened organizational set-up of the water management players and improved advisory mechanisms for improved water supply services

Action 2.1. Capacity and needs assessment of BISAs, ISAs, local authorities, and WUAs/farmers.

Targeted Output and proposed means of verification	***Results reported by the project***
2016: 2.1. 6 BISAs and 6 WUAs capacity needs assessed in pilot regions (at least 30% women involved in the process).	Capacity and needs of 6 BISAs and 7 WUAs assessed in pilot regions (NBT) (6 months) and Final report is developed
Capacity and needs assessment report agreed with beneficiaries	The Assessment Report was discussed and approved at the project board meeting held on 7 Dec 2017
Justifications for deviations if applicable:	No delay to be assessed

Action 2.2. Strengthening material-technical base of water management players

Targeted Output and proposed means of verification	***Results reported by the project***
2017-2018:	The material-technical base of Lower-Syrdarya BISA (creation of the training center and equipping with furniture and IT) , Isfayram-Shahimardan ISA (training center with furniture and

2.2. One BISA, one ISA and 5 pilot WUAs' material-technical base strengthened	IT) and 7 pilot WUAs (renovation/building of offices with furniture and IT, reconstruction of irrigation infrastructure, provision of transport means and water measuring devises) are strengthened.
Transfer of equipment and materials (Handover Acts)	In progress. 80% of transfers is completed.
Justifications for deviations if applicable:	The project demonstrate impressive progress when considering the organizational delays caused by the changes in the Government organizations at the kick start of the project. There is no principle risk that the targeted output will basically not achieved. However the MTR revealed some need to consider strategies to finance infrastructure maintenance and repair

Action 2.3. Piloting establishment of advisory/extension service centers at BISA, ISA and WUA levels (one in each level)

Targeted Output and proposed means of verification	***Results reported by the project***
2.3. Minimum three (3) extension centres established at selected BISA, ISA and WUA.	*Capacity and needs assessment of water management organisations concluded that the establishment of extension centres at BISA, ISA and WUA level is impractical due to objective reasons.* Below is a quotation from the NBT assessment report (page 190): *….here is no doubt that rural advisory / extension services is a noble notion and with the right approach the positive impact of such services can be tremendous. However, under given circumstances, neither BISA/ISA nor WCAs are willing or capable of being engaged in such activities. To suggest creating independent for-profit (commercial) or non-profit entities is not an option either, provided there is no a genuine business need among the farming community.* *However, gradual market reforms with the decreased State intervention in the agricultural sector may pave the way for the emergence of such institutions. Therefore, another hasty donor supported efforts may bring to the same results as the projects of World Bank and ADB.* *Instead of crating another extension service centers within this project, one option could be an effective coordination by the Ministry of Agriculture and Water Resources in bringing the Council of Farmers, Research Centres and BISAs to come out with the unified efforts to implement new knowledge and technological know-how. The Council of Farmers generates funding through its membership fees, the Research Centre receives state funding and its institutions have a legal mandate to be engaged into entrepreneurial activities, while BISAs have strong technical expertise in the field of water management. All we need is the right approach and understanding genuine need of farming community.*
a) Extension services recommended for adoption;	…

b) Extension centres operational, activities initiated (Opening Ceremonies held)	
Justifications for deviations if applicable:	Capacity and needs assessment of water management organisations
Remarks	The above mentioned assessment report reveal impressively the need for developing the grounds to increase agri-business activities in Uzbekistan. There is worldwide evidence, that delivering good extension services is not solely a matter of organising the cooperation of players. Good extension service require first of all to get farmers proactively looking for support, making extension service staff more dependent on the advice they give.

5.3 Activity Result 3. Development and implementation of a unified model and approach of capacity building for water management players

Action 3.1. Development of training modules

Targeted Output and proposed means of verification	***Results reported by the project***
2017 3.1.1. One (1) comprehensive and unified capacity building programme developed and approved by MAWR for implementation at pilot regions. 2019: 3.1.2. The final version of the unified capacity building programme elaborated and submitted to the Government for approval and upscaling.	Development of Training Modules and Comprehensive and unified capacity building Programme delayed due to late submitting of the baseline assessment report. (Implemented by UNESCO through The UN agency to UN agency contribution agreement) The final Program including 5 training modules had been recently (Sept., 2018) submitted to the MoWR for review and comments.
On site monitoring reports (bi-annual). a) Training Module package is agreed with national partners and beneficiaries; b) Training module recommended for adoption and integration into national curricula;	The training modules were discussed at 3 workshops. Final discussion of the modules and draft Capacity Building program held at the workshop on 23-24 July 2018
Justifications for deviations if applicable:	The factors that might had caused the delay in making the the UNESCO baseline assessment report available were outside the control of the project management team.

Action 3.2. Formulation of a unified/systemized capacity building programme

Targeted Output and proposed means of verification	***Results reported by the project***
2017-2019: 3.2. At least two hundred[7] (200) trainers trained, at least 30% of whom are women.	In progress. 50 trainers, including 11 women have been trained.
a) Unified capacity development programme for water sector institutions and practitioners agreed with beneficiaries b) Unified capacity building programme recommended for Adoption and integration into national curricula.	In progress. Please see Action 3.1.
Justifications for deviations if applicable:	See remark for 3.1 The training of trainers is sufficiently advancing including the appropriate training of at least 30% female trainers. There is no risk that the target will not be achieved. Providing cost neutral extension would however give the project more possibilities to include emerging needs and thematic priorities better in the training programs

Action 3.3. Implementation of training modules for trainers

Targeted Output and proposed means of verification	***Results reported by the project***
3.3. At least one thousand and five hundred (1500) water managers and users trained, at least 30% of whom are women.	To date 2561 water managers and users are trained, including 119 women.
a) ToT training workshops and materials *b) Monitoring and progress reports* *c) Post-training feedback*	Done. Available.
Justifications for deviations if applicable:	The disproportional lower training on female water managers reflects the disproportional lower availability of candidates to be trained as part of the system inherent challenge of many industrialized countries . The principle ambition and the implementation of the project to address a balanced capacity building of female actors in the field of agricultural water management underlines hence a basic need.

Action 3.4. Selection of pilot BISA, ISA, WUAs and farms for water efficiency trainings and implementation of pilot projects

Targeted Output and proposed means of verification	***Results reported by the project***
3.4. Following innovative water planning and management methods per pilot area/site will be tested: i) irrigation technologies, ii) water distribution and metering, iii) water and energy saving technologies. .	Innovative water planning and management methods per pilot area are implemented and under testing
a) Project Board meeting minutes approving selection pilot regions concepts b) consultation meetings with stakeholders; validation workshop; c) Training workshops documents d) Pilot Project Reports with achieved results	Done. Available.
Justifications for deviations if applicable:	No deviation to be assessed

Action 3.5. Implementation of the capacity building programme for water managers and users

Targeted Output and proposed means of verification	***Results reported by the project***
Ten thousand (10,000) m3/ha (2018).	Estimation indicated 30-35 % water saving as a result of project intervention in pilot regions.
Pilot Project Reports with achieved results	Report with preliminarily results has been submitted to the MoWR and presented at the Water Sectoral Group Meeting. The project has hired an expert for evaluation of the project intervention in the regions. The report is to be issued by the end of the year.
Justifications for deviations if applicable:	The targeted indicator for Action 3.5 (10,000 m³/ ha) demands a stronger contextual justification as water saving per ha depends substantially from previous water consumption and efficiencies already in place. It is recommended that instead the project will focus stronger on the mapping of actual water use efficiencies and to predict the efficiency improvements as well as total savings in a spatio temporal context. To contract an expert in this regard should be considered as a valuable step.

5.4 Activity Result 4. Enhanced links and networking with EU institutions and practitioners.

Action 4.1. Organization and implementation of a scholarship programme for trainers and practitioners

Targeted Output and proposed means of verification	***Results reported by the project***
2017-2018: 4.1. Two (2) students (male and female) obtained their MS degree in water management	In progress. Two students (male and women) are selected and started their Double degree MS Program in Wageningen University.
MSc Diplomas of graduate students	To be obtained in 2019
Justifications for deviations if applicable:	No deviation to be assessed

Action 4.2. Organization of study tours

Targeted Output and proposed means of verification	***Results reported by the project***
2016-2019: 4.2. Four (4) study tours conducted (one per year). At least, 30% are women participants.	No study tour conducted yet. The first one is planned for mid-October, 2018 to China.
Study tour and Back to Office Reports	n.a.
Justifications for deviations if applicable:	It makes much sense to organize the study tours from only now after the basic implementation of the project is sufficiently advanced. It is strongly recommended to organize also a study tour to Europe and to gain additional insights in the role of co-operatives and value chain partners for innovating agribusiness, and to gain insights for setting up innovative modules in financing the maintenance of infrastructures.

5.5 Activity result 5: Piloting community development plans with water management as a cross-cutting issue.

Action 5.1. Conducting baseline assessment of communities (economic, social and environmental dimensions)

Targeted Output and proposed means of verification	***Results reported by the project***
2016: 5.1. Baseline assessment of one community in each pilot region conducted with due consideration of and equal participation of women and men; .	Baseline assessment of pilot communities are completed.
a) Post-training assessment / post-training survey, monitoring skills application; b) Baseline assessment report discussed and agreed with stakeholders	During 2017-2018 (till august) 12 training workshops have been conducted. 243 representatives of communities and local authorities took part. Baseline assessment report were discussed at the Project Board Meeting.
Justifications for deviations if applicable:	n.a.

Action 5.2. Development of guidelines for community development planning

Targeted Output and proposed means of verification	***Results reported by the project***
2017: 5.2. One (1) community development planning guidelines designed, that among others take into account the different needs of women and men in the community planning and published	Community development Guideline has been drafted and discussed at the training workshops. The final version is being prepared.
Guidelines presented and agreed with beneficiaries, posted on project website for public discussion	In progress. The final version is to be discussed.
Justifications for deviations if applicable:	Considering the delay due to organisational changes in the beginning of the project, the finalization of the community guidelines is well on track and feedback from beneficiaries are already taken into account within the current revision

Action 5.3.
Trainings and workshops for communities and local authorities on better water planning, use, and water saving techniques

Targeted Output and proposed means of verification	***Results reported by the project***
5.3. At least 200 hundred[10] relevant representatives of each pilot community and local authorities trained on community development planning, at least 30% of whom are women.	243 relevant representatives of each pilot community and local authorities trained on community development planning.
Training workshops documents and materials	Available.
Justifications for deviations if applicable:	The project over-performed already the target. Female participants had been actually 11 %. The project continues with its effort to increase the interest of female residents to engage in community planning activities

Action 5.4. Practical demonstration activities to showcase water and energy efficiency measures at the community level (in conjunction with Activity 3.4.)

Targeted Output and proposed means of verification	***Results reported by the project***
5.4. At least 50 rural householders per pilot region, at least 30% of whom are women. .	35 households in 6 regions are involved to intensive horticulture process (Special seedlings are provided by the project) and equipped with water saving systems (drip irrigation)
Demonstration plots; monitoring reports	The project is planning to conduct workshops in each region with purpose to demonstrate works done, share with results and discuss replications. The specially requited expert will evaluate the outcomes of the systems and provide with assessment report.
Justifications for deviations if applicable:	n.a. The project is well on track (already 35 out of 50 households involved)

Action 5.5. Development of community development plans

Targeted Output and proposed means of verification	***Results reported by the project***
5.5. Following innovative water planning and management methods per pilot community tested: i) water saving (irrigation techniques and agriculture measures), ii) energy saving technologies in water use. 5.6. Seventy five thousand (75,000) m^3 water saved at household level at pilot communities 2019:	The amount of saved water will be defined by the end of irrigation season (by expert) Community Development Plans are drafted, and final versions are to be submitted by the end of November.

5.7. One (1) (Community development plan) per pilot community	
Broad public and formal consultation of prepared community development plans	Schedduled in forthcoming works
Justifications for deviations if applicable:	n.a., activities are on track

6 Findings

6.1 Project Strategy

The project design is of high quality. It follows the conviction that without running and successful demonstrations, it is very difficult to convince actors in the field of water resources management to accept new paradigms. The concept of WCAs is known since a longer time, but up to now it had not been realized successfully at a wider scale. The project successfully realizes capacity building along the relevant dimensions of technical capacities (offices, canals, hydraulic structures), human capacities (training and staffing), and organisational capacities by harmonizing the interaction between WCA, ISAs, and BISAs. By realizing WCAs and its parallel embedding in accompanying measures at BISA and ISA level, as well as by an extensive practitioner training, the project clearly advanced the acceptance of WCAs at all levels from households, farmers, and WCA staff, ISA, BISA and the MWR.

6.2 Progress towards Results

The project clearly progresses along the proposed log-frame and the proposed outcome areas as scheduled.

The project developed all relevant external consultations, realized the technical implementation, the training and the public relations activities.

The success is not only documented in the technical reporting, but above all in the reaction of all interviewees, clearly demanding a further upscaling of the approach to other areas.

An area that would demand extra attention is the establishment of a stronger extension service for supporting the farmers in rural areas. The project originally proposed to establish a series of minimum three (3) extension centres at selected BISA, ISA and WUA. This appeared not being practical (see NBT assessment report). The recommendations of NBT are "Instead of crating another extension service centers within this project, one option could be an effective coordination by the Ministry of Agriculture and Water Resources in bringing the Council of Farmers, Research Centres and BISAs to come out with the unified efforts to implement new knowledge and technological know-how. The Council of Farmers generates funding through its membership fees, the Research Centre receives state funding and its institutions have a legal mandate to be engaged into entrepreneurial activities, while BISAs have strong technical expertise in the field of water management. All we need is the right approach and understanding genuine need of farming community".

However experience shows that:

a) if the council of farmers collect the fee, it would be merely a principle financial burden without being clearly connected to a specific on-demand, high quality service that reflects the actual farmer needs. This in turn could lead to a limited readiness to pay.

b) the state institutes possess and develop very important background expertise and knowledge, but they are of limited flexibility to help the farmers on the ground at short noticed terms. Preference should be given to a dynamic and decentral extension service.

c) the proposal of NBT revealed limited insights how a different extension services can compete against the best advice.

Establishing an effective extension service is not a simple task and requires sound reflections and a development process that goes beyond an administrative decision and re-organisation of responsibilities. Extension service must go beyond the technical transfer of knowledge and should support the farm/ agribusiness innovation in total. Future efforts of the project should support the

development of strategies to link the provision of extension services with the overall agri-business innovation in the farming sector.

6.3 Efficiency in planning, organizing and controlling the deliverables

The efficiency in planning and organizing the deliverables is very high. By combining the reputation and neutral position of UNDP, very committed effective project management, excellent working relations to the MWR and to the BISAs, the project realized a large progress already at the mid-term of the project.

Due to its high efficiency the project management team is able to handle the tasks with a comparable small team. However, ways could be explored to enlarge the project management team further. There will be an increasing demand on handling administrative issues and communications. Shifting routine tasks from both for the PM and the NTA to additional staff, would be of direct benefit to increase the impact even further, to assist the MWR in communicating results at highest level to the EU delegation and other donor organisations, and to report the significant project progress in adequate ways and intensity.

6.4 Efficiency in coordination and communication between the stakeholders and partners

The efficiency in coordination and communication between the stakeholders is high. This is not only related to the technical works at the level of the pilot regions, but also addressing the interaction with the other project components (especially with Component 1). The actual involvement of the MWR as national coordinating body ensures the persistent attention of the Minister and the subsequent layers to the project.

Up to date there are no relevant barriers envisaged that might hamper the further implementation of the project

Naturally the first half of the project is dedicated to its practical implementation and the realization of first success stories. The second half of the project offers from now on the required space to increase the communication between the MWR, the UNDP representation, and the EU delegation.

6.5 Project Implementation and Adaptive Management

The project implementation is of model character and realized with a very small project management team. All management arrangements are appropriate, the work planning is continuously updated and monitored and the financial resources are spent in a reasonable and sufficient way.

Internal and external monitoring is well in place. All stakeholders contribute in a supporting manner and indicate high enthusiasm.

As stated above, the second half of the project, might intensify the communication between the MWR and the EU delegation to ensure an upmost share of project progress that is achieved.

6.6 Sustainability

The great progress in the first half of the project, provide room to give up most attention to extend the sustainability of the project in the second half of the project.

Technical sustainability: The sustainability of the project is conform expectation. All technical works that are financed by the project will remain functioning after the lifetime of the project. However,

similar to comparable projects, little attention is paid to the maintenance and repair of the infrastructure that had been realized by the project.

Financial sustainability: Until now, the project did not elaborate new financial instruments, strategies and/or special funds to ensure the financing of follow up activities after the lifetime of the project. First ideas are already emerging and the second half of the project lifetime should be used to consolidate together with MWR clear strategies to realize the post project financing of rehabilitation works.

Environmental sustainability: Up to now the project interventions consider water as a precious resource and all interventions realized will contribute to a more efficient use of water resources. However, given the water scarcity in Uzbekistan and the wider Aral Sea region, the current measures to increase the water saving might not be sufficient to solve the water challenge. Additional effort to search for a structural reduction of water consumptions should be explored in the second half time of the project.

Gender aspects:

The project is well aware on the challenge to increase the number female experts, managers, household members and farmers as planned within all activities. The project therefore put additional effort in motivating female participants to engage into the offered activities by the project. The effort should be continued.

6.7 Conclusion

Overall the project is successfully implemented, running after an initial delay in time and definetively in an highly efficient way. All interviewed stakeholders underline a strong appreciation of the project activities and reveal great enthusiasm.

The project underlines impressively that transformation towards a decentralized, WCA based water management is greatly supported, if water users and responsible agencies / authorities can practically experience a functioning service that create a win-win for all parties. In this view it is of upmost interest to further intensify the rehabilitation of water consmer associations and water supply infrastructure.

Supporting households with drip irrigation also provided a valuable starting point for gaining experiences in diversifying water use and agro-food production in Uzbekistan.

Future strategies to strengthen the extension service need to consider competitive decentral solutions that also initiate and support the agri-business innovation in the farming sector.

The progress in reforming curricula and capacity building was affected by a limited involvement of experts from TIIAME and other relevant local actors in this field. Attempts are now started to arrange a stronger involvement of local experts in the reform of training and capacity building programs.

6.8 MTR Ratings & Achievement Summary Table

Evaluation Rating			
Assessment of intervention	**Rating**	**Sustainability (1-4)**	**Rating**
Relevance (1-2)	2	Policy and regulatory framework	5[5]
Effectiveness	5	Financial Resources	5[6]
Efficiency	6	Overall likelihood of sustainability	5
Overall Project Outcome rating (1-3)	5,5		
Monitoring and Evaluation	**Rating (1-6)**	**Gender mainstreaming**	**Rating (1-6)**
M&E design at entry	5	GM strategy at entry	6
M&E plan implementation	5	GM at implementation	5[7]
Overall quality of M&E	5	Overall quality GM	5

[5] The development of policies and the regulatory framework can be strongly addressed in the second half of the project. The progress depends to a large extend on external developments. Nevertheless, the project and its intrinsic link to the MWR has a huge potential to achieve concise policies to strengthen the further elaboration of WCA's as well as to support the decentral maintenance & repair of critical infrastructure

[6] The MWR already invited the project during the MTR to elaborate ideas for financial instruments that may support the maintenance and repair of water infrastructure. With sufficient effort during the second half of the project lifetime, success is highly likely.

[7] The Gender balance in the project team is very high. To date it is unclear how more female experts can be appointed at WCA, ISA, and BISA level. Increasing the number of female agronomist at household irrigation spots is likely.

7 Recommendations

To date, there is no relevant weakness of the project and recommendations should hence concentrate on those areas where the project may reach additional and more impact, and to provide a strategic orientation for utilizing the successes of the project in follow up activities.

The uptake of project experiences, progress in the regional cooperation and achieving hydro solidarity is one of the key priorities for the engagement of the European Union in Central Asia. In this view, the recommendations to the Component II UNDP project will centre mainly around increasing the operational sustainability and to advance the true uptake of activities by national actors.

The following log frame underlines the logic for the recommended areas.

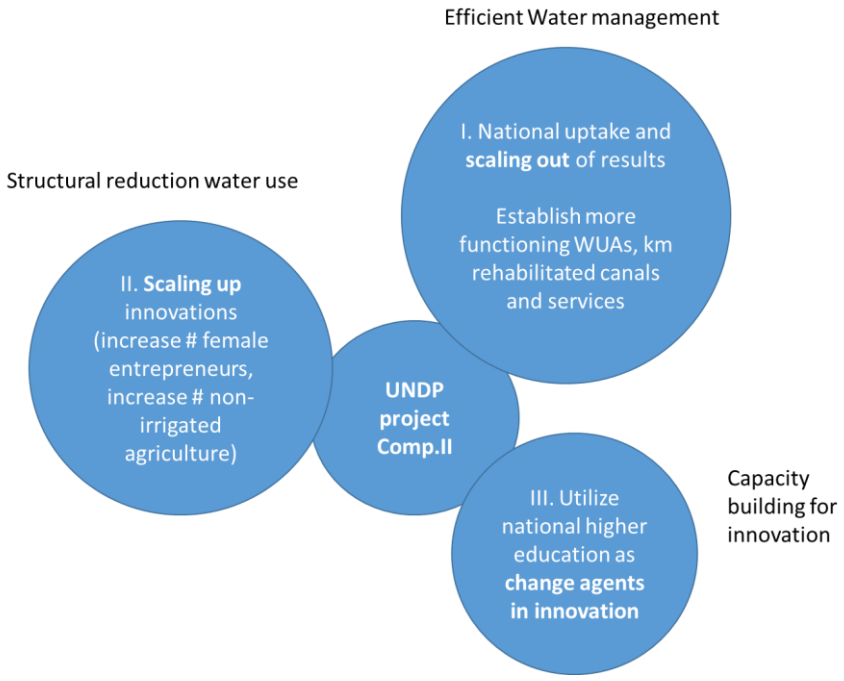
Log Frame to identify key areas of future attention

Result area	**Summary of Key progress**	**Areas for future attention**	**Proposed corrective / additional measures**
Activity Result 1. Enhanced capacities of national entities in charge of training provision	Extensive and comprehensive assessment of modules elaborated. Needs and capacity assessment of institutions responsible for training provision SRIIWP and TIIAME are under development	Effort to develop State research institutes as enablers to support innovation processes within Result area 2	Utilize national higher education institutes as change agents in innovation
Activity Result 2. Strengthened organizational set-up of the water management players and improved advisory mechanisms for improved water supply services	material-technical base of Lower-Syrdarya BISA, Isfayram-Shahimardan ISA and 7 pilot WUAs are strengthened. All offices are refurbished, handover of equipment and materials realized already at 80%	Formation of Extension Centers via BISAs/ WCAs impractical MTR interviews revealed a need to put significant and systemic effort to assure the maintenance and repair of irrigation infrastructure as well to increase the agribusiness	Future efforts should seek the ways to increase local capacity for a) realizing a strategic maintenance of infrastructure b) supporting the agribusiness innovation as means of increasing water use efficiency and inclusive growth. Relate plans for the extension service to address an agribusiness innovation as well
Activity Result 3. Development and implementation of a unified model and approach of capacity building for water management players	The final Program including 5 training modules had been recently (Sept., 2018) submitted to the MoWR for review and comments. Final discussion of the modules and draft Capacity Building program held at the workshop on 23-24 July 2018	Continuation of the activities	None

	Training the trainers in progress (50/200)		
Activity Result 4. Enhanced links and networking with EU institutions and practitioners	Two students (male and women) are selected and started their Double degree MS Program in Wageningen University.	Continuation of the activities.	Study tours and exchanges should address additional aspects in agri-business innovation and maintenance of infrastructure
Activity Result 5. Piloting community development plans with water management as a cross cutting issue	During 2017-2018 (till august) 12 training workshops have been conducted. 243 representatives of communities and local authorities took part. Final version of the Community development Guidelines is being prepared.	Continuation of the activities.	none

The comprehensive nature of the Component II project makes it difficult to specify a single point of attention. Instead, **three distinct domains** can be identified, where the project clearly can make impact beyond the project lifetime.

All three domains are nevertheless intrinsically linked, but they require individual pathways, different activities and specific resources. Therefore they will be elaborated individually.



7.1.1 Track I. National uptake and scaling out[8] of results

Challenges

The MTR revealed a great demand by the official responsible persons – from WCA up to the Ministry level – to establish truly functional WCAs, to repair more canals and irrigation infrastructure and to provide better service to all users.

Such scaling-out of efforts is clearly a key element in maintaining the water infrastructure of Uzbekistan. In this view, maintenance should be considered in the widest sense and should address

- Hardware (Building, Hydraulic structures, transport, machinery)
- Software (Knowhow, networking)
- Orgware (Maintenance protocols, bookkeeping)

At the same time, maintenance of water infrastructure and services must occur in different time horizons and should include

- Preventive exchange of parts with lifetime expiry
- Repair of smallest damages immediately
- Repair of accidental damages at occurrence
- Back up strategies

The key challenge is clearly to adapt the perception of all stakeholders involved and to realize a full awareness for ongoing maintenance and repair. Water infrastructures, water management and protecting water resources are of vital essence in Uzbekistan. This dependency becomes in particular visible in the extreme water scarce rural areas (such as in Karakalpakstan). Countries that depend so excessively on water resources and infrastructure must naturally do their upmost effort to prevent any damage, now and in future, and to increase the adaptive capacity. There is clearly a need for a "zero failure strategy".

There are powerful examples since from history how nations paid attention to the persistence and performance of critical water infrastructure. This includes e.g. the water supplying aqueducts in roman time, the efforts from the Netherlands to cope with flooding and storm tides, or the effort in Germany to guarantee reliable water supply and sanitation to the industrial Ruhr area for over 100 years. All examples have a strong zero failure strategy in common, avoiding the interruption of service provisions by all means. The strategies include maximizing the robustness of buildings and construction works, the monitoring of its service, and the timely replacement of vulnerable parts. The examples also represent systems that had been or still are subject to a permanent change, innovation and adaptation.

For increasing water security in Uzbekistan the maintenance of infrastructure and the protection of water resources should shift from just being merely a technical issue towards becoming a top societal priority at all levels – at ministry level – administration level – and in the perception of all citizens.

Without doubt, maintenance requires financial resources. However, it is not just the lack of finances at state level that hampers a proper maintenance of infrastructure. Financial savings from reducing the energy costs for pumping Amu Darya Water up to higher elevations could be utilized. International donor consortia are periodically investing in big rehabilitation projects, where a small proportion can be made available to finance the maintenance and repairs. Uzbekistan's transition to become a middle income country offers increasing financial opportunities to invest into the maintenance of

[8] Scale up: action of increasing the size or improving the quality of something (vertical scaling , Scale out: transfer to increased number of applications (horizontal scaling)

infrastructure. And above all, the timely replacement of critical parts, usually prevents bigger expenses at time of the unexpected collapse of a hydraulic infrastructure.

It is hence not the absolute absence of financial resources that matters, but the willingness to elaborate ways for accessing financial resources accordingly.

Instead, the MTR instead revealed at all interviews a lack of strategic visioning or at least a lack to communicate plans for increasing the operational capacity in future. All interviewees reflected the project in a backward looking perspective, not in sharing proudly plans how to extend the activities. It might relate to a large extend to the decadal experiences of operating in a state driven system, where reporting was key and individual planning difficult.

The MTR also underlined the dilemma of refinancing large investments, such as building costs for the WCA office, procurement of expensive machinery, and the rehabilitation of weirs and distribution gates, exceeds the possibilities to finance such from eventually collected water user fees. New strategies and financial instruments that realize initial investment costs, as long future depreciation costs could be shared amongst the users as part of the water user fees.

Recommendations for additional actions (objective, realistic, practical, forward, looking)

The Component II UNDP project offers a unique occasion to build also capacity on the strategic maintenance.

Where ever possible, the project should bundle resources and to run specific activities to increase the mental, financial, and operational capacity of maintenance and strategic planning.

In this context the project could explore ways to establish a piloting funds (e.g. a **water innovation funds)**, that increases the capacity for maintenance and strategic planning in three dimensions.

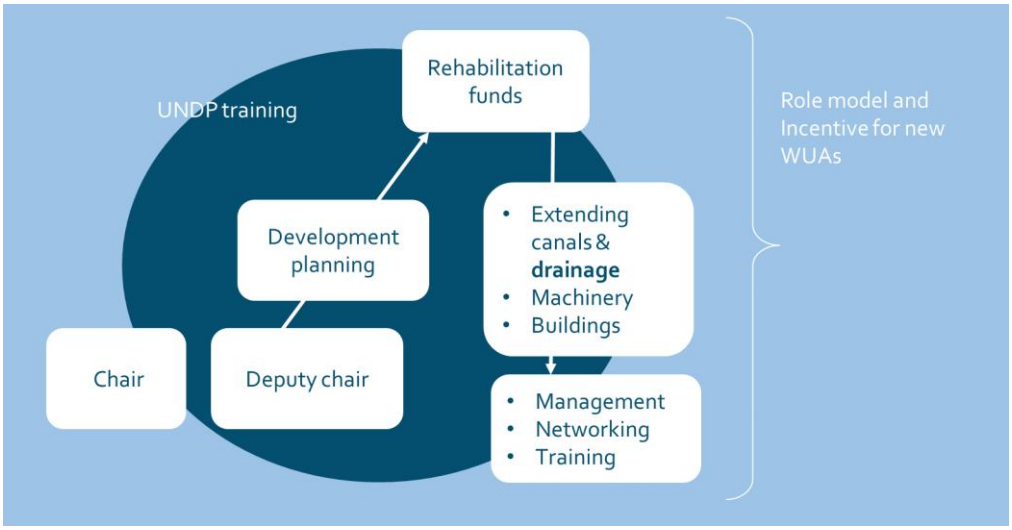
1. The funds would give Water Consumer Associations and other players a specific perspective that it is worth to engage and that financial means for maintenance activities could be obtained in principle.

2. The funds would provide to applicants a clear incentive to develop a maintenance strategy, to estimate required financial and personal resources, and to shift gradually from a re-active towards a pro-active mode

3. The application process could be subject to specific training for applicants, supporting their personal capability to develop the strategic maintenance planning. At the same time, evaluating the training, will reveal valuable lessons learned and to derive conclusion for a more structural establishment of such financial instruments in Uzbekistan. For the latter the project might benefit from the temporary contracting of additional expertise.

The MTR also revealed a need to increase personal capacities e.g. at WCA level and to offer opportunities for young professionals in order to support e.g. WCA chairs in the strategic planning and fund raising. Such renewal may lead to conflicting existing power structures, interfering with habitual ways of handling the day to day business, and to create additional overhead costs. Therefor such a process should be carefully elaborated. Here, the project offers excellent means to investigate deeper stakes and personal interests, to identify obstacles, and to identify opportunities for a smooth renewal.

Enabling households, farmers, WCA staff, ISA and BISA experts to establish own personal networks is instrumental to increment learning by exchanging success stories, insights on innovation barriers and coping strategies. To date, the exchange between key actors from the 6 demonstration sites is limited (due to the wide distances). The project could however furthermore strengthen the exchange amongst the acting change agents and innovators.



Specifically it is recommended that the project will select a front running case study region and to initiate a special piloting capacity building program that includes the following components:

- Initiate a kick-off round table with the MWR to share ownership from the earliest beginning
- Participative mapping of perceptions on maintenance (interviews, video documentation), inviting the interviewees to report also on best practices perceived
- Initiate round table workshops with international experts with expertise to refinance the maintenance of infrastructure (e.g. from the bank supporting the Dutch water boards https://www.nwbbank.com/home-enm or similar institutions)
- Establish multi-donor dialogues to explore ways to set up possible revolving funds
- Elaboration of adequate legal and regulatory settings to allow the acquisition of finances from the republic of Uzbekistan and abroad, while providing the necessary accountability
- Design eligibility and scoring criteria for the application process that reflects in particular the maturity in the strategic planning and past performance in maintenance
- Provide training and capacity to key stakeholders in strategic planning and application process
- Support proactively the networking of all change agents involved, creating a landscape of experiences and the exchange of successful examples
- Monitor and evaluate the capacity building process and to derive conclusions for the structural establishment of such a "water innovation funds"

During the visit of the BISA offices the demand for a continuous monitoring of water resources had been regularly emphasized. Systems as provided by the Dutch Company Royal Eijkelkamp provide professional and practical solutions that are also already applied in Uzbekistan (see Annex and http://grondwater.webscada.nl/uzbekistan/).

However, it is important to note that the vulnerability of any automatic monitoring system is the regularly maintenance. The maintenance need to cover technical control and repairs, regular data plausibility checks as well a regular revision and maintenance of the data stock provided. There is

also a need to increase the number of technical staff that is able to work with and to maintain such systems. The setting up of a water innovation funds, could also generate perspectives to find strategies for extending the network of automatic monitoring in Uzbekistan.

It is recommended that the project will contract an international consultant who will be supporting the project in bringing best practices in creation of development/maintenance fund for WCA and to assist the project in providing advice for the MoWR in formulating its Development Strategy/Concept.

7.1.2 Track II. Scaling up innovations

Challenges

Effective water saving cannot be restricted to the improvement of crop water use efficiency and the reduction or conveyance losses alone.

Future questions will comprise issues such as becoming increasingly independent from canal waters and to reduce the massive pumping with its related unsustainable demands for electricity and financial resources. Other subjects will be a stronger intertwining of IWRM and regional planning for economic development.

Such transitions require a fundamental diversification of the current agricultural water use, the initiation of new value chains and to introduce new players. In other words, the increase of water productivity should not be restricted to extend the number of applications at existing crop productions (horizontal scaling out), but in particular to identify completely new and less water consumptive production chains (scaling up).

The component II project already created at the level of household a very important nucleus for diversifying the agricultural water use. All household irrigation sites that had been visited during the midterm review revealed a strong entrepreneurial drive (though skills and capacities differed). Strengthening the commercialization of household irrigation requires the involvement of retailers and investors for building up agri-food processing capacities.

There is an increasing political climate to diversify the agri-food sector in Uzbekistan. Bringing leading players from the agri-food sector together and to develop jointly new business cases is a proven pathway to identify new and less water consumptive productions, using closed greenhouse systems, cradle to cradle solutions or to explore untapped solutions from the wider bio-economy.

The key success factors for such vertical – scaling up of water innovation are

1. A process that brings innovative parties together and maintains a continuous innovation
2. A location and a facility to demonstrate actually the value and economic viability of innovative water saving business cases

Cooperation with innovative companies must not be restricted to national level, but also should identify markets outside Uzbekistan. Local processing facilities are key to add value to the products. These should not be restricted to the traditional packing and cooling, but can improve e.g. nutrition qualities, create new food and beverage products, reduce weight and volumes to reduce transport costs, and extend the shelf-life of products.

Worldwide, there are examples for new forms of public private partnerships and cooperative models (such as e.g. the section 21 companies in South Africa) that involves not only farmers, but companies and value chain partners as cooperative members as well or innovative business stimulating NGO's.

Such a setup can form actual innovation platforms or innovation hubs and facilitate the co-innovation amongst different key actors in the value chain. Especially in the early phase, non-profit models are effective to re-invest profits directly in the further innovation of the agro-food production chain, into processing facilities, and to intensify the networking and capacity building.

Transitions from "farming as usual" into modern agri-business is also key to offer highly attractive employment opportunities of young female and male entrepreneurs, and for effectively building up networks between agro-business, the financial sector and water administrations.

Additional value that is created will be crucial to re-finance the services of WCA's as well.

Extension services must go beyond the solely exchange of technical information in agricultural water management.

Innovating the agricultural production must also help farmers to understand farming as a business, support farmers to explore new niche markets and allow them to innovate production and marketing by their own.

Modern extension services will also facilitate the collaboration of farmers and the co-creation of innovation in a collective way.

The challenge is to develop specific constructions, which fits into the enabling environment of the political economy in Uzbekistan.

Recommendations for additional actions (objective, realistic, practical, forward, looking)

Uzbekistan should exploit it's rich natural and human capital in a more water smart way.

It is recommended that the project will not restrict its capacity building only on the existing production chains (household vegetables/ fruits) and irrigated farms. The project should utilize its momentum and reputation to identify future opportunities for scaling up innovation and to establish new forms of co-innovation in the agri-food sector that reduce significantly the absolute water consumption and increase the economic return.

The Component II project should engage in a discussion to strengthen **innovation hubs**, that

- improves market conditions for the household irrigation pilots (and to stimulate more household to engage in the local production)
- attract new actors and partners in the value chain innovation
- facilitate a permanent re-investment into agribusiness innovation and capacity building
- support the extension process.

Steps to elaborate such an outlook should comprise

1. a multi stakeholder inventory of key actors within and outside Uzbekistan
2. mapping success stories and underlying key principles
3. identify financial resources that could be utilized
4. organise a round table workshop with related key stakeholders in the political-economy.
5. Summarizing the findings in a roadmap document, that is endorsed by relevant stakeholders.

In this context the project should benefit from contracting additional expertise outside Uzbekistan to support the design of the roadmap process and where necessary in its elaboration.

Results of the outlook process can form the basis for shaping follow up activities in the context of the EU cooperation, within the implementation of the UNDAF and/or also on a completely independent private sector financed basis.

Related to the future strengthening of extension services, i is proposed that the project will take the suggestions from NBT into account and focus its activities on the elaboration of a realistic strategy to innovate the extension service with considering the aspects as stated above. The joint development of innovation hubs could be a valuable source of experience to integrate activities between game changing actors from the agri-business sector, the state research institutes, the council of

farmers in close interaction and coordination between the Ministry of Water and the Ministry of Agriculture.

The innovation of the Extension service should also address the following aspects:

- helping farmers to develop pro-active mind sets to understand effective & professional farming as a business opportunity and that it is especially the farmer who have to lead the information gathering, developing own innovation strategies, and to realize innovation by its own.

- help that groups of farmers can co-create, striving collectively for a better position in the market, or successfully branding regional products

- organise that famers can get access to multiple sources of the required information that will inspire and help farmers to create new business ideas

- ensure that extension service is decentral available and easy to be accessed by farmers

- provide services where farmers actually see the value for money of the given service

7.1.3 Track III. Utilize higher education institutes

Challenges

Both the scaling out of project results (improved maintenance and service provision in water supply) as well as the scaling up (new less water consumptive agri-food business) require the involvement of creative, flexible young local professionals that inherent the dimensions of innovation processes. Education of such future change agents to advance the sustainable development and inclusive growth in Uzbekistan should not be restricted to the teaching of classical curricula in economy, agronomy, and water resources management. Capacities to "think out of the box", to communicate and to establish effective multi-stakeholder networks are critically needed.

Higher education institutes, such as TIIAME provide already a critical mass and a learning environment. There are also opportunities for stock taking the experiences gained in establishing the double degree processes, e.g. with Wageningen University, the NL and other partner universities worldwide.

Ways should be exploited to increase the reputation of research institutions in Uzbekistan to attract international students and experts as well. However a difficulty to reach that aim is related to the growing international competition of higher education centres. First class multi-lingual learning environment, financial resources to maintain research, and favourable logistic conditions, are a prerequisite, but not a grant for success.

The key challenge is to define unique selling points, and to support the international research and education, with true experience from practice.

A stronger interaction of higher education institutes in Uzbekistan with actual working innovation hubs, facilitating both first-hand insights as well as career perspectives for the young professionals provide a potential unique selling point that could be further explored.

Recommendations for future actions (objective, realistic, practical, forward, looking)

Understanding the strategical value of local innovation hubs or nucleus innovation centres (see Track II) in advancing higher education in Uzbekistan should make the establishment of such a centre the logical first step.

In addition, the formation of local innovation hubs could provide the required unique selling point and attraction to stimulate international cooperation in research and education at an early stage as well.

In case that the project will consider efforts to establish a roadmap for developing innovation hubs in Uzbekistan, it is recommended to initiate a dialogue with higher education institutes around the world to inventory best practices and lessons learned from intertwining higher education with actual water smart agro-business innovation on the ground.

7.2 Extension

In order to address and to prepare an inclusion of the points as mentioned under 6.2, the project should be extended by 1 year. This additional calendar time would be essential make up delays that had been externally caused in the beginning of the project by the organisational reforms within MoWR as well as by the difficulties to get the review of capacity building modules assessed by UNESCO. The time should be also used to continue the required multi-stakeholder dialogues, especially when in it comes to the co-development of strategies to secure the long term maintenance of infrastructure.

7.3 Suggest new project activities after the lifetime of the project

The Component II UNDP project can mark a true turning point for the capability of Uzbekistan to shift from a water wasting economy towards a water smart rural development.

Prerequisite for such a transition is to develop solutions out of the "water box", in other words to widen the solution space broader than just thinking within the vector – River – BISA – ISA – WCA – farm.

The Component II impressively underlined the possible momentum that can be unleashed if (i) activities are strongly endorsed in the actual political economy (from Ministry to household level), (ii) operational capacity is provided and (ii) stakeholders are satisfied with the service that is provided.

Stronger capacity to maintain infrastructures in all aspects (hardware, software, orgware), a parallel development towards strategic planning (including maintenance, contingency plans, future increase of service provision), and to make the provision of financial resources operational is an intrinsic necessity for a sustainable water resources management. Therefore the project should seek for any possibility to follow up the invitation of the MWR for sharing ideas in this regard.

Future post-project activities should concentrate on the transition from traditional irrigated agriculture towards the establishment of innovative agribusiness chains that both reduce the total water consumption as well as to stimulate an inclusive green growth at the same time.

Establishing related agribusiness innovation hubs would not only stimulate transitions within Uzbekistan, but also provide a mechanism to intensify the relations with neighbouring countries in Central Asia by exchange lessons learned and by extending markets and trade opportunities for innovative products and services.

A national uptake of such initiatives would already earmark a shift from reactive donor driven management towards a water smart proactive development and will provide ample opportunities to

promote the project successes accordingly. This in turn will be naturally attractive to all donor organisation that are interested in supporting a transition towards a truly sustainable development.

8 Literature

Anarbekov, O.; Gaipnazarov, N.; Akramov, I.; Djumaboev, K.; Gafurov, Z.; Solieva, U.; Khodjaev, S.; Eltazarov, S.; Tashmatova, M. 2018. Overview of existing river basins in Uzbekistan and the selection of pilot basins. [Project Report of the Sustainable Management of Water Resources in Rural Areas in Uzbekistan. Component 1: National policy framework for water governance and integrated water resources management and supply part]. Colombo, Sri Lanka: International Water Management Institute (IWMI). 89p. doi. 10.5337/2018.203

Annex

Project: "Establishment of an information-analytical system of monitoring of groundwaters of the Urgench City at area of 100 sq. kms"

Client: State Design Research Institute of engineering surveying in construction, geoinformation and urban planning cadastre «O'ZGASHKLITI» DUK, Tashkent

Implemented: July 2018

Project scope: Installation of 67 dataloggers for groundwater monitoring incl. telemetric datatransfer to a controlroom in Urgench. Modelling software for groundwater predictions.

Background: High groundwater level and high saline content of groundwater is causing problems in both urban and agricultural areas in Uzbekistan. Recently (2013 onwards) groundwater has been rising with increasing speed. To combat this problem the government seeks to create a system that provides insight in the groundwater system so effective drainage can take place. A prototype of this system will be developed in the City of Urgench. When successful it will be replicated in 20 other cities and also in the agricultural areas. Eijkelkamp recommends next to monitoring groundwater under the current project to monitor rivers, open drainages systems, drainage pumps, underground drainage to collect data about the whole water system. These data can be collected in the same control center in Urgench and used to control drainage pumps. By modelling the groundwater, behavior predictions of high groundwater can help anticipate problems and allow the government to prevent flooding.

Overview: