



FOOD AND AGRICULTURE ORGANIZATION OF
THE UNITED NATIONS



Capacity Building
for Sustainable Management
of Mountain Watersheds
in Central Asia and Caucasus

Turkey, Azerbaijan, Kyrgyzstan, Tajikistan, Uzbekistan

Capacity Building for Sustainable Management of Mountain Watersheds

In Central Asia and the Caucasus

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Final Report

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1. Purpose and Framework of this report

Ismail Belen worked as the “TCDC Consultant of Awareness Creation and Training” of the Project starting from 17th of March to December 2014.

According to the project text the TCDC Consultant for Awareness Creation and Training is expected carry out the following tasks:

- Assist the *review of the institutional setup and mechanisms* related to watershed management, in particular *public awareness and training development needs* in the project countries;
- *Establish contacts* for raising interest and commitment *among the high level decision makers* to support testing and expansion of the holistic (integrated) participatory (collaborative) watershed management approach, integrating rehabilitation and livelihood works in the project countries.
- Provide suggestions and take initiatives for establishment useful and sustainable *communication networks* among the key watershed agencies of the project countries;
- *Participate in the trainings in Turkey* and provide practical training to concerned participants on awareness creation and interest raising for participatory integrated watershed projects;
- *Assist preparation/elaboration of awareness creation materials* (CDs, brochures etc.) and programmes/campaigns in the project countries;
- *Work closely with the other TCDC experts* and national consultants for the planning and contacting of the participatory integrated watershed management trainings;
- Conduct other tasks as required that are within sphere of competence;
- *Prepare and submit a report on “The role of training and awareness creation for development of watershed rehabilitation and management: Turkish experiences and recommendations for the Central Asian countries”*.
- *Prepare and submit a final report* including main comments and recommendations.

2. Activities

- The inception report including work plan and methods of study submitted to FAOSEC Forestry Officer at the date of **26th of March, 2014. (Annex I-Inception Report).**
- The reporting consultant (RC) attended to “International Workshop on Nursery, Seed and Afforestation Techniques in Arid Zones” in **Eskişehir, Turkey, 7-12 April 2014. (Annex II-Eskişehir)**
- During this period; the RC travelled to **Kyrgyzstan** between 14-22 May, 2014, in order to attend the “Training Workshop on Participatory Integrated Watershed Rehabilitation Planning” and to provide the necessary information and support to Draft Micro Catchment Plan “Cholok Kayndil MC, Kyrgyzstan). After this mission a report prepared and submitted to FAOSEC at the date of **8 June 2014. (Annex III-Kyrgyzstan)**
- The RC visited to Azerbaijan from 21 to 25 July 2014 and submitted the mission report at 2 August 2014 **(Anex IV-Azerbaijan)**
- **The report on** “The role of training and awareness creation for development of watershed rehabilitation and management: Turkish experiences and recommendations for the Central Asian countries” prepared by the RC and attached as **Annex V**

3. Watershed Based Organisations and Public Awareness

3.1. Turkey

Watershed management policies and activities are centrally planned in Turkey. National public institutions/agencies are in charge of planning, development, management, maintenance and monitoring and evaluations of programs related to land use and water resources. Local governments are typically involved during the implementation phase and non-governmental organizations are also indirectly involved in many activities¹.

When we examine the main watershed-based organizations in Turkey, as November 2014, the three Ministries appears to come first. They are The Ministry of Forests and Water Affairs, The

¹ http://www.cem.gov.tr/erozyon/Files/moduller/havza/UHYS/Sector_Note.pdf

Ministry of Food, Agriculture and Livestock, the Ministry of Environment and Urbanization. Together with these Ministries, Ministry of Development plays an important role with its agencies.

The Ministries and their relevant agencies with watershed management could be listed like below;

1. Ministry of Forests and Water Affairs

- a. General Directorate of Combating Desertification and Erosion
- b. General Directorate of Forestry
- c. General Directorate of Nature Protection and National Parks
- d. General Directorate of Water Management
- e. General Directorate of State Hydraulics Works

2. Ministry of Food Agriculture and Livestock

- a. General Directorate of Agricultural Reform
- b. General Directorate of Agricultural Research and Policy

3. Ministry of Environment and Urbanization

- a) General Directorate of Naturel Heritage Protection
- b) General Directorate of Spatial Planning
- c) General Directorate of Environmental Impact Assessment, Permit and Inspection
- d) General Directorate of Environmental Management

4. Ministry of Development

- a) Southeastern Anatolia Project Regional Development Administration
- b) Eastern Anatolia Project Regional Development Administration
- c) Eastern Black Sea Project Regional Development Administration
- d) Konya Plains Project Regional Development Administration
- e) Development Agencies

5. Prime Ministry

- a) The Presidency of Disaster and Emergency Management- AFAD

Other Stakeholders;

- a) Civil society organizations
- b) Unions, Chambers
- c) Cooperatives
- d) Watershed Associations
- e) Rural communities living in the watersheds
- f) Urban communities
- g) Science and educational institutions (TUBITAK-
THE SCIENTIFIC AND TECHNOLOGICAL RESEARCH COUNCIL OF TURKEY, Universities,
Research Institutes etc.
- h) Private sector

3.2. Azerbaijan

In Azerbaijan there are several institutions, Ministries involving for watershed management.

They can be listed like below:

- **Ministry of Ecology and Natural Resources**
 - Division of Ecology and Nature Protection
 - Division of Environmental
 - Department of Investment Innovation and Environmental Projects
 - Department of Protection of Biodiversity and Development of Especially Protected Natural Reserves
 - Scientific Center of Complex Hydrometeorology and Environmental Research
 - Department of Environmental Protection
 - Department of Forest Development
 - Department of Reproduction and Protection of Bioresources at Reservoirs
 - Department of National Hydrometeorology
 - State Information Archive Foundation on Environment and Natural Resources
 - Azerbaijan Greenery and Landscape System Public Corporation
- **Ministry of Agriculture**
- **Ministry of Energy**

- **Ministry of Emergency Situations.** This Ministry is a central executive body responsible for **protection of the population from natural** (geophysical, geological, meteorological, hydrological, maritime hydrological contingencies, natural fires, etc.) and man-made disasters, fire security **including forest fires, safety of people in water basins.**
- **Azerbaijan Amelioration and Water Farm Joint Stock Company (OJSC).**
 - OJSC is one of the main institutes responsible for watering and sanitization. The President of this organization is being appointed by the President of Azerbaijan. The official web page is <http://www.mst.gov.az>
 - The main unit based on Baku and it has regional/sub regional offices throughout the country.

3.3. Kyrgyzstan

Like in the other project countries, several institutions and initiatives involved watershed management in Kyrgyzstan. They could be listed like below;

- a) State Agency On Environment Protection And Forestry Under The Government Of The Kyrgyz Republic- <Http://Www.Nature.Kg>
 - a. Forest Ecosystems and Protected Areas Department
 - b. Forestry Management Department
 - c. Forestry and Hunting Department
 - d. International Relations Department
- b) Ministry of Agriculture and Melioration of the Kyrgyz Republic.
- c) Ministry of Emergency Situation
- d) National Academy of Sciences, Biology and Soil Institute

Rangelands are very important for watershed and daily life of the people. In Kyrgyzstan rangelands are under the responsibility of Ministry of Agriculture and Melioration.

Development Agencies like Turkish Cooperation and Coordination Agency (TIKA²), GIZ³, USAID, Swiss Aid and others are actively involved watershed related projects. Some other initiatives like the **National Policy Dialogue on Integrated Water Resources Management** which is an

² www.tika.gov.tr

³ <https://www.giz.de/en/worldwide/356.html>

ongoing initiative of the Ministry Of Agriculture And Melioration Of The Kyrgyz Republic (Department Of Water Management And Melioration) and European Union Water Initiative National Policy Dialogue Component for Eastern Europe, Caucasus and Central Asia, also play a crucial role.

According to the management structure of Kyrgyz Republic, State Agencies like the State Agency on Environment Protection and Forestry has the same statute with the Ministries. The President of this Agency has been appointed by the President and participates to Ministerial Meetings.

National Centre of Mountain Regional Development of Kyrgyz Republic⁴ could be a good example for other official initiatives. Several Civil Society Organizations also have important role on watershed management in Kyrgyzstan. CAMP Alatau www.camp.kg could be considered one of them. It is a non-profit and non-governmental organization founded in 2005 and a successor organization of the Central Asian Mountain Partnership (CAMP), a programme financed by the Swiss Agency for Development and Cooperation. Jointly with its partner organizations in Kazakhstan and Tajikistan, CAMP Alatau forms part of the CAMP Network, and its overall goal is to contribute to the improvement of people's livelihoods in the mountain villages of Kyrgyzstan by encouraging a more sustainable use of natural resources.

3.4. Uzbekistan

In Uzbekistan; The Ministry of Agriculture and Water Resources is the leading and responsible ministry for Watershed Management. Systematic management of forests in Uzbekistan dates back to **1897** when the first legislation related to forestry in Turkestan, the "Regulations on Forest Protection" was promulgated. This legislation framed the basic regulations for forest management and established a forest land-use register. Later, following the First Turkestan Congress of Foresters held in 1899, the "Law on Nationalization of Lands and Forests" was adopted in 1918. In compliance with this law, all forests in the Turkestan Republic became part of the State Forest Fund (SFF).

⁴ <http://www.mountainpartnership.org/members/members-detail/en/c/43372/>

All forestland is the property of the State. **The Main Department of Forestry and Nature Protection**, which was originally established in 1945, went through a number of reorganizations and was transformed into the Main Forestry Department (MFD) in 2000 and was placed under **the Ministry of Agriculture and Water Resources**. The MFD is the principal government agency having the direct responsibility for administering the State Forest Fund (SFF). It consists of six divisions and manages 97 local departments and forestry enterprises

The State Committee for Nature Protection (SCNP) is responsible for coordinating nature protection activities, including implementing government policy on protection of the natural environment and use and restoration of natural resources. Within the SCNP, the **State Biological Control Service (SBCS)** is responsible for regulating the conservation of flora and fauna and for the sound management of protected areas. **The law on “Water and water use” was adopted in 1993 and 1996 respectively.**

The Department of Hunting, Reserves and National Parks (DHRNP) is directly responsible for the management of national parks, nature reserves and natural monument. In 2005, the Republican Scientific Production Center on Decorative Horticulture and Forestry (RSPCDHF) was established under the MFD on the basis of the former Uzbek Research Institute of Forestry.

3.5. Tajikistan

The following governmental institutions involved to the watershed works in Tajikistan:

- a) Environmental Committee Under Government Of Tajikistan
- b) Agency On Forestry Under Government Of Tajikistan
- c) Ministry Of Agriculture
- d) Ministry Of Energy And Water Resources
- e) Agriculture Academy Of Science Of RT
- f) Agency for Melioration and Irrigation under the Government of the Republic Of Tajikistan.

Turkish Cooperation and Coordination Agency (TIKA), German Technical Cooperation Agency (GIZ), Swiss Development Agency, JICA, KOICA, USAID are among the international development agencies working in Tajikistan. FAO, IFAD, the World Bank, the GEF are among the

United Nations institutions working actively. European Union supports some projects and plays a vital role in some initiatives.

The following non-governmental institutions are also involved to the watershed works in Tajikistan: Aga Khan Foundation⁵ and The Aga Khan Development Network (AKDN) , Caritas International-CARITAS⁶,

- German Agro Action⁷-GAA

Many local NGOs are receiving fund from the donors and international organization for watershed related issues, mostly from the GEF Small Grant Fund (UNDP), Christian Fund, EU and WB. Unfortunately the reports and information on the implemented projects are not available.

Sufficient resources related to **“The Role of Training and Awareness Creation for Development of Watershed Rehabilitation and Management”** which is the objective of preparing this report could not be reached. Basically it has been tried to benefit from the field trip experiences done in the two project countries (Azerbaijan and Kyrgyzstan), and for the other countries from the web pages and from the national consultants reports. **The inadequate English web pages of project countries come out as a significant deficiency.**

Uzbekistan, Tajikistan and Kyrgyzstan shared the same watershed and the international cooperation for constituting the training and awareness and the presence of institutions directed towards this objective are considered as very important. These issues will be mentioned in the recommendations section in particular.

It is considered as more effective the role of non governmental organizations having their activities at local, national and global level in developing education and awareness, then public institutions. Supporting these NGO’s by the government institutions and international donors, and on the **other hand to constitute a network between them selves** will serve for obtaining effective results.

⁵ <http://www.akdn.org/tajikistan>

⁶ <http://www.caritas.org/>

⁷ <http://www.globalhand.org/en/organisations/24915>

On the other hand the awareness of the local population, which are the most important partners on the watershed management, in the sustainable use and management, include them in a training during their work regarding the incorrect applications and the things that could be done, showing them on site the examples in other places and in other countries will be extremely useful.

The field visit of Telman Villagers to Turkey organized in the scope of the project considered very important and they are expected to be different in any case for their subsequent applications.

4. Public awareness and training development needs

As it was seen at the Turkish National Basin (Watershed) Management Plan; several ministries and institutions as well as other stakeholders involved to watershed management. Because of this complexity and involvement of several stakeholders and not clear ownership, understanding the topic as a whole, describing, creation of public awareness, determining the educational needs seems to be very difficult. It is obvious that working and describing the task in the area which the boundaries and ownerships are clear. But working at the watersheds areas are considered as a difficult task indeed.

There are different interests and priorities for the people who are living at the beginning and end of watersheds. This is the case for the institutes. Sometimes conflicts could be observed even for the organisations not only for the people as well as for the countries especially cross bounding watersheds.

In order to find the best way for creating public awareness and determining educational needs many interviews were conducted with project consultants and partners and were attended trainings.

In this regard, the reporting officer attended to “International Workshop on Nursery, Seed and Afforestation Techniques in Arid Zones” in Eskişehir and travelled to Kyrgyzstan, 14-22 May,

2014, in order to attend the “Training Workshop on Participatory Integrated Watershed Rehabilitation Planning”. The RO also visit to Azerbaijan.

It is clear that watershed management issues need to be addressed at both national and international level in cooperation with relevant institutions and stakeholders. In this context, especially for Kyrgyzstan and Tajikistan which are the large portion of the countries are mountainous area, the activities carried out by German Technical Cooperation (GIZ), the Swiss Development Agency, TIKA, FAO and other organizations were seen very beneficial for training. International Year of Mountains, Mountains Partnership initiative considered to be an important contribution to understanding of the issue. These gains should be used more effectively and improved.

International conventions, meetings, conferences, reports, guidelines, arrangements and partnerships are very important for public awareness and training. So the Projects Countries should use the advantage of international institutes like FAO, UNECE, Mountains Partnerships and some meetings like COFO.

As it was known very well currently the international arena has been working on “Sustainable Development Goals for the Post 2015 Development Agenda”. During the COFO 22nd Session held in Rome, **23-27 June 2014**, the RC made a statement on behalf of Turkish Delegation to COFO and **stressed the importance of Mountains on eradication poverty and other relevant issues like water, biodiversity and proposed that the mountains should have priorities.**

All the projects countries have been affected by drought, land degradation, desertification. It also seems there is a huge capacity to rehabilitate some areas in these countries. So project countries may wish to consider being a member of “FAO Forest and Landscape Restoration Mechanism⁸”

The Conference of the Parties of the United Nations Convention of Desertification to be held in Turkey in 2015 could be a wonderful opportunity to increase public awareness on watershed

⁸ <http://www.fao.org/3/a-mk173e.pdf>

management. The project countries also may wish to consider using this opportunity.

5. The importance of Awareness and Training related to Watershed

This chapter focuses on the importance of education and awareness creation activities on the watershed rehabilitation and management, it has been discussed on if this is a need or not and the target audiences, their needs and expected outputs are examined. In this context the subject were examined with sections as; decision-makers, people living in mountainous watersheds, public institutions involved in watershed activities, non governmental organizations and general public.

As it was correctly stated in the project text, **it is a need to increase the awareness of the public, the politicians and the decision-makers** in the Project Countries on the “watersheds rehabilitation and management” issue.

The most important output expected from this project beside the other outputs; it is how to ensure the attention of the politicians and the decision-makers and what can be done about that issue. For that, it is expected to benefit from Turkey’s experiences.

Politicians and decision-makers are a part of the public. The interest of people in general on a subject also affects the politicians and the decision-makers. Public is interested in all over the world on what they see, hear and feel. **The extreme conditions further increase the public interest.**

Under normal conditions forests doesn’t come to order but during a fire it takes place in the news and headlines. When there is a disaster, a torrent and floods, when the water is cut-off or a long-term drought, people are interested in “water” management. The forest fires are increasing the budget allocated to the forest administration, and the wars increase the budget allocated to the defense industry.

But the “politicians and decision-makers”, who are attendant of planning the future of countries, must think differently from general public, do plans covering long periods, see the

background of facts and not only the face of these and the reasons and solutions. And they are also expected to orientate correctly the general public in the correct manner.

The laws and secondary regulations are the most important factors in “decision-makers” decision making. The Turkey’s Grand National Assembly makes the resource allocation in accordance with the preferences and decisions of the institutions, the applications are also conducted in this framework.

When we look from the project framework what are expected from the **informed and educated decision-makers** can be summarized as **“regulating legislations, realizing the institutional structure and the allocation of the necessary budget”**

From this point of evaluation we can say that *looking the Turkey example, decision makers have the sufficient conscious*, that the required necessary legislative base has been established and the necessary institutions are built. **However the failure to provide the “required coordination between institutions” is considered as the major deficiency.**

“Watershed” related matters taking place in the Turkish legislation are examined in detail. As the legislative base is extremely important for “awareness creation” a detailed place was given to the legislation.

More detailed could be found at ***the report on “The role of training and awareness creation for development of watershed rehabilitation and management: Turkish experiences and recommendations for the Central Asian countries”***

6. Recommendation to Other Countries in light of Experiences Obtained

In this section experiences obtained are evaluated and recommendations have been made concerning the feasibilities in national and also in international level, and the international cooperation possibilities are examined under a separate heading.

6.1. International Cooperation Directed Recommendations

As it was mentioned in related sections, one of the quick and easy ways of “getting awareness” is that the subject takes place in the legislation. The International agreements realized accordingly to the procedure, as it is in Turkey, is one the most important elements of the international legislation.

The Integrated Watershed Management is being considered as one of the effective possibilities for combating “desertification, land degradation and drought”, and the project countries are countries that felt seriously these problems. In this context international cooperations that will be done concerning the “integrated watershed management” is expected to contribute on the international level on “creating awareness and education”.

A detailed table related on international institutions working actively in Project Countries and processes is given below. The fact that these institutions take the “integrated watershed management” subject in their agenda will give positive results in terms of creating awareness and education.

Recently, some positive developments related to that emerged. As some examples to that;

- A cooperation agreement in “forestry” between Turkey and FAO was signed on the 4th of June 2014. In the framework of this agreement project in FAOSEC Countries, including the subject “integrated watershed management”, will be applied.
- During the 5th General Assembly held in Bakou the 13 June 2014 of the Turkish Speaking Countries Parliamentary Assembly (TÜRKPA) the “TÜRKPA Environmental and Natural Resources Committee” has been constituted. The Committee’s first meetings agenda has been defined as “Combating with Desertification in TÜRKPA Countries”.
- Under the umbrell of the ““The Conference on Interaction and Confidence-Building Measures in Asia (CICA)” all the project countries are members, “International Training Center for Combating Desertification in Asia” is going to be established by the General Directorate of Combating Desertification of Turkey in Konya very soon.

- In the scope of “The International Fund for Saving the Aral Sea (IFAS)” which is supported by the World Bank, a well-attended meeting was held on October 2014 hosted by Uzbekistan.
- Between Turkey and Kyrgystan, Azarbaijan, Uzbekistan and Turkmenistan “cooperation agreements” has been signed.

In this framework we can say that:

- Subjects such as integrated watershed management, mountainous river basin management and the improvement of living conditions of people living in mountainous regions can be also included in “Cooperation Agreements” and to “Mixed Economical Committee Meetings”.
- Existing initiatives as “The International Fund for Saving the Aral Sea (IFAS), CAMP Alatoo, Central Asian Countries Initiative for Land Management (CACILM), Central Asian Mountain Partnership (CAMP), MountainPartnership (FAO), National Policy Dialogues (NPDs) on Integrated Water Resources Management can be supported.
- Under the cooperation of international development agencies as TİKA, GIZ, USAID, SWISS AID, KOICA, JICA an initiative as the “Integrated Watershed Management Cooperation Partnership” can be initiated.
- In addition to theses development institutions; various initiatives can be lauched through non governmental organizations as The Turkish World Parliamentary Association, GONDER, ADEN, TEMA, TTBD, TEMA, CAMP Alatoo etc.
- The subject “integrated watershed management” as one of the fundamental issues of the “International Education Center for Combating Desertification in Asia” which is on the way of establishment in Turkey, can be determined within CICA
- “United Nations Convention to Combat Desertification 12th Conference of the Parties” that will be held in Ankara in 2015 and during “EUROSOIL 2016” Congress that will be held in 2016 in Istanbul, subject related to watershed can be considered in the agenda.
- In the framework of the Cooperation Council of Turkish Speaking States and Parliamentary Assembly of Turkish Speaking Countries; an initiative such as International Organizaton of Turkish Culture (TÜRKSÖY) or the European Ministry Conference for the Forest Conservation can be initiated. “Turkish World Ministry Conference for Mountainous Watershed Conservation” can be organized.

- Similarly to the “combating desertification training” organized regularly the last years by the General Directorate of Combating Desertification and Erosion, the “International Integrated Watershed Management” can be organized. The “International Watershed Management Seminary”⁹ organized by the US Forest Service for long years can be considered as a case study.
- As it was mentioned in the previous section, the “TÜRKPA Environment and Natural Resources Committee” established under the Parliamentary Assembly Of Turkish-Speaking Countries, similar committees under the regional initiatives with the name “integrated watershed management” can be established.

6.2. Recommendations towards National Operations

- It has been identified during the examination that only in Turkey the National Watershed Management Strategy was prepared. It is considered that it will be useful for the other countries to prepare their own strategy documents. Thus the legislation will be screened and the coordination will be ensured.
- As it was foreseen in the ongoing Water Law; similar boards as the **Watershed Water Management** can be generated.
- Programs indicating the “importance of integrated watershed management, mountains” can be performed by the state’s, the private sector’s or non-governmental organizations’s media organs.
- The drought and desertification issues are considered as extremely strategical issues and particularly the universities, the non-governmental organizations, think tanks institutions prepared many reports on it. Whereas drought is a result. Without watershed management, stocking and management accordingly of the water falling from mountains, it won’t be possible to overcome this shortage. Relevant public institutions can provide project support for the correct understanding of this aspect of this issue.

6.3. Conclusion

“Capacity Development Project for the Sustainable Management of Mountainous Watersheds in Central Asia and the Caucase”; is coordinated by the FAO Central Asia Sub-Regional Office in

⁹ <http://www.fs.fed.us/global/is/welcome.htm#watershed>

the framework of the financial and technical support of the General Directorate of Combating Desertification and Erosion of the Ministry of Forestry and Water Affairs of the Republic of Turkey and the Turkish Cooperation and Coordination Agency.

The report named: “The Role of Creating Awareness and of the Education Concerning the Watershed Rehabilitation and Management: Turkey Experience and Recommendations to Central Asia Countries” was prepared by İsmail Belen working in the Project as “**Awareness and Education Consultant**” in coordination with other consultants and the project management. Even though there is a certain increase in the interest and the awareness concerning the drought, land degradation and desertification with the “mountainous watershed management” subjects, it is not yet enough. It is evaluated that both in national and international level there is a lack of coordination and interest and in this report are listed the faisabilities to remedy this deficiency.

7. Annexes

- Annex I-Inception Report
- Annex II-Eskişehir
- Annex III-Kyrgyzstan
- Anex IV-Azerbaijan
- Annex V- The report on *“The role of training and awareness creation for development of watershed rehabilitation and management: Turkish experiences and recommendations for the Central Asian countries”*