Ministry of Energy and Water Resources
Republic of Tajikistan

State Unitary Enterprise Dushanbevodokanal IOGV, Dushanbe

TRANSITION TOWARDS IWRM AND WATER SUPPLY AT BASIN LEVEL
REPUBLIC OF TAJIKISTAN

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BACKGROUND

1. Decree of the President of Tajikistan dd. November 19, 2013, No. 12 *On improving structure of state executive bodies of Tajikistan*


WATER SECTOR REFORM

Main goals:

➢ Assured water supply of all water users, including drinking water supply, irrigation, industry and hydropower;
➢ Cost-efficient and environmentally sustainable water management;
➢ Improved water resource management through implementation of basin and integrated water resources management (IWRM).

Guidelines:

➢ Transition towards basin water management using hydrological boundaries of river basins with establishment of basin and sub-basin organizations;
➢ Equal consideration of all water users in water management and distribution;
➢ Split of water policy and regulation functions from industrial and economic activities.
TAJIKISTAN WATER SECTOR REFORM AGENDA FOR 2016-2025

Approved by Decree of the Government of Tajikistan dd. December 30, 2015, No. 791;

Based on reform guidelines with the goal to implement IWRM;

Includes Implementation / Investment Plan for 2016-2025, with support provided by the State and Development Partners;

Ministry of Energy and Water Resources is appointed as the Coordinating Body for implementation of the Reform Agenda according to the above Decree

Reports to the Government on reform progress every six months;

Successful implementation is subject to mobilizing efforts of all involved parties.
**PROGRAM IMPLEMENTATION PLAN**

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Number of activities</th>
<th>Amount (thousand Somoni)</th>
<th>Total amount, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Development of legislation and regulation</td>
<td>18</td>
<td>17,239</td>
<td>1,0%</td>
</tr>
<tr>
<td>2</td>
<td>Institutional development</td>
<td>6</td>
<td>158,072</td>
<td>8,8%</td>
</tr>
<tr>
<td>3</td>
<td>Infrastructure rehabilitation</td>
<td>5</td>
<td>1,618,988</td>
<td>89,7%</td>
</tr>
<tr>
<td>4</td>
<td>Additional reform tools for water sector</td>
<td>6</td>
<td>10,525</td>
<td>0,5%</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td>35</td>
<td><strong>1,804,824</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Basin Management Zones

- **Syrdarya river catchment area** (includes the territory of Tajik part of the Syrdarya river basin);
- **Zeravshan river basin zone** (includes the territory of Tajik part of the Zeravshan river basin);
- **Kafirnigan river basin zone** (includes the territory of Tajik part of the Kafirnigan river basin and Karatag river basin (Shirkent).
- **Vakhsh river basin zone** (includes the territory of Tajik part of the Vakhsh river basin);
- **Pyanj river basin zone** (includes the territory of Tajik part of the Pyanj river basin and the Karakul lake basin);
NEW INSTITUTIONAL MECHANISMS OF BASIN AND INTEGRATED WATER MANAGEMENT

Basin Water Management Plan will be developed for each basin area.

RBO - River Basin Organization
RBC – River Basin Council

NWC - National Water Council
MEWR - Ministry of Energy and Water Resources of Tajikistan
COOPERATION WITH DEVELOPMENT PARTNERS

Reform is supported by: UNDP, USAID, OSCE, GIZ, UNECE, EBRD, JICA, ...

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- **Vakhsh river basin zone** (includes the territory of Tajik part of the Vakhsh river basin);
- **Pyanj river basin zone** (includes the territory of Tajik part of the Pyanj river basin and the Karakul lake basin);
Development of legislation and regulation:

- Draft new Water Code of Tajikistan is developed;

- Draft Law of Tajikistan *On Land Reclamation and Irrigation* is developed;

- Draft new Law of Tajikistan *On Water User Associations* is developed;

- New Law of Tajikistan *On Water Supply and Sanitation* is adopted in 2019;

- Draft model Regulation on River Basin Organizations and draft Decree of the Government of Tajikistan on amendments to Decree dd. March 3, 2014, No. 149 are developed.
Institutional Development:

- Draft model Regulation on River Basin Organizations and draft Decree of the Government of Tajikistan on amendments to Decree dd. March 3, 2014, No. 149 are developed;
- Four Working Groups of River Basin Organizations are created in the river basin zones of Syrdarya, Zerafshan, Pyanj and Kafernigan;
- Draft model Regulation on Working Groups for River Basin Organizations is developed;
- Offices of River Basin Organizations are opened and fully equipped;
- Basin Dialogue is established in the basin zones of Syrdarya, Zerafshan, Panj and Kafernigan, meetings are held on regular basis.
## RESULTS

### Development of national strategies and programs:

- **Draft National Water Strategy of Tajikistan till 2030** is developed;

- **Program review** is in process to improve reliable water supply to population of Tajikistan for 2008 - 2020. Based on the review, a new program will be developed till 2030, considering SDGs;

- **Draft procedure** is developed for setting water supply and sanitation tariffs and drainage water management in the area of land reclamation and irrigation.

- **Draft Basin Plan** for water resources management in Syrdarya river basin is developed. Activity is ongoing for other river basins (with the exception of Vakhsh river basin).

- **Program for Restoration of Industrial Water Supply and Water Metering** is in progress.
## Infrastructure Rehabilitation

- Irrigation infrastructure is rehabilitated in 10 areas of Kafirnigan Basin, under the PAMP II Project, supported by the World Bank;

- Rehabilitation of irrigation facilities in the Khodjabakirgan and Aksu river sub-basins, including disaster risk mitigation and watershed management, funded by SDC National Water Management Project;

- EU-funded project was launched in the Zerafshan river basin with planned partial rehabilitation of irrigation facilities located in the Zerafshan river basin;

- Rehabilitation of irrigation facilities in the Panj river basin was launched under ADB-funded project on Water Resources Management in Panj River Basin

- Large-scale rehabilitation of water supply infrastructure is funded by the World Bank and EU/EBRD ...

- It is envisaged to implement a new Dushanbe Water Supply and Sanitation Project and Khatlon Region Rural Water Supply Project - funded by the World Bank
**RESULTS**

Additional tools for water sector reform:

- Draft Concept on Water Information System is developed;

- Guideline for coding water bodies and catchment areas of Tajikistan was developed and the coding of water bodies of Tajikistan is completed;

- Technical support to various water organizations in the form of office equipment and other facilities is provided by the development partners;

- Workshops and trainings to develop capacity in water sector are organized and delivered;

- Draft plan for building capacity of water organizations created as part of water sector reform is developed.
RESULTS

Reform coordination:

➢ Coordinating Council of National Dialogue on Water IWRM Policy;

➢ Water Sector Reform Coordination Working Group;

➢ Interdepartmental Working Group on Implementation of Tajikistan Water Sector Reform Agenda
Implementation of IWRM:

➢ Tajikistan improves water management to ensure sustainable social and economic development and environmental sustainability

➢ It also promotes donor support for water projects
# PRACTICAL RELEVANCE

- Modern and efficient Water Code - favorable legal environment for widespread implementation of IWRM principles;

- Improving water resource management by strengthening institutional coordination and institutional performance;

- Focus on water use efficiency;

- Involves communities and stakeholders in decision-making process;
<table>
<thead>
<tr>
<th>Social Relevance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities and stakeholders are involved in planning and decision-making process;</td>
</tr>
<tr>
<td>Improved water use efficiency is beneficial for all;</td>
</tr>
<tr>
<td>Environmental benefits;</td>
</tr>
<tr>
<td>Coordinated water management reduces likelihood of conflicts as water becomes less available as a result of climate change, increased demand, etc.;</td>
</tr>
<tr>
<td>Promoting changes towards transition to modern management practices, especially in agriculture.</td>
</tr>
</tbody>
</table>
ECONOMIC RELEVANCE

1. Water savings = cost savings for delivering water;

2. Strengthening capacity of the government to make more informed strategic decisions on investments in water infrastructure regarding costs and benefits in various economic sectors;

3. Strengthening donor readiness to contribute to water management, water supply and agriculture;
VARIOUS FACTOR IMPACTS ON WATER RESOURCES
(CASE OF THE KAFERNIGAN RIVER BASIN)

➢ Climate Change Impact

➢ Economic and demographic impact factors;

➢ Industry;

➢ Wastewater

➢ Other factors.
EXPECTED CLIMATE CHANGE IMPACT
(COMPARED TO 1980-2010)

- There is no noticeable trend in cumulative rainfall (however, for December-February, more climate models show some increase trend).
- Significant raising of temperature by 1.5 - 3° (all year round), especially more heat waves observed in summer.
- Increased evaporation from water surface.
- Reduction in river flow.
- Higher water demand.

Trends in river runoff (Kafernigan, Varzob):
- About 10% of the runoff in spring and summer is formed from melting of glaciers.
- Very low water availability will become more frequent (April-October).
- Higher problems of hydrological drought.
- Excessive rainfall is becoming more frequent and intense.
- River floods (mainly in May and June) and storms (mainly in March and April) will be more frequent and cause more damage.
Water supply is highly redundant. It means that the basic water supply of all serviced areas can be assured even in the event of the following:

- Water from one of the two rivers is unsuitable for use (for example, due to river pollution)
- Any of water intakes of surface or groundwater and/or related waste water treatment/chlorination plants, which are out of operation
- Any of main pipelines failed (for example, as a result of earthquake).
ASSESSMENT OF WATER SUPPLY AND DEMAND IN KAFIRNIGAN RIVER BASIN

ASSESSMENT OF WATER SUPPLY AND DEMAND IN KAFIRNIGAN RIVER BASIN IS DONE ON THE BASIS OF THE FOLLOWING INFORMATION:

- Forecast of demographic dynamics, both urban and rural;
- Current access to safe water in districts and cities of rural and urban areas in Kafernigan River basin;
- Water consumption norms and municipal water supply and sanitation systems in accordance with the Decree of the Government of Tajikistan dd. 30.04.2011, No. 234;
## BASIN RIVER ORGANIZATION
### KAFERNIGAN RIVER

<table>
<thead>
<tr>
<th>Districts and cities</th>
<th>Support (cities and urban settlements)</th>
<th>Rural area support</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dushanbe</td>
<td>98.7</td>
<td>-</td>
<td>98.7</td>
</tr>
<tr>
<td>Vahdat</td>
<td>74.1</td>
<td>58.6</td>
<td>60.7</td>
</tr>
<tr>
<td>Varzob</td>
<td>88.8</td>
<td>35.4</td>
<td>37.1</td>
</tr>
<tr>
<td>Rudaki</td>
<td>79.2</td>
<td>44.4</td>
<td>46.2</td>
</tr>
<tr>
<td>Fayzabad</td>
<td>85.5</td>
<td>49.1</td>
<td>52.8</td>
</tr>
<tr>
<td>Gissar</td>
<td>77.1</td>
<td>41.6</td>
<td>45.1</td>
</tr>
<tr>
<td>Tursunzade</td>
<td>82.4</td>
<td>50.3</td>
<td>55.2</td>
</tr>
<tr>
<td>Shakhrinav</td>
<td>85.9</td>
<td>53.1</td>
<td>55.2</td>
</tr>
<tr>
<td>N.Hisrav</td>
<td>61.5</td>
<td>47.3</td>
<td>49.0</td>
</tr>
<tr>
<td>Kabodiyon</td>
<td>46.8</td>
<td>21.8</td>
<td>22.6</td>
</tr>
<tr>
<td>Shakhrituts</td>
<td>59.8</td>
<td>38.2</td>
<td>41.2</td>
</tr>
<tr>
<td><strong>Total (basin level)</strong></td>
<td><strong>76.2</strong></td>
<td><strong>45.0</strong></td>
<td><strong>47.8</strong></td>
</tr>
</tbody>
</table>
BASIN RIVER COUNCIL
KAFERNIGAN RIVER

BRC includes the following:

1. **Authorized body for water resource protection and use**
2. **Tariff Authority**
3. **Sectors using water:**
   - Potable water supply
   - Hydropower
   - Irrigation
   - Industry
   - Representatives of Ministry of Emergency and Civil Defense
4. **Consumers**
5. **Community representatives: Media, NGOs, etc.**
Analysis of statistical information indicates low coverage of population in Kafernigan river basin with reliable water supply. So, as of January 1, 2017, the average coverage of people in Tajikistan to reliable water supply is 57.7%, and in the areas of the Kafernigan river basin, with the exception of Dushanbe, - 47.8%, including 76.2% in urban areas and 45% in rural areas.

Forecast for water consumption in Dushanbe is estimated separately from other regions and cities, taking into account its political status of the capital with developed infrastructure for water supply and sanitation (99% of residents is provided with reliable water services).

In addition, water consumption norm in Dushanbe, taking into account availability of sewage in multistory buildings and heating, are distinctly different from other cities in the Kafernigan river basin.
## KEY ACTIVITIES

- **Measures to avoid water shortage**
  - Measures to avoid significant negative impact on water resources
  - Measures to improve monitoring and enforcement system
  - Disaster Risk Management
  - Measures to develop a strategy for water sector financing
THANK YOU FOR YOUR ATTENTION!