



# **NATIONAL WATER STRATEGY OF AZERBAIJAN REPUBLIC**

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# FOREWORD:

- The NPD IWRM in Azerbaijan focuses on the development of a governmental strategy for management of water resources based on the principles outlined in the European Union Water Framework Directive (EU WFD) and the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) and its Protocol on Water and Health, as well as other United Nations and EU instruments.
- As party to the Convention Azerbaijan actively cooperates to implements requirements under the convention
- The overall goal of the national water resources management strategy is: to enhance and promote all national efforts towards the efficient, equitable, and optimum utilization of the available water resources of Azerbaijan for significant socio-economic development on sustainable basis.



## **FOREWORD:**

- In 2010, the UNECE has launched the NPDs in Azerbaijan and in a number of other EECCA countries.
- The NPD IWRM in Azerbaijan started in April 2010 when a pre-mission by the UNECE representative to Azerbaijan was held. This included meetings with the authorities and relevant national and international stakeholders.
- The NPD IWRM Steering Committee has been established and a Memorandum of Understanding on a NPD on IWRM was signed in September 2010.
- Steering Committee includes representatives of Ministry Of Ecology and Natural Resources (MENR), Ministry of Emergency Situations(MES), Ministry of Health(MOH), Amelioration JSC, Azersu JSC, MFA, National Academy of Science(NAS), BSU, NGOs, other national agencies members.



# FOREWORD

- International consultants from Finland supported implementation of the NPD IWRM in and worked with the National Experts
- The first meeting of the Steering Committee took place on 12 October 2010.
- . Second and third NPD IWRM Steering Committee meetings had been organized in April and November 2011. In second meeting was discussed work on preparation of WS according to MoU between MoE and UNECE and in November 2011 was discussed main content of strategy.
- The third meeting was conducted planned in June 2012 to discuss draft strategy, which will be submitted to relevant agencies.

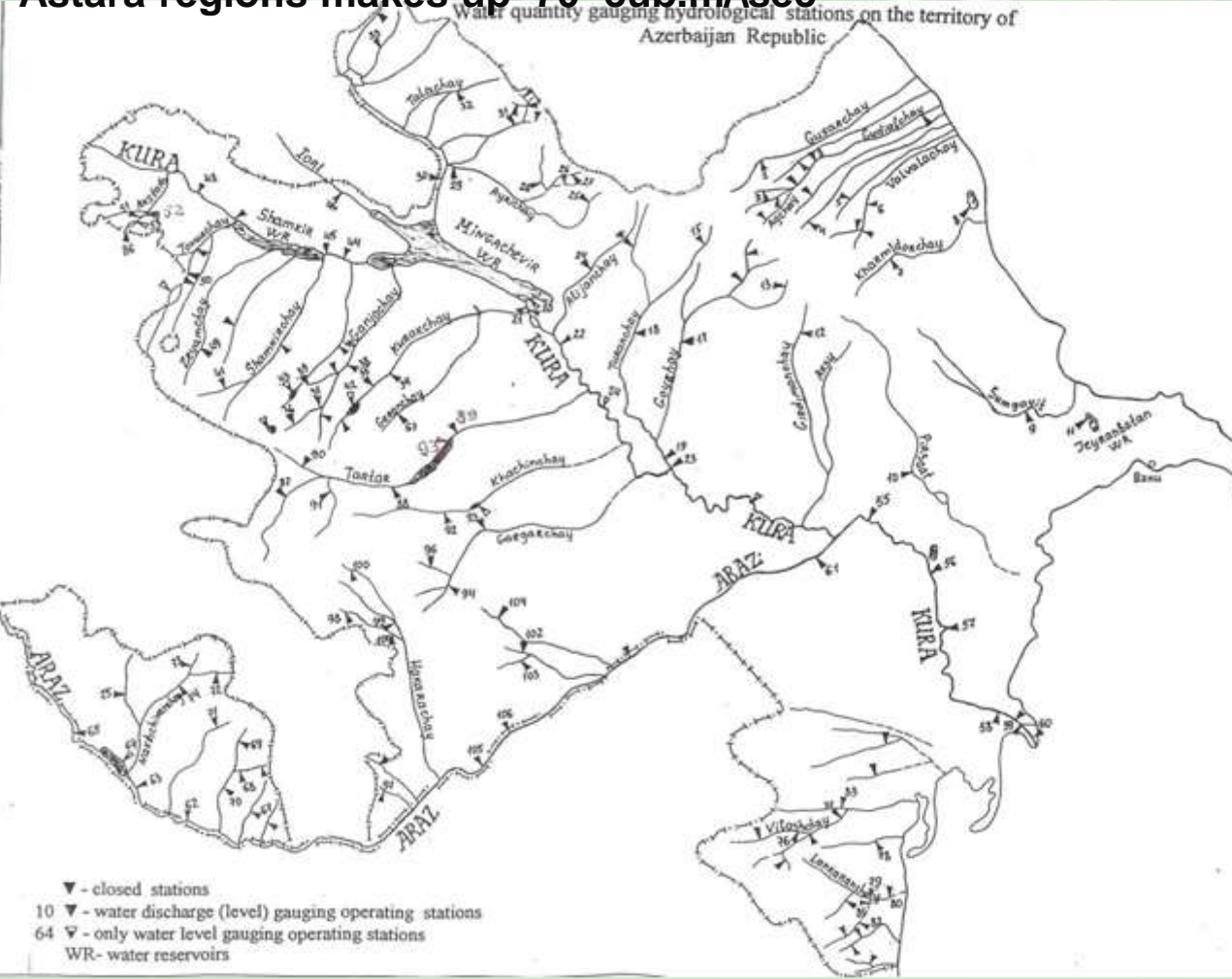


# WATER RESOURCES:

There are 8,359 rivers in the Republic and two of those (Kur and Araz Rivers) have a length of more than 500 km. Water discharge of Kura river before its joining with Araz is 540cub.m/s and Araz 300cub.m/s .

The flow of rivers directly flowing in to the Caspian sea from Giba – Kgachmaz and Lankaran Astara regions makes up 70 cub.m/sec

Water quantity gauging hydrological stations on the territory of Azerbaijan Republic



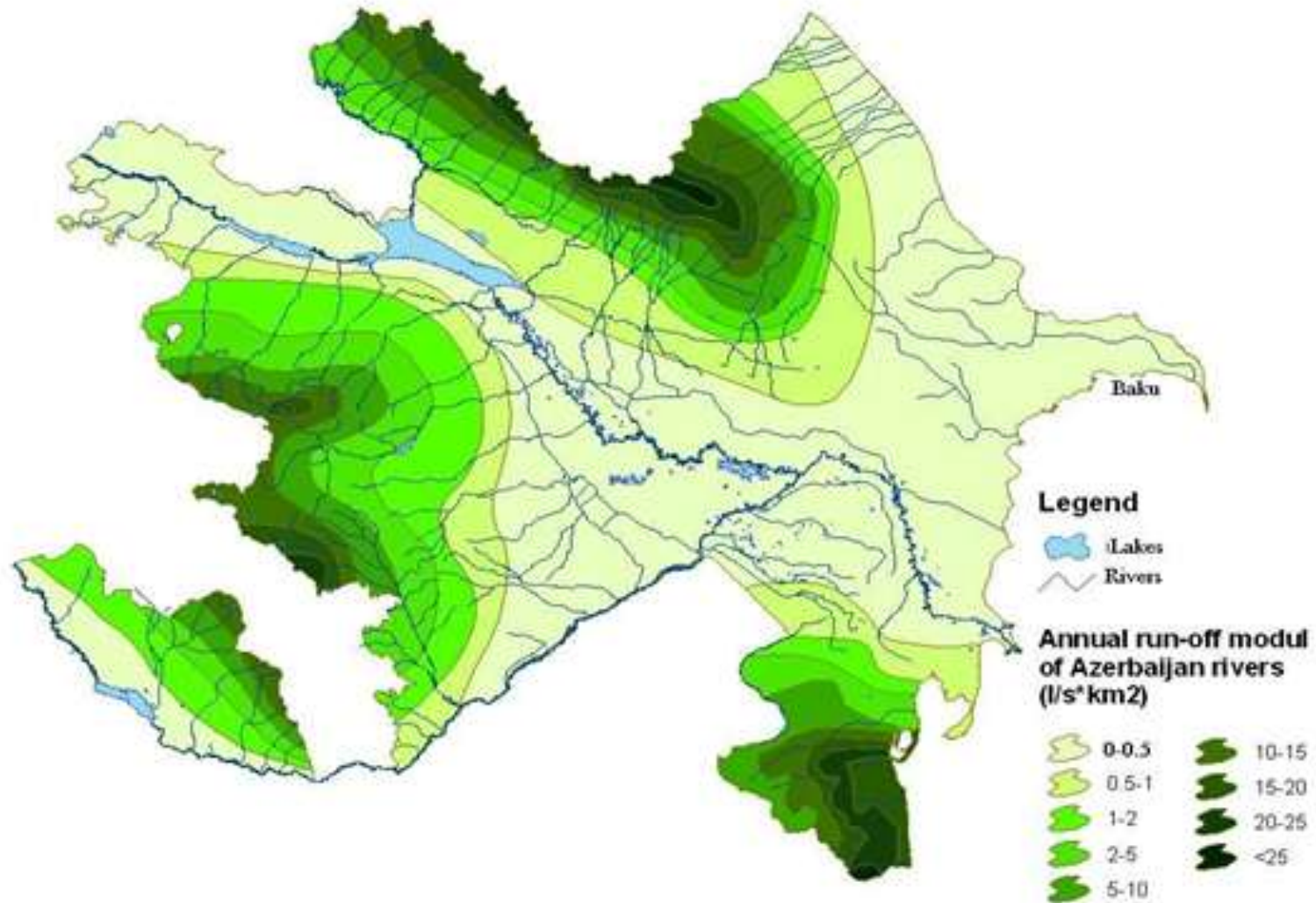
*In summary, the water resources of Azerbaijan are distributed as following:*

- River waters: 28.5 to 30.5 km<sup>3</sup> of which 9.5 to 10.0 km<sup>3</sup> belong to internal rivers and rivers flowing into the Caspian Sea
- Freshwater lakes: 0.03 to 0.05 km<sup>3</sup>
- Water reservoirs: full capacity of 20.6 km<sup>3</sup> and a useful capacity of 12.4 km<sup>3</sup>
- Exploitation capacity of ground waters: 8.0 to 9.0 km<sup>3</sup>
- Water resources of glaciers: 0.080 to 0.085 km<sup>3</sup>



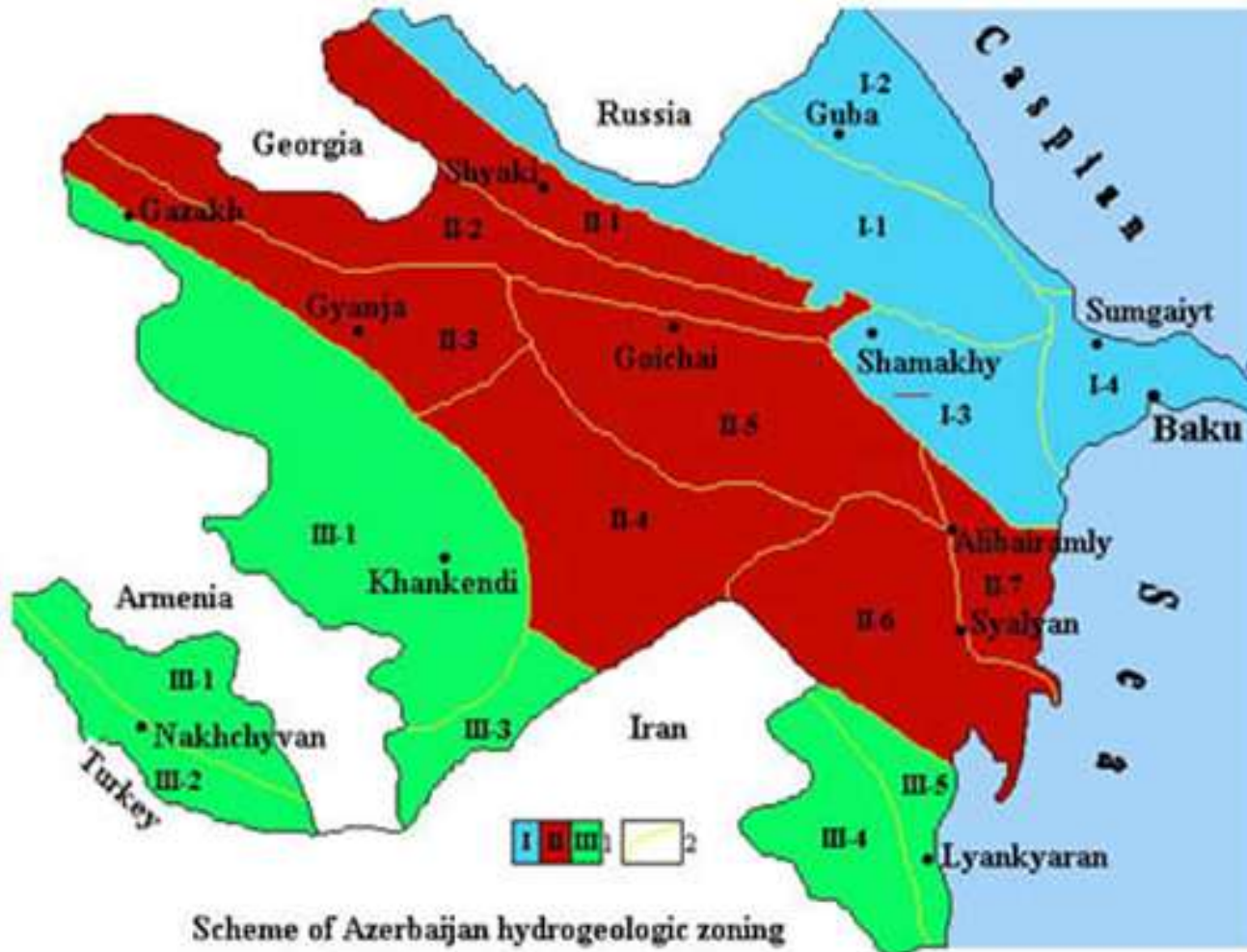


# FLOW MODULE MAP





# GROUND WATER MAP



1. Hydrogeological regions; 2. Boundary of hydrogeological regions,
- I - Greater Caucasian hydrogeological basin: I-1 - Greater Caucasian mountain - fold region; I-2 - Gusar region; I-3 - Gobustan region and the adjacent part of the Near-Caspian lowland; I-4 - Absheron region.
- II - Kura depression hydrogeological basin: II-1 - Alazan-Agrichai region; II-2 - A djinour-Jeiranchel region; II-3 - Gyanja-Gazakh region; II-4 - Mil-Garabakh region; II-5 - Shirvan region; II-6 - Mugan-Sakyan region; II-7 - South-Eastern Shirvan region.
- III - Lesser Caucasian hydrogeological basin: III-1 - Lesser Caucasian mountain - fold region; III-2 - Nakhchivan region; III-3 - Jabraïl region; III-4 - Mountain-Talysh region; III-5 - Lyankyaran region.



# WATER QUALITY

- The quality of the water in the rivers of Azerbaijan is polluted by upstream countries (such as Kur, Araz and other transboundary rivers) and also within the country (local rivers)
- According to the data of corresponding agencies in 2000 the amount of waste water discharged into rivers in Kura basin was 468 mm<sup>3</sup>
- In downstream of Kura river (below the Araz River) the mineralization of waters increases to a level of 800 to 1200 mg/l .
- High amounts of phenols, metals, sulphates (correspondingly 13, 9 and 6 times the PA) is observed in the river water.



# WATER PROTECTION

- Water legislation and legislation on environment anticipates complex of legislative enactments and legal standards on protection of water resources and water objects (Water Code of the Azerbaijan Republic, Article 14, pages 81-95)
- In addition, the Government of the Republic approved a number of decisions, defining rules of state monitoring, exploitation, and protection of water objects.
- The main provisions on mechanisms for compliance with and enforcement of environmental requirements in Azerbaijan are provided in Article XI of the 1999 Law on Environmental Protection. Such mechanisms include:
  - State monitoring of compliance and enforcement by competent public authorities, namely competent executive branch authorities;
  - Self-monitoring of compliance by operators of industrial activities;
  - Public environmental control upon appeals and complaints by individual and non-governmental organizations
  - The major economic instruments related to water are water use fees, fines and compensations



# WATER USE FEES AND PERMITS

Article 98 of the Water Code shows that water use payments, depending on water's quality, purpose (drinking water, irrigation water, etc.), technical performance of water economy object, methods of intake and transportation of water, other factors influencing volumes of production expenditures, shall be differentiated by separate water economy systems.

In Azerbaijan Republic all tariffs and fees are subject for approval by Tariff Council.

## Fees:

- *Wastewater discharge fees*
- Wastewater collection and treatment fees are collected by AzerSu JSC.
- *Environmental fees*
- In accordance with Law on Environmental Protection (into force on August 4, 1999), Government Decision N410 (dated February 22, 2001) define environmental fees to be applied for wastewater discharge permit issued by Ecology Expertise Department of MENR.
- Maximum permissible quantities of pollution discharge for each of the substances are defined in the wastewater discharge permits. If these permissible quantities are exceeded, the base fees are multiplied taking into account harm to environment.



# WATER USE FEES AND PERMITS

## **Water Use Permitting**

Water use and discharge permits are issued by Amelioration and Water Users JSC and Ministry of Ecology and Natural Resources (MENR). For the different type of water abstraction and discharge the following steps are envisaged by legislation:

### ***Surface water:***

Applicant submits WUP application to Amelioration JSC to issues permit

### ***Groundwater:***

Applicant submits WUP application to MENR

### ***Discharge permit:***

Applicant submits discharge permit application to MENR



# IRRIGATION WATER USE

- Azerbaijan is highly dependent on irrigation for most of its agricultural production.
- The total area of irrigated land in 2008 was 1.432 million hectares, about 30 per cent of the total utilized agricultural area of the country. Irrigation's share of total water abstraction (10-12 cub.km) is about 45% and the water losses during transportation about 30%.
- There are more than 50 reservoirs in Azerbaijan and most of these were built for irrigation purposes. Tandem reservoir systems on Kur River include Mingechevir, Shamkir, Yenikend, and Varvara Reservoirs.
- The total capacity of operating water reservoirs in the country is about 20.6 km<sup>3</sup>
- Water resources are redistributed by reservoirs by use of different canals. Water distribution by Mingechevir water reservoir is occurred by use of 2 magistral irrigation canals (Upper Shirvan and Upper Garabakh canals).
- Main problem is improper irrigation water use, old infrastructure and water losses



# DRINKING WATER SUPPLY

Main sources of water supply in regions are surface and ground water sources of near located areas. Polluted waters of Kura river below Mingechavir reservoir is also used by local populations as drinking water sources without treatment.

From all volumes of water supplied to the city of Baku annually (16cub.m/sec)the purest are waters of:

- Khachmaz (1956,2.65cub.m/s)and;
- Shollarlines (1917,1937, 187kmfromBaku,about1.5cub.m/sec).
- Water from Djeiranbatan water intake (Samur-Absheroncanal, of 26.4 cub.m/s water 12.3 cub m/sis pumped to reservoir) has some pollution by ground and surface water, air (iodine, Zink, Cu,) is also of good quality (7.5 cub.m/sec drinking and 5 technical)

From Kura river:

- Kura I-1972, 3.9 cub.m/s;
- Kura II-1987,5.2 cub.m/s
- Government is implementing Oguz Gabala Baku water pipeline project (5 cub. m/sec)





# DRINKING WATER SUPPLY

There are many issues relating to the sphere water supply and sanitation. As result of water scar city, improper state of the water supply and distribution network water supply coverage in the republic still needs to be improved, mainly in rural areas. Today these indicators are as below:

Connected to water supply population(in%):

- Baku 95
- Sumgayit, Ganja 95
- Secondary cities 83
- Rural areas 11

Level of connection to sewage system is significantly lower and majority of waste waters enter into near located water body without special treatment



## **The current Strategy document concentrates on the following issues:**

- strengthen protection of water resources and aquatic eco-systems
- ensure sustainability and effectiveness in use of water resources
- meet the needs of different water users
- identify the needed programmers and projects
- facilitate water protection and sustainable use of water resources
- define the goals of water resources management, the institutional improvements and creation of the legal framework required for the implementation of the Strategy.
- promote of water saving and cost-recovery
- improve the transboundary cooperation
- enhance the participation of the stakeholders in water protection and management planning
- enhance communication between authorities, regional organizations and citizens
- strengthen capacities in the national and regional level
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# PRIORITIES FOR WATER STRATEGY

*The Water Resources Strategy in tends to achieve short-medium-and long-term purposes, defined as follows:*

Short-term(6-year) purpose: Implementation of the comprehensive Water Strategy provides benefits to people. Quality and quantity of water supply is sufficient to address water demands of key sectors. Significant improvement in institutional capacity and legal basis supports interagency cooperation and stakeholder participation

Medium-term(12-year) Purpose: The Water Resources Strategy is operationalized to provide substantial benefits to people for basic needs fulfilment as well as other increased benefits related to sustainable water use. Coordinated water management allows covering water needs of involved sectors. Environmental condition of water ecosystems is improved.

Long-term(18-year) Purpose: Benefits from water resources are maximized in Azerbaijan in a sustainable manner. Water supply is efficient. Water quality corresponds to water requirements of relevant sectors. Measures undertaken allow providing environmental requirements.



# *INSTITUTIONAL IMPROVEMENT AND CAPACITY BUILDING*



## **Main activities to be carried are:**

- Enhance planning and implementation capacities of all stakeholder institutions. Strengthen National Agencies in the field of Water.
- Put together a program for the establishment of river basin management institutions at water scheme levels.
- Assess technical capacity gaps, develop training programs to bridge these gaps, and start implementing these programs.
- Strengthen technical capacities of all stakeholders (public institutions, private sector, local communities etc.) in relevant aspects of water resources development, planning and management. Promote their active participation in basin planning



# INSTITUTIONAL IMPROVEMENT AND CAPACITY BUILDING



## Indicators:

- By 2018, NWAs designated and empowered to coordinate national level planning for the entire water sector;
- by 2018, rights and duties of all relevant institutional levels clearly defined and available, and their accountability demonstrated;
- by 2018, integrated river basin management planning (IRBMP) concept for all delineated river basins are selected as main target and start to develop ecosystem oriented RBMP;
- by 2018 adequate permitting and supervision procedures are created and independent authority for permitting procedure is identified
- by 2024 capacity of central and regional administration are strengthened to provide compliance with regulation and efficiency water management.
- by 2024, NWAs are capable to start implementations of RBMP and have adequate resources;
- by 2024, major rivers basin entities established and start to address river basin water issues according to RBMP;
- by 2030, all major and medium river basin entities established and implement RBMP



## **Main activities to be carried are as:**

- Identify common development projects that can be developed jointly with the other riparian countries on equitable basis. Start developing these projects in line with the international requirements
- Review and update the projects that were prepared in the past but not implemented.
- Appraise and understand the water –related needs jointly neighboring countries.
- Pursue confidence-building measures with neighboring countries.
- common monitoring of transboundary water resources with neighboring countries

## Indicators

- by 2018, road maps for IWRM plan for joint river basins have prepared jointly with Georgia
- by 2018, some multipurpose projects agreed to and undergoing implementation;
- by 2024, expected benefits from treaties and multipurpose projects achieved;
- by 2024, riparian issues between neighboring nations resolved;
- by 2024, several joint/multilateral water resource development projects implemented and functioning satisfactorily; and
- by 2030, international cooperation agreements and mechanisms for water-sharing available and mutually beneficial. IWRM plans are approved as a main tools for transboundary river basin management



# PROMOTION OF WATER SAVING AND COST-RECOVERY



## *Main activities to be carried are as:*

- River, lake, and shore land habitat and the general environmental, subsistence, and economic values of rivers, lakes, and wetlands shall, where possible, be conserved.
- Soil conservation, wetland retention, and appropriate land use practices shall be promoted primarily by the provision of incentives, but with regulation where required as key measures to reduce siltation impacts, downstream flooding, and non-point source pollution.
- Water retention, and control and timing of runoff, promoted as part of watershed management.
- Authorizations and licenses for water use will be in places
- the role of wetlands needs to be integrated into the water planning process.
- Map important, critical and priority watersheds and aquatic ecosystems.
- Ensure compliance with environmental regulations.
- Assessment of Climate change impact to water resources and development of relevant adaptation measures
- Setting up environmental flow requirements and their application
- Promote community participation.
- Develop resource planning to ensure habitat and resource conservation measures are included in policies.





*Targets for Investments for Water Infrastructure should be:*

- Developing the national investment plan for water infrastructure
- Supporting the investments for water services and clean technology in industry

*According to above descriptions for development of multi-objective integrated use of constructed water courses, reservoirs and irrigational infrastructure followings should be done:*

- Developing usage of the reservoirs on the multi-use principle
- in developing hydroelectric power production the other needs and environmental aspects are taken into account
- Improvement of dam safety
- Improvement of irrigation infrastructure
- Application of effective irrigation methods and technologies



## *Following needs to be done:*

- developing the national monitoring programme for surface water and ground waters taking into account hydrological and water quality data
- developing national data systems
- certification of laboratories
- developing international cooperation

## **Indicators**

- by 2018, national monitoring network is created according to the monitoring programme that allows assessing the state of ground and surface waters. Training of staff is provided and investment to carry monitoring and apply modern monitoring and laboratory technology for assessment of state of water resources is allocated
- by 2024, monitoring program includes biological, morphological and chemical observation, national water cadaster information system is created and operational. Relevant data collected from monitoring system is placed in databases and can be used for water resources assessment and other purposes
- by 2030 monitoring programs are in full compliance with EU Water Framework Directive and allow to assess environmental quality status of water resources according to the Directive



*Development of legislation should be based on followings:*

- goals in the development of legislation should be realistic and applicable
- regulations of the water rights and prioritizing of different water needs
- independent status for water permit authorities
- prohibition of groundwater pollution and prevention of overuse
- developing multi-use possibilities for River Systems and reservoirs

*The list of legislation should also include followings:*

- amendments of water code according to basin principle
- developing water use permitting
- developing source pollution control
- developing access to and affordability of water services
- developing recovery of costs of water services



# TARGETS FOR SURFACE AND GROUND WATER STATUS

## *Activities:*

- Water quality monitoring programs will be developed
- The Water Quality Criteria for surface and ground waters will be determined and Water quality Objectives” shall be adopted and implemented to protect water uses
- Actions to combat degradation of water quality will be taken and criteria to reach good water quality status prepared
- Water quality shall be enhanced through the management and protection from pollution of water resources,
- Water quality enhancement programs shall be designed to restore environmental quality, as well as deliver economic, cultural, and heritage benefits
- The quality of wastewater discharges shall be improved and non-point sources of pollution decreased to achieve water quality objectives.
- Pollution control programs shall be designed in consultation with affected user groups and, where possible, implemented in such a manner as to cause minimum disruption to established land and water uses
- wetland classification system needs to be developed



## Activities

- Install automatic stage recorders at the strategic sites on the flood-prone areas to record flood levels. Estimate flood sizes, in particular peak floods.
- Determine the possible methods of flood protection; and select the appropriate sites for disaster prevention actions; and ensure appropriate and timely maintenance of flood control structures.
- In drought affected areas, intensify ground water exploration; formulate a comprehensive program for the selection of wells, boreholes, stock ponds, sub-surface dams etc.
- Carry out periodic safety checks, at least once in three years, on existing water systems.
- Establish safety regulations for major water structures
- Prepare and implement a flood and other water- induced disaster management policy and plan. Conduct risk/vulnerability mapping and zoning.
- Strengthen the disaster networking and information system.
- Establish disaster relief and rehabilitation systems.
- Implement disaster reduction/mitigation measures. Construct needed protection infrastructure. Strengthen institutional set-up and capacity.
- Undertake hydrological modeling and flood risk mapping of the most crucial river systems.
- The legislation on land use and construction should be developed in such a way that planning and construction in flood risk areas is no longer allowed.



# IMPLEMENTATION AND MONITORING OF THE STRATEGY

- An effective and transparent method of implementing Azerbaijan's Water Strategy is crucial to ensuring long-term conservation of water resources. The development of this implementation framework will be a participatory process that considers both present and future demands on water, and ensures the protection of ecosystems.
- Steering committee will regularly meet to review preparation and implementation of Strategy Action Plan. In order to prepare Action Plan expert group will need to be working in collaboration with all water agencies to realize goals and short, medium and long term actions indicated in the strategy.
- Based on the input provided from users and user groups, the watershed-planning processes will tackle specific issues and prioritize water needs and allocations on a local level. These will then be compared to other management plans, embodying the framework of ecosystem-based planning outlined in the COSDI report.
- In addition to the key activities associated with each of the outputs, indicators that may be used to evaluate the success of Strategy implementation are identified for 6-, 12- and 18-year timeframes.

A large, light green world map is centered in the background, enclosed within a circular white border. The map shows the continents in a light beige color against a green ocean.

**THANKS FOR YOUR  
ATTENTION!**