WATER RESOURCES MANAGEMENT IN ALBANIA
(General Information)

and

The role of Ministry of Agriculture, Rural Development and Water Administration (MARDWA) in Irrigation and Drainage Sector.

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A L B A N I A

Country profile

- Area **28 748 km²**
- Population about **3.2 million**
  (less than half lives in rural areas)

- Hydrographic basin, total area **43 305 km²**

- The **annual average rainfall** **1485 mm**

*(Rainfall is concentrated mainly in winter and less than **20 %** occurs in the six month period between April-September)*

- Coastal area **7.000 km²**

(25% of the national territory)

- Average altitude **786 meters**
- Mountainous and hilly areas **77 %** of the territory
- Coastline length **476 km**

(*70% sandy, 30% rocky)*

- Coastal population **2 million or (54 %)**

Water resources

➢**Albania is divided into six river basins (B1-B6)**
One third of their surface is situated outside of the state borders of Albania (Montenegro, Macedonia, Kosovo and Greece).

➢**Albania may be considered as a rich country in water resources**. *Seven main rivers cross the territory of the country from the east to west*

➢**The total annual rate of flow is 39.22 billion m3/year**, *where 95 % is discharged into the Adriatic sea and only 5% into the Ionian sea.*

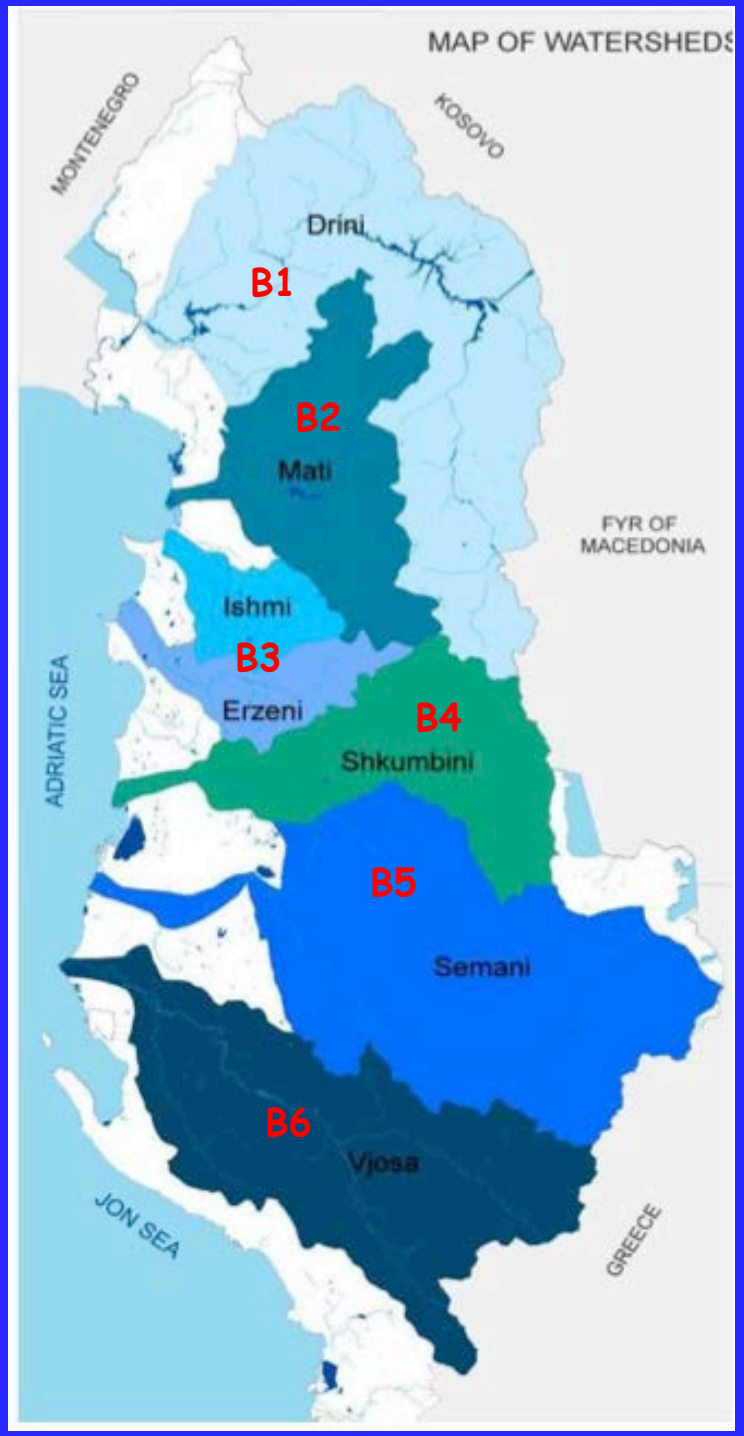
➢**The major water resource is surface water** *and is found in rivers, lakes, lagoons and reservoirs.*

➢**The lakes cover 4% of the territory,** *including three large lakes and 247 small lakes.*

➢**631 reservoirs with designed capacity around 5.6 billion m³**, *constructed along the rivers, use for irrigation, production of the electrical power and flood protection*

➢**The underground waters contribute 23% to the annual total flow**

➢**Wetlands.** Most of the rives of Albania have formed at their mouth a series of lagoons, swamps and wetlands. *(Large lagoons along the coastline include Karavasta, Narta and Butrint are wetlands of global biodiversity and protected by Ramsar convention).*



Water use by sectors

- **Actually, the largest user of water resources is the energy sector.**
  (*around **90%** of the annual total of the electrical power generated in the country is produced by* hydropower *stations*)

- **The assessment of current use of water resources is difficulty** (the lack of an appropriate monitoring system, frequent changes in economic activities, high dynamics of demographic movement towards urban centers etc.)

- However, an approximate assessment of the use of water resources in Albania is provided by the following indicators:

• **Users of water**	**Volume in billion m3**
• For the production of electrical power	14 (5 hydropower stations with a capacity of 5 billion m3)
• Usage for irrigation	1.01
– From 626 reservoirs	0.56
– From rivers and lakes	0.45
– From underground waters	0.003
• Usage as drinking water/industry	0.22
• **Total**	**15.2**

Water Resources Management

- **The National Water Council (NWC)** is a central decision-making authority and it determines the national policy over water resources. The Prime Minister chairs the National Council of Water. NWC has its Technical Secretariat as its executive authority.

- **The Ministries being responsible for the management of water resources in the respective sectors are:** Ministry of Environment, Ministry of Agriculture, Rural Development and Water Administration, Ministry of Energy, Ministry of Transport and Infrastructure, Ministry of Health. *Being under the authority of these institutions, a number of agencies and institutions, which are using, exploiting and monitoring the various water resources, are operating.*

- **At local level, six river basins authorities**, covering the entire territorial country divided into six river basins, are operating.

- **Meeting the needs of various users** for water to the effect of economic and social development on one side, and environmental protection on the other, **make the integrated management of water resources increasingly indispensable.**

In the field of water resources:

Strong points

- Abundant water resources
- Great potential for water use in agriculture
- Great potential for Hydropower
- Groundwater suitable for drinking water
- State-owned Water Resources
- New Water Law approximated with European Legislation

- **Main Priorities**

- Improving effective governance of water;
- Water and adaptation to climate change;
- Managing water demand;
- Optimization and financial assessment of water;

Role of MARDWA in WRM

- **supporting of agriculture development** through the sustainable management of irrigation, drainage and flood protection**, improving efficiency** of water resources usage for irrigation**, reducing the risk** by dam destruction and river and sea flooding.

The agricultural sector is one of the most important sectors of the national economy. It contributes by around **19% to GDP** and generates **over 50% of employment** in the country.

Irrigation and drainage sector

- The irrigation and drainage are one of the most important factors with their direct impact on sustainable growth of agricultural production in the country.

- Rainfall is concentrated mainly in the winter, and less than 20 percent of average annual rainfall occurs in the six-month period between April and September.

- Crop water deficits between June and August range between 400 and 500 mm that cannot be supplied from soil moisture, making irrigation during the summer period indispensable.

- Flood is an often repeated phenomenon, specifically during November- March

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Irrigation is the largest consumer of surface water resources.

- **From total surface water**, only 2.5 percent or 1.0 billion m3 available for irrigation (**558 million m3** water can be stored in 626 irrigation reservoirs and **450 million m3** diverted from rivers and lakes)

The existing infrastructure has been designed for insuring :

- irrigation to 360 000 ha (surface irrigation 300 000 ha and 60 000 ha irrigated by 640 pumping station, 626 reservoirs, total length of irrigation canals *primary secondary, tertiary* is 25 000 km)

- drainage to 280 000 ha (200 000 ha drainaged by gravity and 80 000 ha drainaged by 28 drainage pumping stations, total length of drainage canals *primary secondary, tertiary* is 15 700 km;

- flood protection from river and sea to 130 000 ha (900 km *embankments*)

Problems faced irrigation and drainage sector

Irrigation:

- Due to the lack of maintenance and poor management of irrigation infrastructure, the needs for irrigation are currently not met in time and quantity.

- Problematic is the safety of dams of reservoirs used for irrigation. (need priority interventions for 200 dams)

Drainage and flood protection

- In the western low land of the country repeated flooding occurs during the period with rainfall, as a consequence of poor functioning of the drainage channels network and the drainage pumping stations.

- Rehabilitation/reconstruction of river and sea embankments and increase their safety is indispensable.

- Along the sides of rivers, erosion and damage to arable land is evident.

The objectives of the MARDWA in irrigation and drainage consist in:

- Continuous meeting of water needs of farmers through the process of rehabilitation and modernization of existing infrastructure.
- Guaranteeing drainage,
- Reduction of risk against rivers and sea flooding,
- Sustainable management of irrigation and drainage systems harmonizing the role and responsibilities of central government with the involvement of local governments units and WUO (Water Use Organization).

Physical rehabilitation and improvement of the infrastructure

- Due to implemented three projects of World Bank during 1995 - 2010, with value 130 million USD and another project of WB in progress (2012-2017) with value 40 million USD, with contribution of state budget, actually the summary of the output of these investments are:

• Surface with rehabilitated irrigation infrastructure	230 000 ha (64% of potentially irrigated are 360 000 ha)
• Surface with rehabilitated drainage infrastructure	250 000 ha
• Rehabilitated dams for irrigation	80 dams
• Assessed and monitored dams for the safety	250 dams

Improvement Irrigation and drainage institutions

MARDWA, through 13 Drainage Boards is the main responsible authority for administration of irrigation, drainage and flood protection systems

- Drainage Boards
- *state water enterprises,*
- *technical specialized structures,*
- *financed by the state budget*
- *covers the all territory of the country.*
- *responsible for operation and maintenance of the drainage, flood protection systems and main irrigation infrastructure (large dams, main irrigation canals act.)*

The management of irrigation based on participation, through WUA (voluntary unions of farmers), supported for almost 15 years by the World Bank projects 1995-2010) was far from the expected results. Almost all transferred schemes, WUA, could not manage to cover the operation and maintenance costs.

From water users associations (WUA) to water users organizations (WUO)

- In 2010 the legal status of WUA changed and started their transformation into the Water Users Organizations (WUO is a public legal entity, self financed, not carrying out profit-making activities and providing with water for irrigation for its members serving the public interests and the interests of its members)

- However Irrigation and drainage service was (and is) far from being within optimal parameters. For this reason, since 2012 has started implementation of a new institutional scheme of administration of irrigation and drainage including the communes/municipalities as an important institutional link.

- Our conditions and the experience in the field of operation and maintenance of irrigation systems imposed (and impose) the indispensability of the decentralization of responsibilities in the management of irrigation infrastructure to the municipalities/communes.

The new institutional system actually include three levels:

- Central government, Ministry of Agriculture and Drainage Boards as the high level of administration, are responsible for the operation and maintenance of "*Large scales irrigation and drainage systems*"
- Communes/municipality as intermediate level of administration, are responsible for the operation and maintenance of "*Small scale irrigation and drainage systems". MARDWA has currently transferred the ownership to local government units 315 small reservoirs, 640 irrigation pumping stations all together with the respective irrigation schemes for irrigation about 100 000 ha.*
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- Water users organizations and their unions as the lowest level of administration. *Actually, there are established and operate 3 pilot WUOs, that have irrigation infrastructure in use for about 12 000 ha, while a considerable number are in process of establishing in all zones of the country.*
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- Involvement of private sector in irrigation and drainage management after identifying the eventual options

Thank you for your attention