EUSDR Environmental Pillar Stakeholder Seminar

Serbian Water Management Strategy - Challenges of Water Management in a Non-EU Country

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SERBIA

Area: 88,361 km²

Population: ca. 9,000,000

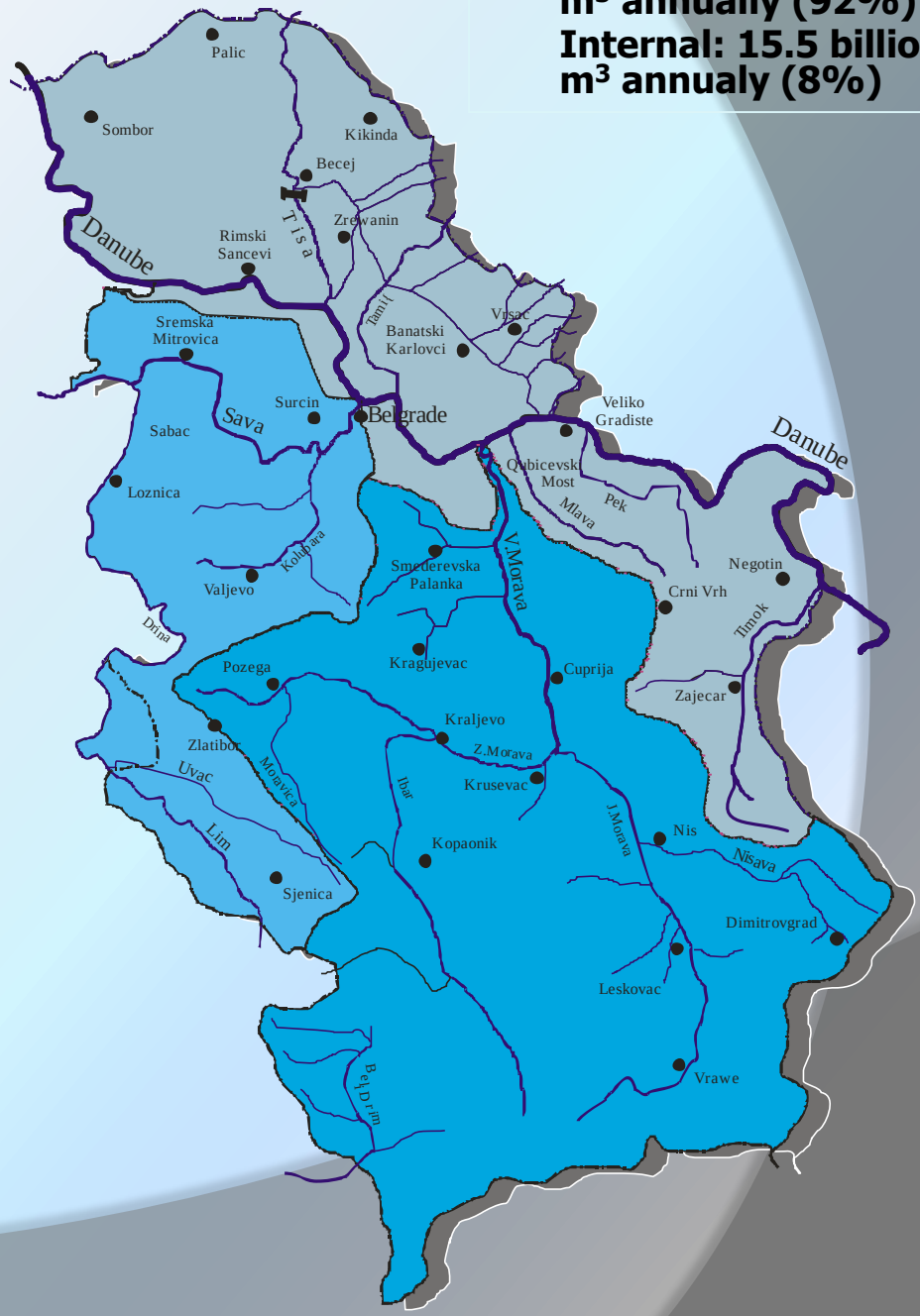
Transboundary rivers:
Danube, Tisa, Sava, Drina, etc.

National rivers:
Velika Morava, Timok, Kolubara, etc.

→ Black Sea: 174.5 billion m³/year
→ Adriatic Sea: 2 billion m³/year
→ Aegean Sea: 0.5 billion m³/year

HYDROLOGY

Transit: 161.5 billion m³ annually (92%)
Internal: 15.5 billion m³ annualy (8%)



River	Station	Discharge (m³/s)		
		Q_{av}	$Q_{min\ 95\%}$	$Q_{max\ 1\%}$
Danube	Bezdan	2267	952	7017
	Pančevo	5264	1976	15311
Tisza	Senta	794	134	3914
Sava	Sr. Mitr.	1535	272	6379
Morava	Lj. Most	234	35	2396
Drina	Radalj	362	69	4940

STATUS OF SERBIA'S WATER SECTOR

Constitution – guarantees right to healthy environment and water

Water Law (2010) – primary water legislation that "regulates the legal status of water resources, integrated water management, water infrastructure management, water land management, sources of water sector funding, and other matters relevant to water management". Problem: Some of the implementing legislation required by the Water Law is still missing. A new Water Law fully harmonized with the WFD should be finalized by the end of 2017.

Apart from the Water Law, a number of other laws regulate certain segments of the water sector: Environmental Protection Law, Public Utilities Law, Local Administration Law, Public Property Law, etc.

Problem: Inconsistencies between some of the laws.

Planning documents in the water sector:

Water Management Strategy (adopted in 2016)

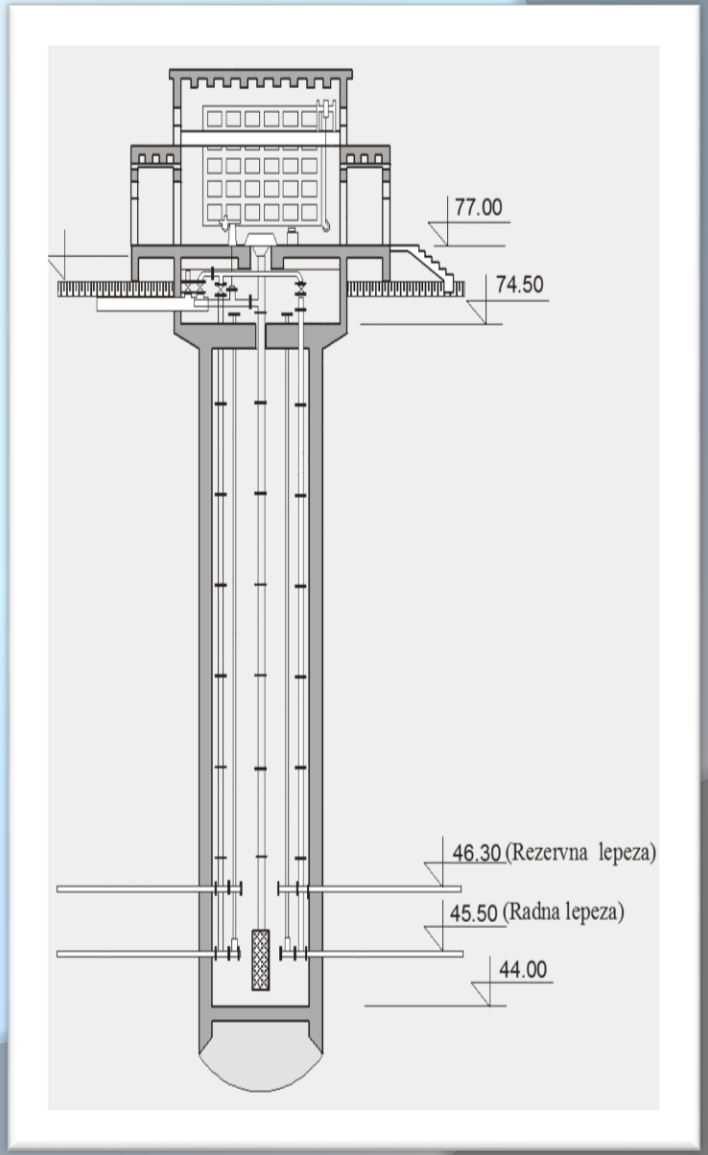
Action plan for the implementation of the Water Management Strategy (in preparation)

WATER SECTOR OVERVIEW BY SEGMENT
Water use

- 81% of the population has access to public water supply. Problems with water quality and quantity; high water losses.

Estimates show that some 1.5-2 bil. € will be needed to achieve the required status of water supply (Drinking Water Directive)

- Only 40% of the existing public irrigation systems are operational (ca. 40,000 ha).



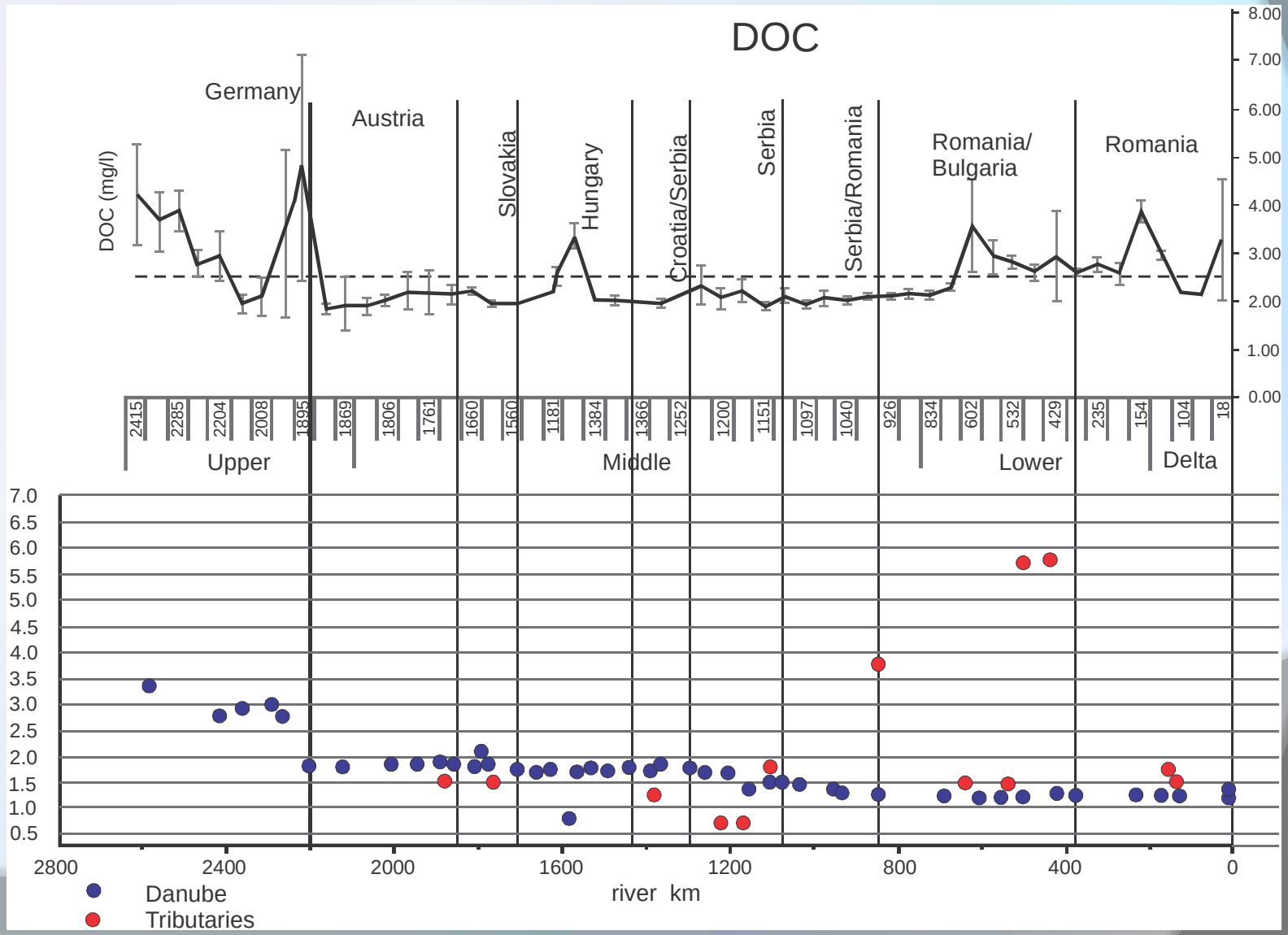
WATER SECTOR OVERVIEW BY SEGMENT
Water pollution control

- Most problematic segment of the water sector.
- About 54% of the population has access to public sanitation.
- 33 WWTPs, but relatively few operate to design criteria (ca. 5-6%).

Estimates show that about 5 bil. € will be needed to comply with the Urban Waste Water Treatment Directive.

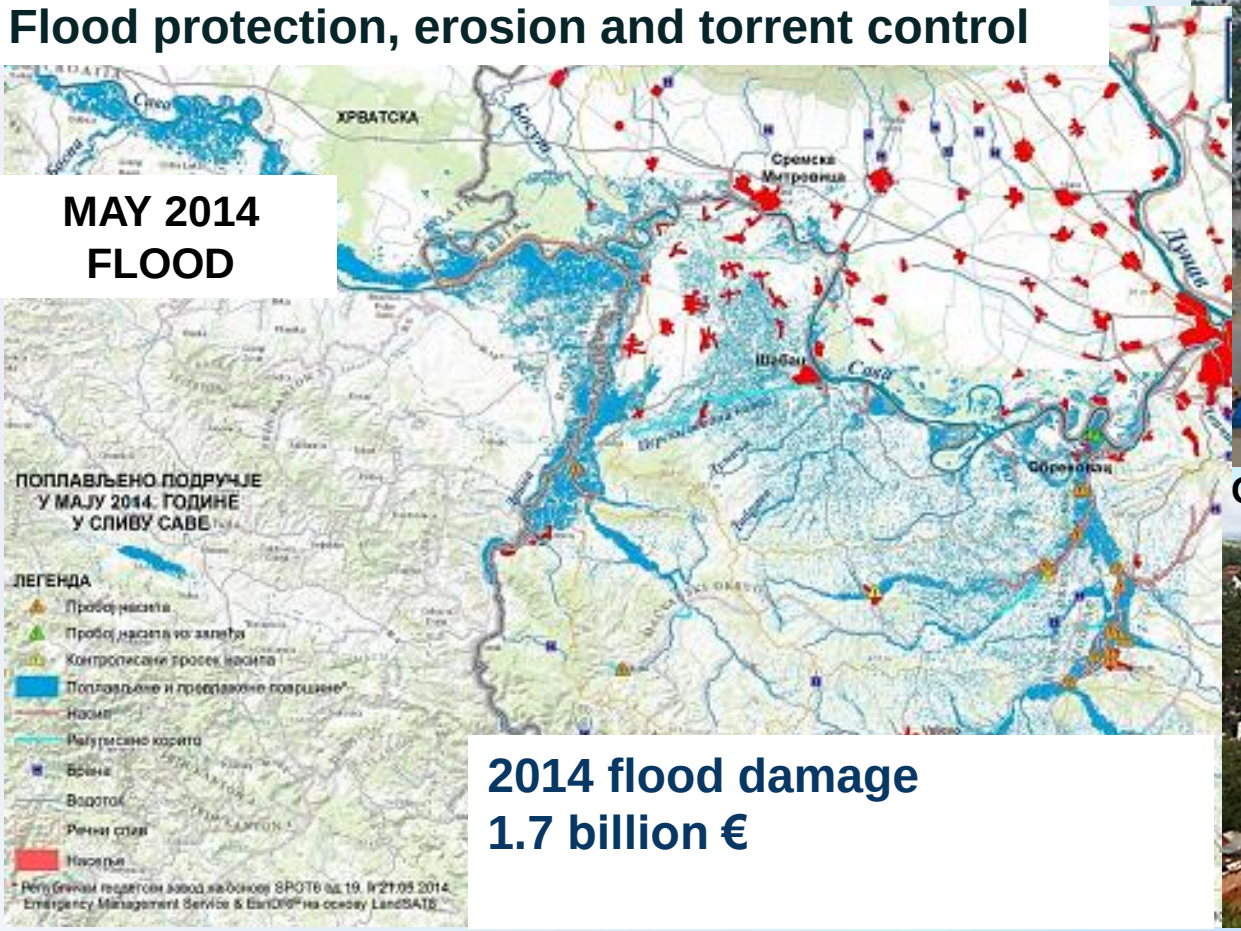
Water quality of the largest rivers

DOC and total nitrogen in JDS3 samples collected from the Danube and select tributaries



WATER SECTOR OVERVIEW BY SEGMENT

Flood protection, erosion and torrent control



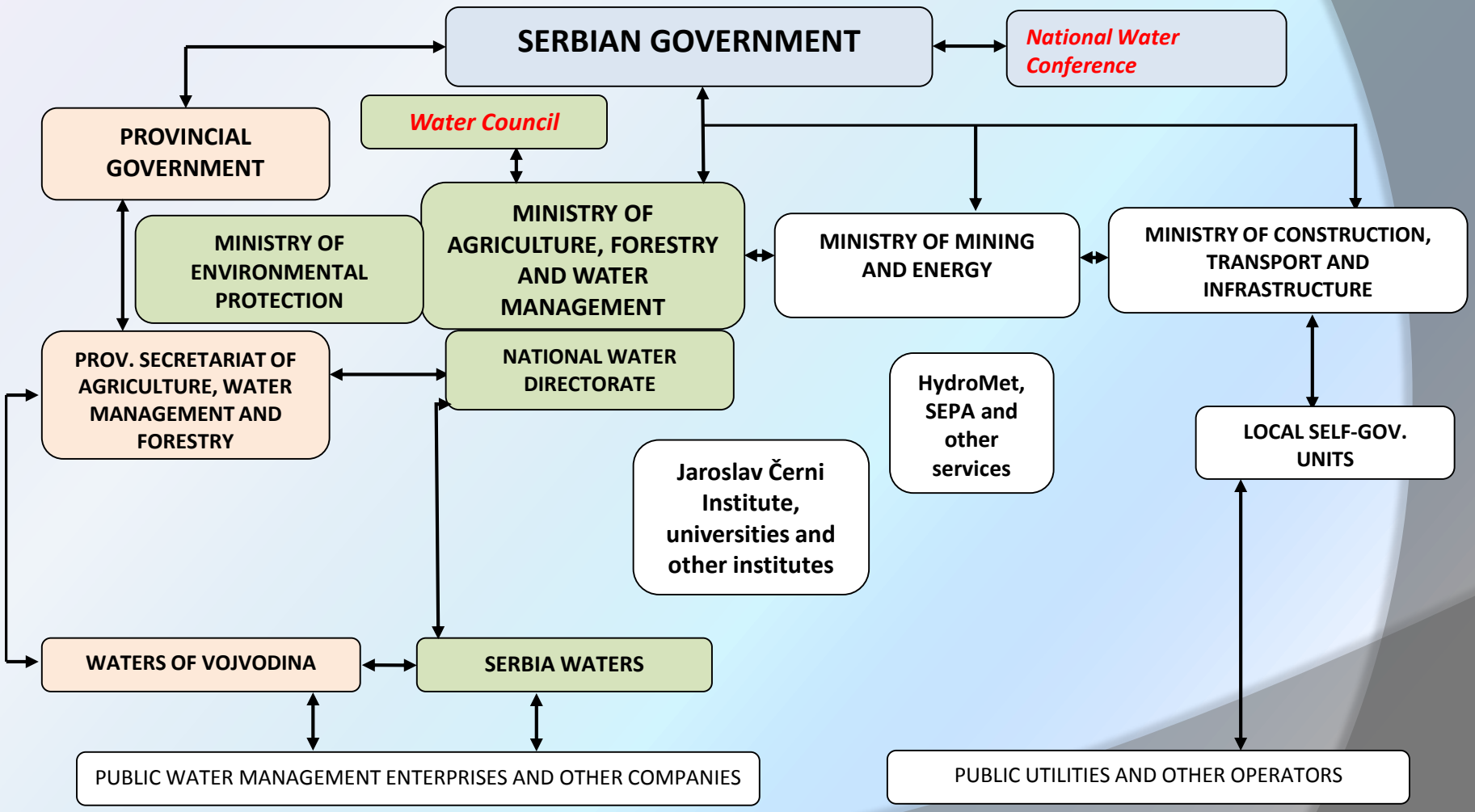
MAY 2014 FLOOD

OBRENOVAC 2014

2014 flood damage
1.7 billion €

- 3,550 km of levees and other types of linear defenses in place.
- A large part of the territory is still threatened by floods, and there is a potential flood risk even in areas where protection systems are available.
- Erosion has not yet been adequately addressed.
- Flashflood issues are growing.
- About 1 bil. € will be needed to solve these problems.

LEGAL AND ORGANIZATIONAL ASPECTS OF WATER MANAGEMENT IN SERBIA



Current legal and institutional solutions

INTERNATIONAL COOPERATION

Participation in international activities in the Danube, Sava and Tisza river basins.

ICPDR – participation in the establishment of the:

- Danube River Basin Management Plan (2009) and Updated Danube River Basin Management Plan (2015),
- Integrated Tisza River Basin Management Plan (2011),
- Flood Risk Management Plan for the Danube River Basin (2015).

The Sava Commission – participation in the establishment of the:

- Sava River Basin Management Plan (2015).

Establishment of bilateral agreements with neighboring countries and updating of existing agreements with Romania and Hungary.

Transposing of EU directives into national legislation.

ECONOMIC CHALLENGES

Revenue collection

- **Water sector revenues insufficient to maintain the current state of affairs, let alone fund needed capital projects.**

  Collected funds: 300-350 mil. €/year

  Needed funds: ca. 1,000 mil. €/year

Sources of funding

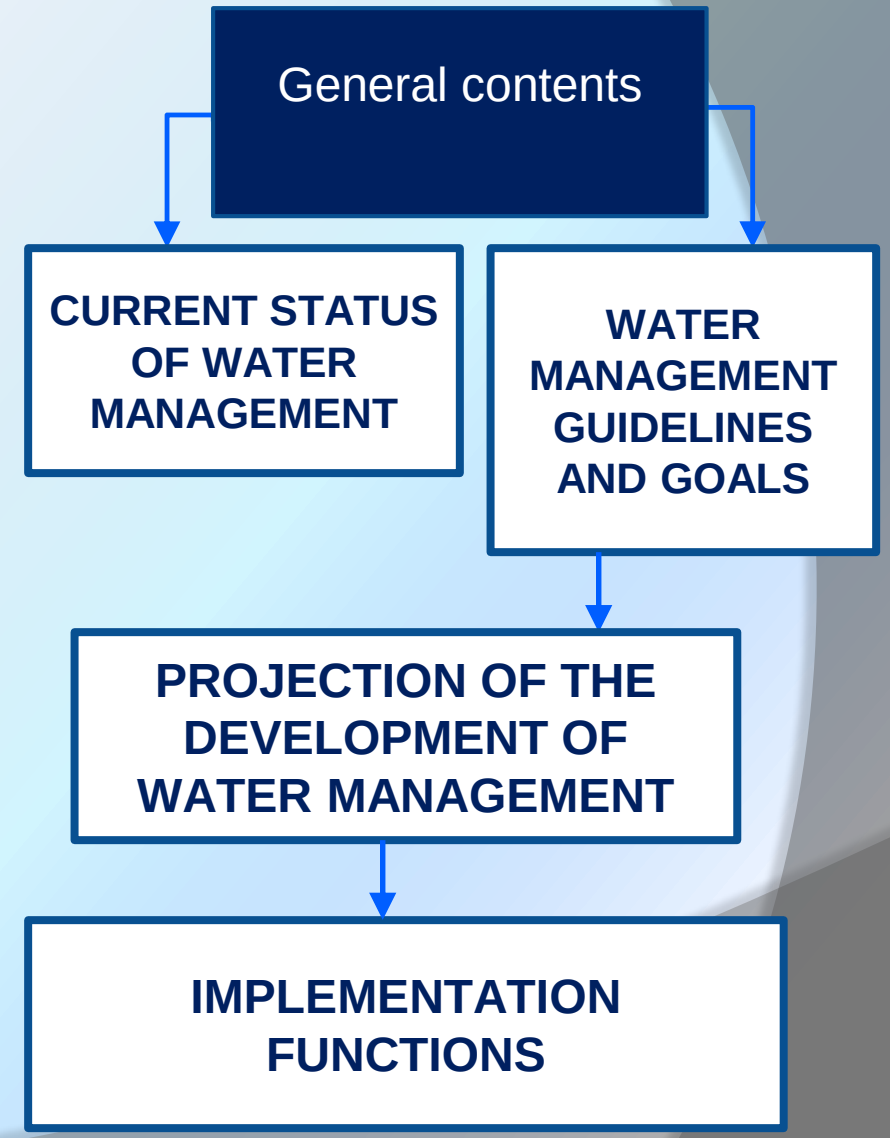
- **Water tariffs**
- **Water resource fees**
- **Accrual of national funds**
- **IPA and other accession funds**
- **Loans**
- **PPP**

Problem: large national debt

REASONS AND OBJECTIVES OF THE STRATEGY

Serbia's Water Management Strategy is a blueprint for water sector reforms aimed at achieving the required water management standards, including organizational adjustments and systemic strengthening of national and local professional and institutional capacities.

The courses of action and goals laid down in this document constitute the basis for the Danube River Basin Management Plan related to the territory of Serbia.



THE STRATEGY CALLS FOR:

1. **THE ESTABLISHMENT OF WATER GOVERNANCE, CAPACITIES AND FUNCTIONS THAT WILL ENABLE PROBLEM SOLVING AND ACHIEVEMENT OF OBJECTIVES**

2. **SOLVING OF PRIORITY PROBLEMS**

3. **ESTABLISHMENT OF INTEGRATED WATER MANAGEMENT**

PRIORITY MECHANISMS AND SOLUTIONS

1. **PLANING**

- **Water Management Strategy of the Republic of Serbia 2016-2034**
- **Action Plan for the Strategy (in preparation)**

COMPLETION OF MISSING LEGISLATION

PRIORITY MECHANISMS AND SOLUTIONS

2. INSTITUTIONAL FRAMEWORK

- **Establishment of a Water Council attached to the Serbian government**
- **Strengthening of national capacities in the water sector**
- **Setting up of regional capital project implementation centers**
- **Integration of water sector jurisdiction, to include public utilities, if possible**
- **Authorizing scientific and research organizations to support the government by carrying out activities relevant to water management**
- **Improvement of education at all levels and active public participation**

PRIORITY MECHANISMS AND SOLUTIONS

3. ECONOMIC FRAMEWORK

- **Gradual establishment of economic water pricing and service charges, and definition of differentiated tariff system**
- **Introduction of new approaches to the assessment of water resource fees and improving the rate of collection**
- **Establishment of a Water Fund**
- **Ensuring participation of the utilities sector (from profits) in funding of water sector development**
- **Creating conditions for EU and other funds, as well as private capital, to participate in water sector development funding**

4. MAJOR PROJECTS BY SEGMENT

- **Completion of a number of capital projects**
- **Infrastructure for water use – public water supply**
- **Infrastructure for water use – irrigation**
- **Infrastructure for water pollution control – wastewater treatment plants, etc.**
- **Infrastructure for flood protection and erosion and torrent control**
- **Infrastructure for drainage**

PRIORITY MECHANISMS AND SOLUTIONS

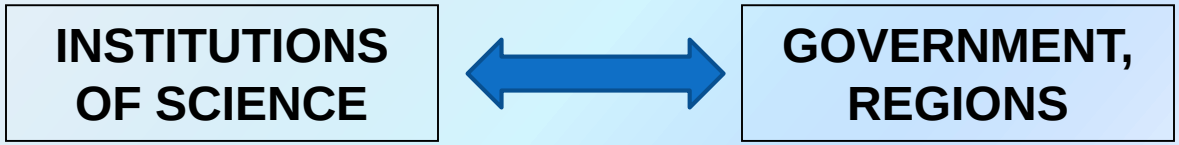
5. REQUIRED FUNDING

10-year development

Source Segment	National and provincial budgets	Public utilities (from water tariffs)	Other sources	IPA and other funds	Local admin.	Project owners' resources	Total
Water supply	210	105	53	175	105	53	700
Sanitation and water pollution control	268	95	221	363	95	189	1,231
Stormwater drainage	60		280		260		600
Protection against the adverse effects of water	203			68	68		338
Land reclamation	65		108	81	60	322	637
TOTAL	806	200	662	687	587	564	3,506
% share	23	6	19	20	17	16	100

ROLE OF SCIENCE AND EDUCATION IN THE DEVELOPMENT OF SERBIA'S WATER SECTOR

- Provision of a sufficient number of quality human resource to respond to higher water management requirements
- Direct involvement and support to the government (government and regions)
  - Studies and plans
  - Participation in timely preparation of capital projects
  - International cooperation
- Active involvement in advisory bodies (e.g. Water Council)
- Participation in transfer of technologies



CONCLUSIONS

1. THE ACHIEVEMENT OF A SOUND WATER SECTOR STATUS REQUIRES ADAPTIVITY TO CONDITIONS AND CHANGES → CLIMATE, ECONOMIC, SOCIAL, POLITICAL

2. SERBIA NEEDS TO DEVELOP:

- KNOWLEDGE AND SKILLS
- ECONOMIC GOVERNANCE AND WATER SECTOR FUNDING
- ADEQUATE CAPACITY OF THE:
  - STATE ADMINISTRATION
  - SCIENTIFIC ORGANIZATIONS
  - OPERATORS AND SERVICE PROVIDERS

3. A SERIES OF CAPITAL PROJECTS NEED TO BE PREPARED AND IMPLEMENTED.