

# Regional Roundtable “Water, Food, Energy and Environment Nexus in Southeastern Europe”

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## Trade-Offs Among Water, Food & Environment Experiences from the Drina River Basin

by

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In the framework of:

**South East Europe 2020 Strategy**  
**Petersberg Phase II / Athens Declaration Process**  
**UNECE Water Convention**  
**Mediterranean Component of the European Union Water Initiative**  
**Environment and Security Initiative, SEE Region**

# Experiences from the Drina River Basin

## Overview

- ❖ The Drina River Basin

- ❖ Major issues

- ❖ Trade-offs between agriculture and water, energy and environment

- ❖ Goals: More education, more jobs & more infrastructure

- ❖ Means: Integrated Water Resources Management

Drina River Basin Management Plan

- ❖ The future of the Drina Basin

Agreements and Memoranda of Understanding (MOUs)

Investment Ranking

# Definitions

## **Trade-off**

An exchange of one thing for another one, especially the relinquishment of one benefit or advantage for another one regarded as more desirable.

Or: a situation in which you must choose between or balance two things that are opposite or cannot be had at the same time.

Or: something that you do not want but must accept in order to have something that you want.

## **Nexus**

«bound together»,

A connection or series of connections linking two or more things.

## **Win-Win situation**

A situation by which cooperation, compromise, or group participation leads to all participants benefiting.

# Na Drini Cupria





# The Drina River Basin



# The Drina River Basin\*

## River Basin Area 20,320 km<sup>2</sup>

- ❖ Montenegro 31,5%
- ❖ Serbia 30,5%
- ❖ Bosnia and Herzegovina 37%
- ❖ Albania 1%

**Drina River flow:  $Q_m = 400 \text{ m}^3/\text{s}$**

**Flow volume:  $V_a = 12.6 \text{ B m}^3$**

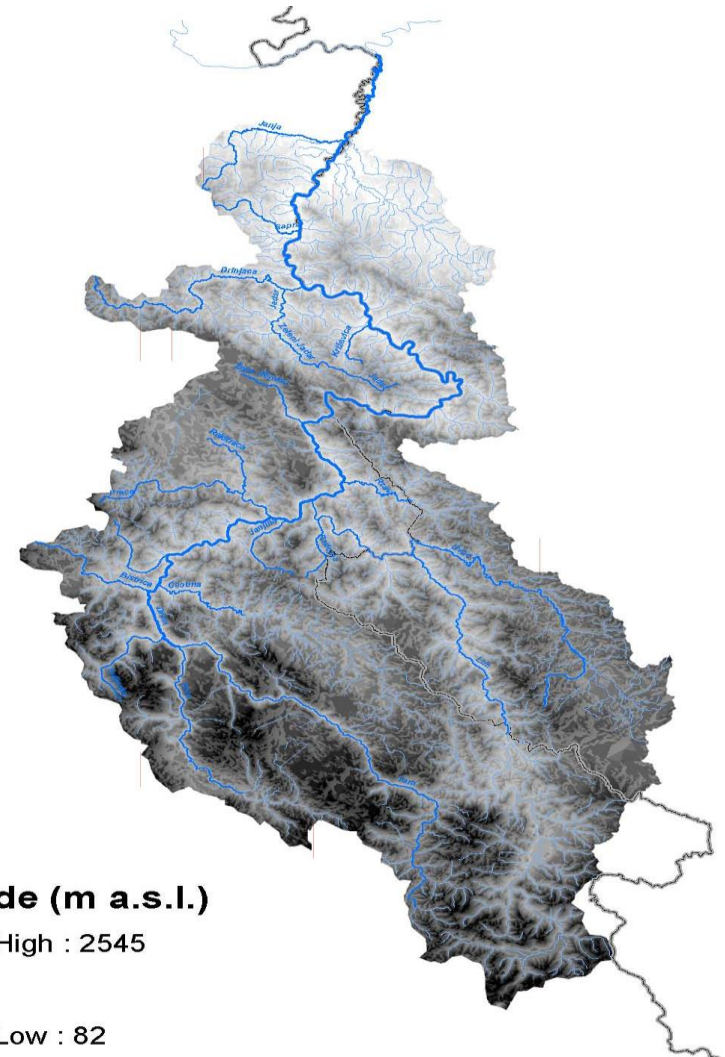
## Major tributaries

- Lim 5,970 km<sup>2</sup> (RS+ME+BA+AL)
- Tara 2,066 km<sup>2</sup> (ME+BA)
- Piva 1,184 km<sup>2</sup> (ME)
- Čehotina 1,240 km<sup>2</sup> (ME+BA+RS)
- Prača 1,018 km<sup>2</sup> (BA)
- Drinjača 1,090 km<sup>2</sup> (BA)

## Population

**About 1 million inhabitants**

\*Source: Jaroslav Cerni Institute, Belgrade

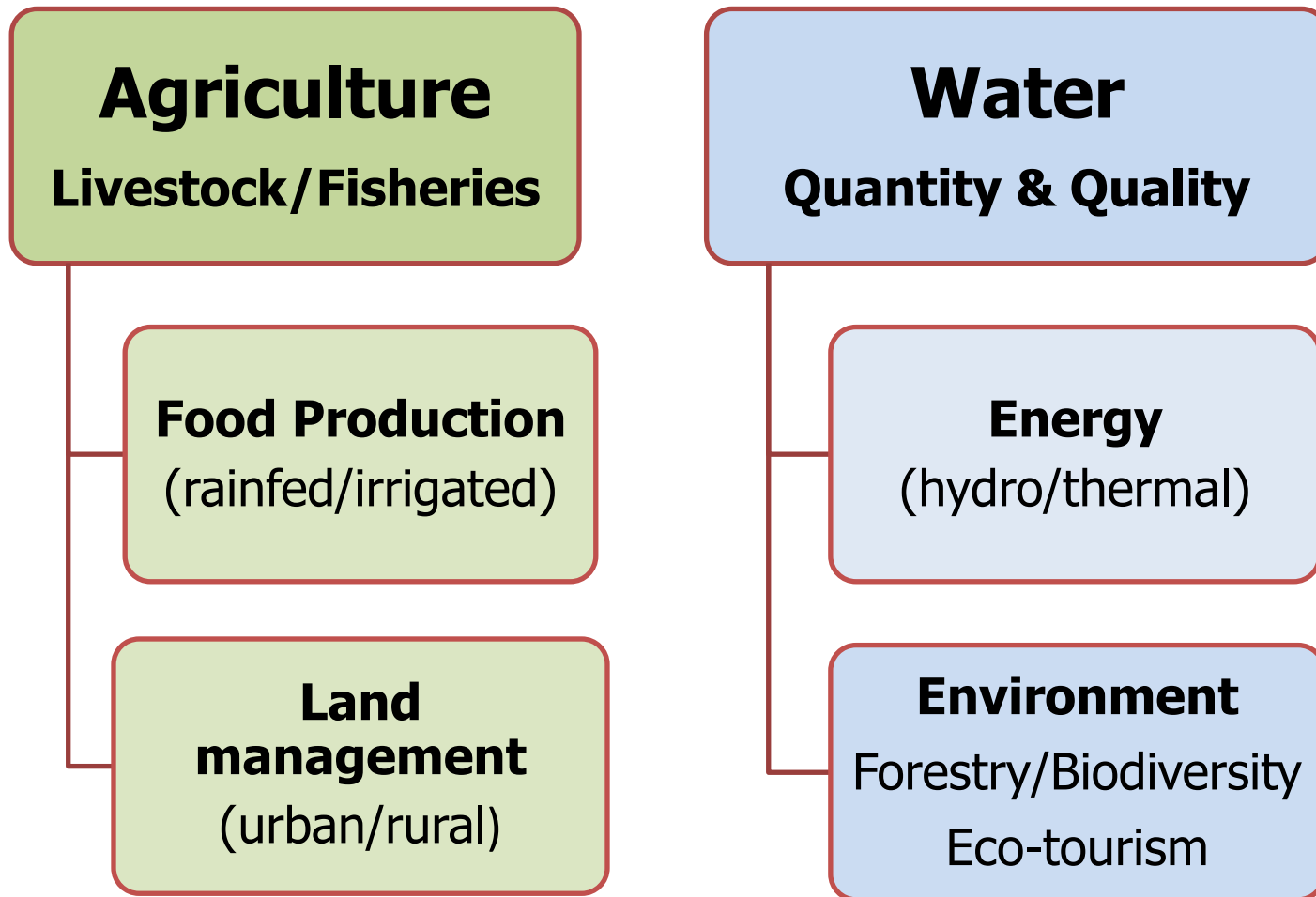


# Major Issues\*

- Sensitization (of stakeholders) and promotion (of Drina River Basin Management Planning)
- Acquisition, analysis, publication and dissemination of data
- Hydropower development
- Environmental protection (garbage and waste water)
- Flood risks (early warning system) and flood protection (dykes, retention capacity, HPP operation)
- Eco-tourism development
- Fishery development
- Legislation
- Potential investments and investment project ranking
- EU accession context

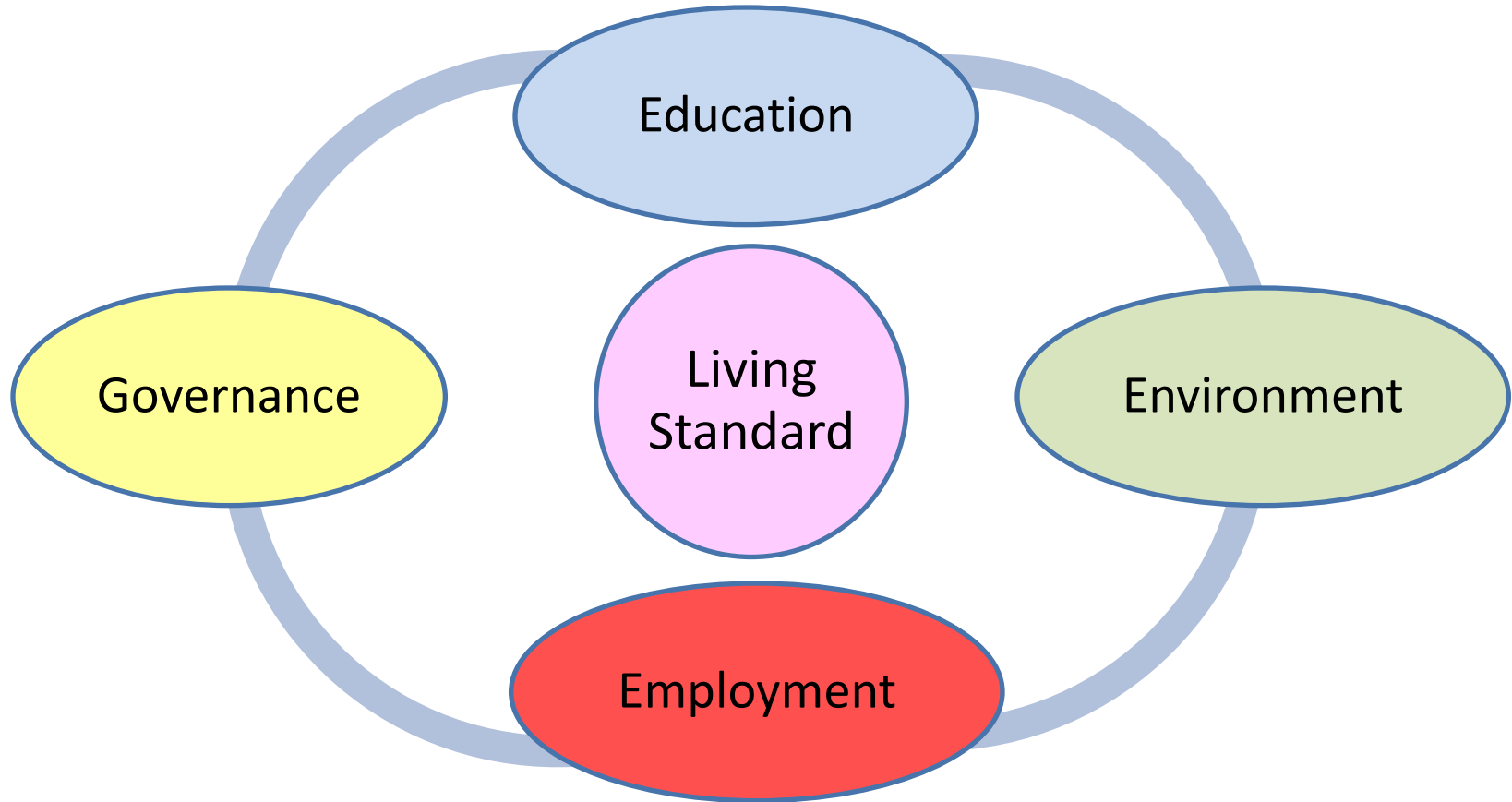
\*These issues emerged from a national consultation workshop held in 2012

# Trade-offs between agriculture and water, energy and environment

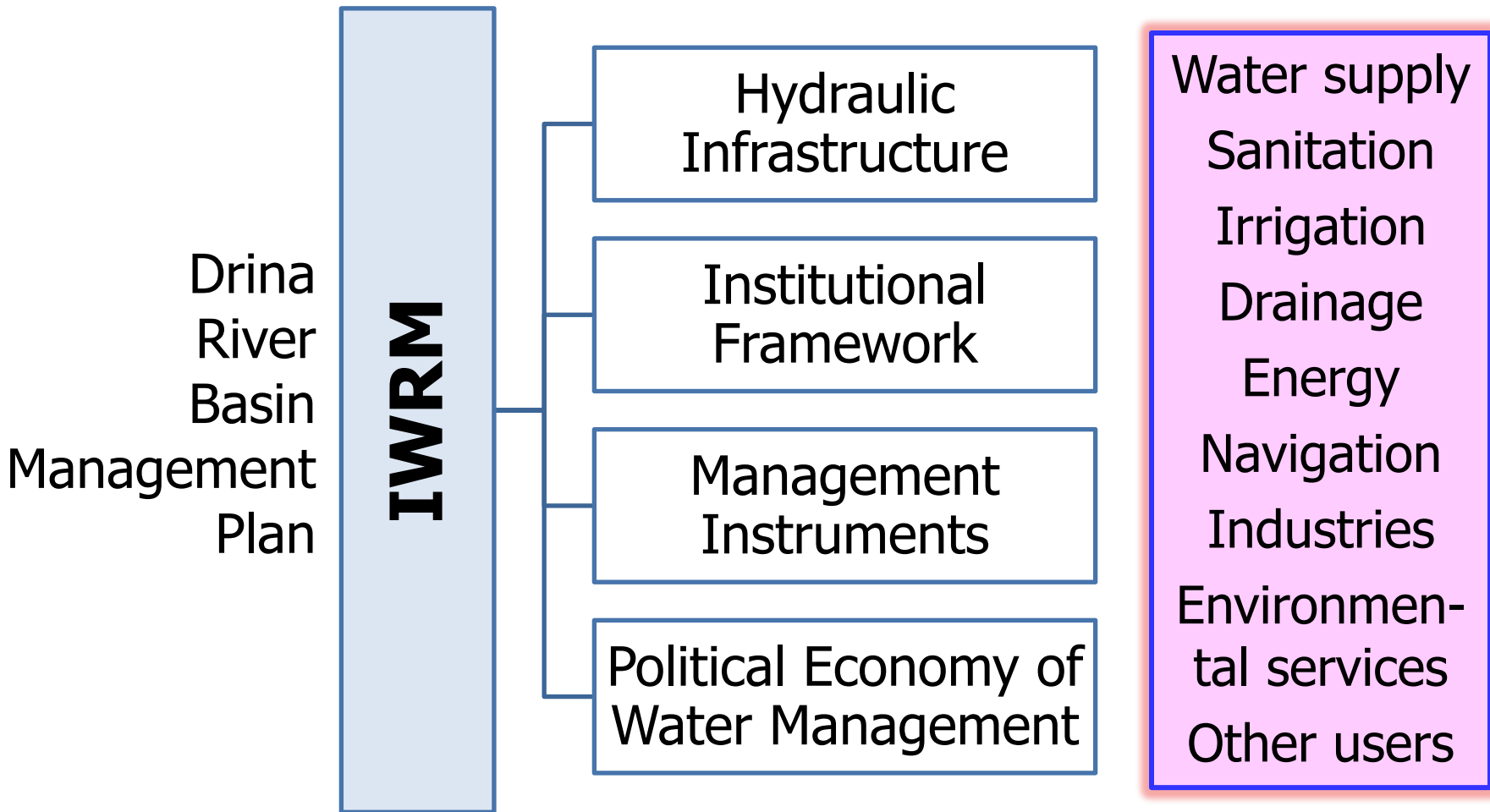




# Goals: More education, more jobs and more infrastructure



# Means: Integrated Water Resources Management (IWRM)



# Means:

## Integrated Water Resources Management

### What is missing?

A **driver** who brings together the four parties to set common goals for win-win solutions in

1. Flood protection,
2. Drought mitigation,
3. Hydropower development,
4. Environmental protection.

Once a common framework – the Drina River Basin Management Plan - is agreed upon, each party can undertake sector development according to their own priorities, such as local food production, eco-tourism or small industries.

This process should start under existing institutions such as the International Sava River Basin Commission.

# The future of the Drina River Basin Agreements and MoUs

- ❖ **Local**  
Among municipalities or communities
- ❖ **National**  
Among entities, regions or cantons
- ❖ **Bi-lateral**  
BiH - Serbia, MTE - BiH, Serbia - MTE
- ❖ **Multi-lateral**  
Bosnia & Herzegovina - Montenegro - Serbia
- ❖ **International**  
ISRBC (International Sava River Basin Commission)

# The future of the Drina River Basin

## Investment Ranking

### 1. Flood Management

- Prevention, protection and preparedness

### 2. Drought Management

- Potable and irrigation water supply
- Environmental flow

### 3. Hydropower Generation

- Optimization of reservoir operation
- Construction of hydropower plants (HPPs)

### 4. Eco-tourism

- Optimization of reservoir operation
- Construction of hydropower plants (HPPs)

### 5. Local food production and fisheries

- Dairy products, meat, fruit crops, cereals, pulses, and vegetables
- Fish products

### 6. Small industries and handicrafts

- Tools, electronics, spare parts, etc.
- Traditional handicrafts



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*	1	2	3	4	5	6
1	o		X			
2		o	X			
3	X		o			
4	X		X	o		
5	X		X		o	
6	X	X	X	X		o

\* Vertical ranking: **X** = Nexus among the ranked investment fields

# Questions for Discussion

1. How Montenegro could become a full-fledged member of the ISRBC?
2. How could an MoU for a common approach to solve pending issues in the Drina River Basin (DRB) be ASAP signed by the riparian countries (Montenegro, Serbia and Bosnia & Herzegovina including the Federation of BiH and the Republica Srpska)?
3. How could the 57 municipalities located in the DRB participate actively in problem solving and decide for improving their living conditions?
4. Do we need a DRB Agency or is the ISRBC able/authorized to take decisive actions in DRB management planning?
5. How can data management and transparency of actions be improved among the three riparian countries?