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GEF SCCF West Balkans Drina River Basin Management Project

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ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

GEF-SCCF grant, No. BA/RS/MN-DRINA-GEF/SCCF-IC-CS-15-05

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ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

TECHNICAL SUPPORT PAPERS

1. Contents

1. CONTENTS 2

1. NATURAL AND GEOGRAPHICAL CHARACTERISTICS OF DRINA RIVER BASIN 7
1.1 Geological and hydrogeological characteristics of DRB 7
1.2 Protected areas in DRB 12
1.3 Land Use in DRB 15
1.4 Hydropower 17
1.5 Water Quality and Water Use 20
1.6 Flood Hazards and Risks 23
1.7 Climate Change 27
1.8 Monitoring 29

2. WATER AND ENVIRONMENTAL LEGAL FRAMEWORK IN DRINA RIVER BASIN 33
2.1 Water Legal Framework in DRB 33
2.2 Environmental Legal Framework in DRB 48
2.3 Social Legal Framework 75

3. SOCIAL ANALYSES AND MANAGEMENT 86
3.1 Social Analyses 86
3.1.1 Demographic profile 86
3.1.2 Gender 89
3.1.3 Rural and Urban Areas 93
3.1.4 Employment 94
3.1.5 Poverty 98
3.2 Social Management 100

4. WATER AND ENVIRONMENT MANAGEMENT STRUCTURE IN DRINA RIVER BASIN 118
4.1 Water management organization in DRB 118
4.2 Environmental protection institutional organization in DRB 132

ABBREVIATIONS AND ACRONYMS

BiH	Bosnia and Herzegovina
BP	Bank Procedures
CPS	Country Partnership Strategy
CSW	Center for Social Work
DfW	Directorate for Water of Montenegro
DRB	Drina River Basin
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ESMF	Environmental Social Management Framework
ETS	Emissions Trading System
EU	European Union
FASRB	Framework Agreement on the Sava River Basin
FBiH	Federation of Bosnia and Herzegovina
FHMS	Federal Hydro-Meteorological Service
FMoET	Federal Ministry of Environment and Tourism
GEF	Global Environment Facility
HPP	Hydro Power Plant
IHMS	Institute of Hydro-Meteorology and Seismology of Montenegro
IPPC	Integrated Prevention and Pollution Control
ISRBC	International Sava River Basin Commission
IWRM	Integrated Water Resource Management
KM	Convertible Marks (BiH currency)
MAEP	Ministry of Agriculture and Environmental Protection
MAFWM	Ministry of Agriculture, Forestry and Water Management
MARD	Ministry of Agriculture and Rural Development
MEC	Monitoring and Evaluation Consultant
MNE	Montenegro
MOFTER	Ministry of Foreign Trade and Economic Relations
MSDT	Ministry of Sustainable Development and Tourism
NASA	National Aeronautics and Space Administration
NBSAP	Strategy of Bosnia and Herzegovina with an action plan for protection of biological and landscape diversity
NGO	Non-Governmental Organization
OP	Operational Policy
OG	Official Gazette

ORAF	Operational Risk Assessment Framework
PIU	Project Implementation Unit
POM	Project Operation Manual
PPE	Personal protection Equipment
RBMP	River Basin Management Plan
REC	Regional Environmental Center
RHMS	Republic Hydro-Meteorological Service of the Republic of Serbia
RS	Republic of Srpska
RSRB	Republic of Serbia
RWD	Republic Water Directorate
SAP	Strategic Action Program
SCCF	Special Climate Change Fund
SEA	Strategic Environmental Assessment
SESA	Strategic Environmental and Social Assessment
SFRY	Social Federative Republic of Yugoslavia
SNC	Second National Communication
SRB	Serbia
TA	Technical Assistance
TPP	Thermo Power Plant
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Rights and Emergency Relief
WA	Water Authorities
WB	World Bank
WBDIWRM	Drina Integrated Water Resource Management – COWI led project
WBDRBM	West Balkans Drina River Basin Management
WBIFDM	West Balkans Regional Initiative on Flood and Drought Management
WFD	Water Framework Directive
WEA	Water-endangering activities
WED	Water-endangering deposition
WMMP	Water Management Master Plan
WMO	World Meteorological Organization

LIST of FIGURES

FIGURE 1.1-1: GEOLOGICAL MAP OF DRINA RIVER BASIN 7
FIGURE 1.1-2: HYDROGEOLOGICAL MAP OF THE DRINA BASIN 9
FIGURE 1.2-1: MAP OF EXISTING AND PLANNED PROTECTED AREAS IN DRINA RIVER BASIN 13
FIGURE 1.3-1: LAND USE FOR THE DRINA RIVER BASIN 15
FIGURE 1.6-1: AREA AFFECTED BY MAY 2014 FLOODS 25
FIGURE 1.7-1: CHANGE IN THE MEAN ANNUAL TEMPERATURE 28
FIGURE 2.1-1: WFD TRANSPOSITION STATUS IN DRB COUNTRIES 48
FIGURE 3.1-1: POPULATION STRUCTURE BY AGE GROUPS AND SEX ACCORDING TO HOUSEHOLD BUDGET 90
FIGURE 3.1-2: POPULATION, BY AGE AND SEX, 2011 (IN%) 91
FIGURE 3.1-3: POPULATION BY MAJOR AGE GROUPS AND SEX, 1953, 1981, 2011 AND 2041 (IN%) 91
FIGURE 3.1-4: AGE PYRAMID, COMPARISON OF 1971 VS. 2011 92
FIGURE 3.1-5: LABOURE FOURCE OF BIH 95
FIGURE 3.1-6 NUMBER OF EMPLOYED IN BIH 95
FIGURE 3.1-7: EMPLOYMENT/UNEMPLOYMENT RATE IN MONTENEGRO NORTHERN MUNICIPALITIES. 96
FIGURE 3.1-8: UNEMPLOYMENT RATE IN SERBIA 97
FIGURE 3.2-1: FLOWCHART OF COMPLAINTS/GRIEVANCE PROCEDURE 116
FIGURE 4.1-1: ORGANIZATIONAL STRUCTURE OF MARD 124
FIGURE 4.1-2: ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION (BASIC) 128
FIGURE 4.2-1: ORGANIZATIONAL STRUCTURE OF MOFTER 134
FIGURE 4.2-2: ORGANIZ. STRUCTURE OF MINISTRY OF PHYSICAL PLANNING, CIVIL ENGINEERING AND ECOLOGY OF RS 135
FIGURE 4.2-3: ORGANIZATIONAL STRUCTURE OF MSDT 138
FIGURE 4.2-4: ORGANIZATIONAL STRUCTURE OF EPA MONTENEGRO 140
FIGURE 4.2-5: ORGANIZATION OF THE MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION 141
FIGURE 4.2-6: ORGANIZATION OF THE SECTOR OF ENVIRONMENTAL PROTECTION - MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION 143
FIGURE 4.2-7: ORGANIZATIONAL STRUCTURE OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) SERBIA 144
FIGURE 4.2-8: ORGANIZATIONAL STRUCTURE OF THE INSTITUTE FOR NATURE CONSERVATION ... 147

LIST of TABLES

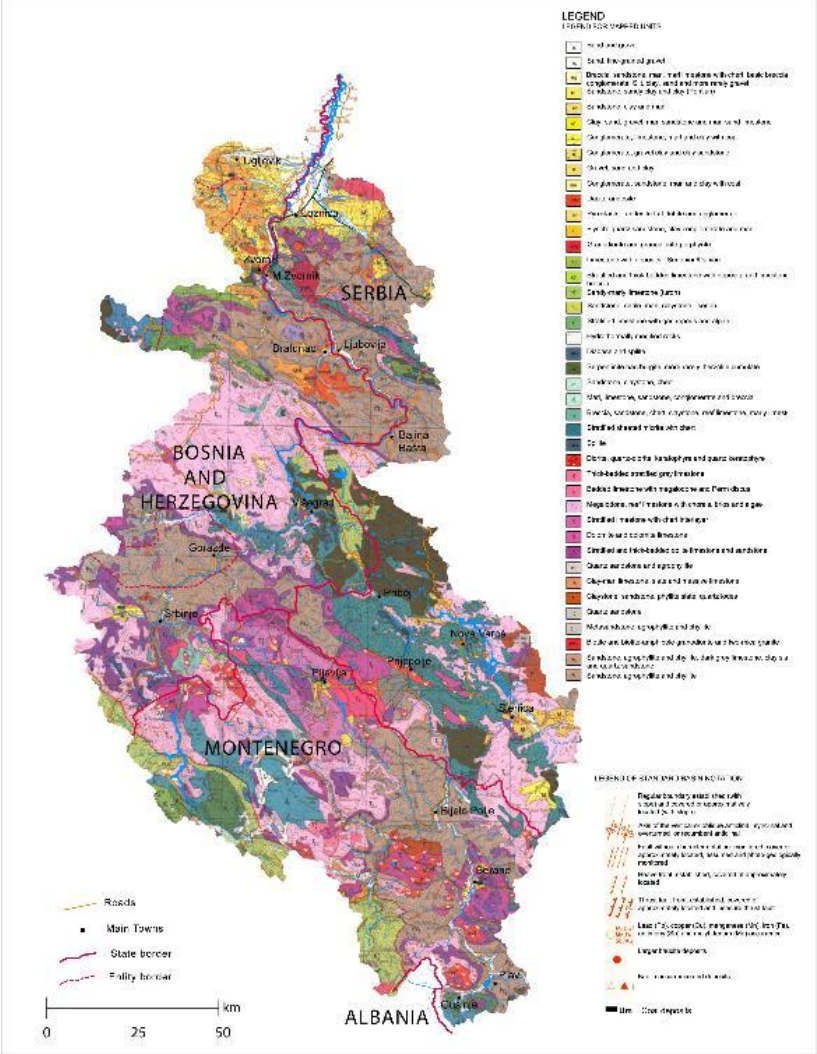
TABLE 1.2-1: PROTECTED AREAS OF BIH, MONTENEGRO AND SERBIA IN THE DRINA RIVER BASIN ...12
TABLE 1.4-1: EXISTING HYDROPOWER FACILITIES IN DRB ...19
TABLE 1.8-1: MOST IMPORTANT INSTITUTIONS CONCERNED WITH MONITORING IN THE DRB ...29
TABLE 3.1-1: EU WFD ARTICLES NOT TRANSPOSED WITH MONTENEGRIN LEGISLATION AND DEADLINE ...42
TABLE 3.1-2: PLANNED HARMONIZATION OF THE EU WFD WITH SERBIAN LAW ON WATERS ...45
TABLE 3.1-1: DEMOGRAPHIC PROFILE OF DRB IN BIH ...86
TABLE 3.1-2: DEMOGRAPHIC PROFILE OF DRB IN SERBIA ...87
TABLE 3.1-3: DEMOGRAPHIC PROFILE OF DRB IN MONTENEGRO ...89
TABLE 3.1-4: POPULATION BY MAJOR AGE GROUPS ...90
TABLE 3.1-5: STRUCTURE OF POPULATION IN MNE ...94
TABLE 3.2-1: STAKEHOLDERS ...108
TABLE 4.1-1: GENERAL ASSESSMENT OF CAPACITIES OF THE RWD, MEAP (WATER PROTECTION SECTOR), EPA AND RHMS ...129

1. Natural and geographical characteristics of Drina River Basin

1.1 Geological and hydrogeological characteristics of DRB

Geological composition of the Drina River Basin is very complex, due to numerous mountain building epochs and tectonic movements (there have been several orogenesis), transgressions and regressions etc. In summary the geology in the upper DRB comprises massive, thinly bedded limestone, dolomitized and sandy limestone, and rarely dolomites, and purely reef organic limestone; marls and shales from the Neo- gene, Cretaceous flysch diabase-chert formation and schists. The middle DRB comprises igneous rocks, serpentines, sandstones, locally sandy and marl limestone. In the lower DRB there are gravels, sandy gravels and gravely sands, and sporadic sands.

FIGURE 1.1-1: GEOLOGICAL MAP OF DRINA RIVER BASIN



Source: WBDIWRM Inception Report

A more detailed description of the lithological composition of the DRB can generally be divided into several units; the terrain in the lower part of the DRB, downstream of Zvornik, is composed of the youngest formations, i.e. Tertiary and Quaternary sediments: sandstone, marl, clay stone and conglomerate belong to the Tertiary, and massive deposits of alluvial-terrace gravel to the Quaternary period (with a negligible share of river sand and slope clay).

Upstream to Perućica, the terrain is generally composed of Paleozoic metamorphic rocks characterized with lower crystallinity (e.g. argillo-schist, chlorite-sericite shale and phyllite). They are locally covered with younger formations or perforated by igneous rocks. Within the younger formations limestone prevails. Trias- sic dolomites,

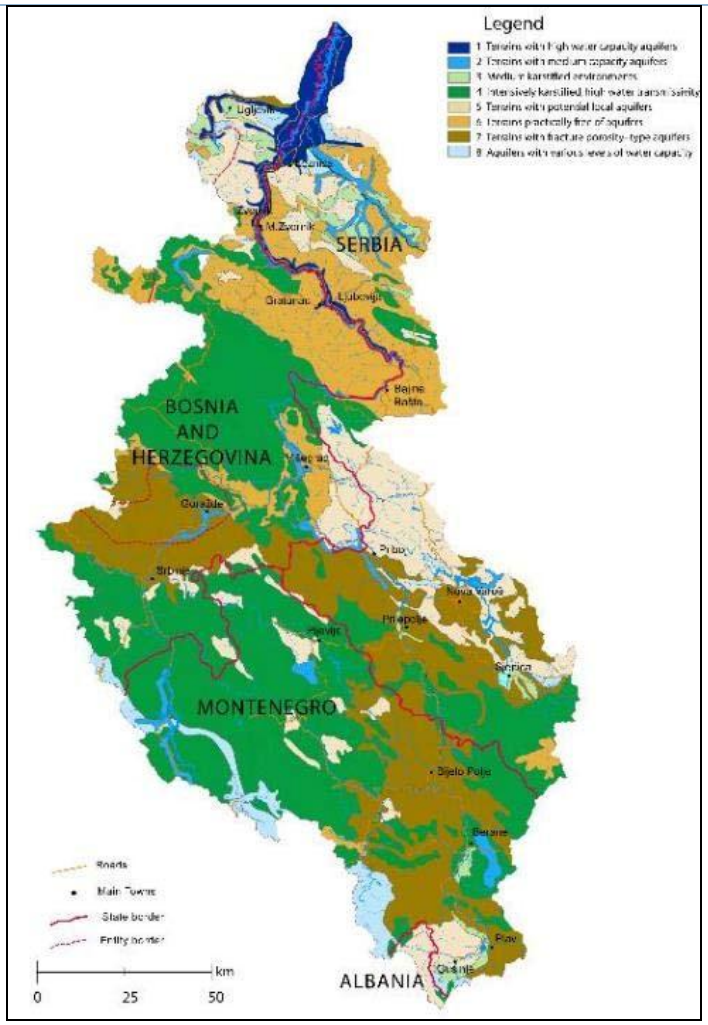
while granodiorite and dacite-andesite are formed of impressed, effusive igneous rocks (dacite-andesite) which are partly covered with pyroclastic rocks.

Within the basin from Perućica to Gorazde in the western part limestone rocks of Triassic age prevail, mostly intensively karstified rocks, and in the eastern part three units are present: upper-Cretaceous marl and siltstone; peridotite complex and an ophiolitic melange. The upper part of the DRB, from Gorazde to Foca, consists of two dominant units: Paleozoic metamorphics (shale with lower crystallinity) and Triassic limestone-dolomites.

The farthest upstream part of the basin grade Triassic carbonate sediments (karstified limestone, moderately karstified dolomite and marl. In the south-eastern part of the basin upper-Jurassic limestone prevails - Figure 1.1-1.

The analysis of **hydrogeological** characteristics in the DRB allows for the separation of eight environments, based upon the porosity type and the level of water-permeability. The hydrogeological characteristics are presented on the map bellow (Figure 1.1-2) and are summarized afterword.

FIGURE 1.1-2: HYDROGEOLOGICAL MAP OF THE DRINA BASIN



Source: WBDIWRM Inception Report

- **PRACTICALLY IMPERMEABLE TERRAINS (practically free of aquifers)**: The thickness of the water permeable layer is related to the surface decomposed zone of the basic rock and it was estimated that is mostly ranges from 2 to 5 m. Under this zone, the rock can be considered completely water-impermeable. Effective porosity was estimated to approximately 0.3%, because a relatively large share of fractures is filled with the clay-like fill. This group includes mostly Palaeozoic rocks, sandstone and igneous alkaline rocks.
- **GROUP OF TERRAINS WITH DISTINCTLY LOW WATER CAPACITY – terrains with potential local aquifer**s: The porosity is related to the zone of surface fracturing, fractures with secretion, interlayer fractures in the relaxed part. It can be estimated that the thickness of this aquifer type rarely exceeds 10 m parallel to the terrain surface. Effective porosity of the upper zone is up to 5% and of the

lower one up to 2%. Drainage is performed diffusely at the contact with the impermeable environment. They are present within the Lower Triassic sediments, diabase-chert formations, acidic igneous rocks, marl and flysch rocks.

- GROUP OF TERRAINS WITH AQUIFERS WITH MOSTLY LOW MALE WATER CAPACITY – terrains with aquifers of the fracture-porosity type: The porosity is related to the zone of surface fracturing, fractures with secretion, inter-layer fractures in the relaxed part. It can be estimated that the thickness of this aquifer type rarely exceeds 30 m, parallel to terrain surface. Effective porosity of the upper zone is up to 5%, of the middle zone 1to 3%, and the lower zone under 1%. Drainage is performed diffusely at the contact with the impermeable environment. This terrain type develops within serpentinites and clay-marl limestone.
- MEDIUM KARSTIFIED TERRAINS – medium water transmissivity: In this terrain group are included the rocks in which dominates the karst-fracture porosity type, where the karstification process is dominantly developed in the zones of larger fractures and fault structures. The distribution of the change in effective porosity as a func- tion of an increase in depth was performed in accordance with the division by Stepanov (1989), by adopting the lower values of effective porosity at the terrain surface. They are present within Palaeozoic and Middle-Triassic dolomites and dolomitic limestone.
- INTENSIVELY KARSTIFIED TERRAINS – high water transmissivity: For this group is characteristic a high degree of development of the karstification process, with the presence of evident karst forms, not only on terrain surface, but also in the underground. Upon the change in effective porosity with an increase in depth 6 categories (in accordance with the division by Stepanov – 1989) were separated. For comprehension of the water flow through this environment je is important the part of the rock mass within which were formed the dynamic (renewable) groundwater reserves. Taking into account the large velocities of water flow through the karst environment, it can be supposed that the major part of the water infiltrated into the underground will be drained through the upper zone, i.e. toward the local erosion basis. They are present within massive banked and layered limestone of the middle and upper Triassic and upper Cretaceous age.
- ENVIRONMENTS WITH VARIOUS LEVELS OF WATER CAPACITY (MOSTLY SMALL) – aquifers with various levels of water capacity: According to the porosity type they belong to inter-granular environments. Filtration characteristics vary

depending upon the grain size. For these environments is characteristic the vertical alternation of layers with smaller thicknesses. Due to that fact this environment cannot be considered isotropic. At this level of analysis is possible the averaging to the value of the filtration coefficient K of approximately 10^{-6} m/s in the horizontal direction and K of approximately 10^{-7} m/s in the vertical direction. They have developed within Neogene and Quaternary sediments.

- **INTER-GRANULAR ENVIRONMENTS WITH MEDIUM WATER CAPACITY – aquifers with medium water capacity**: Aquifers that belong to this porosity type can be considered homogeneous and isotropic. Filtration characteristics are defined by transmissivity (T = 10^{-4} to 10^{-3} m^2/s (T=Kh)). They are present within the alluvial and terrace sediments.
- **INTERGRANULAR ENVIRONMENTS WITH HIGH WATER CAPACITY – aquifers with high water capacity**: Aquifers that belong to this porosity type can be considered homogeneous and isotropic. Filtration characteristics are defined using transmissivity T > 10^{-3} m^2/s. They are present within the alluvium along the lower Drina River course.

1.2 Protected areas in DRB

TABLE 1.2-1: PROTECTED AREAS OF BIH, MONTENEGRO AND SERBIA IN THE DRINA RIVER BASIN

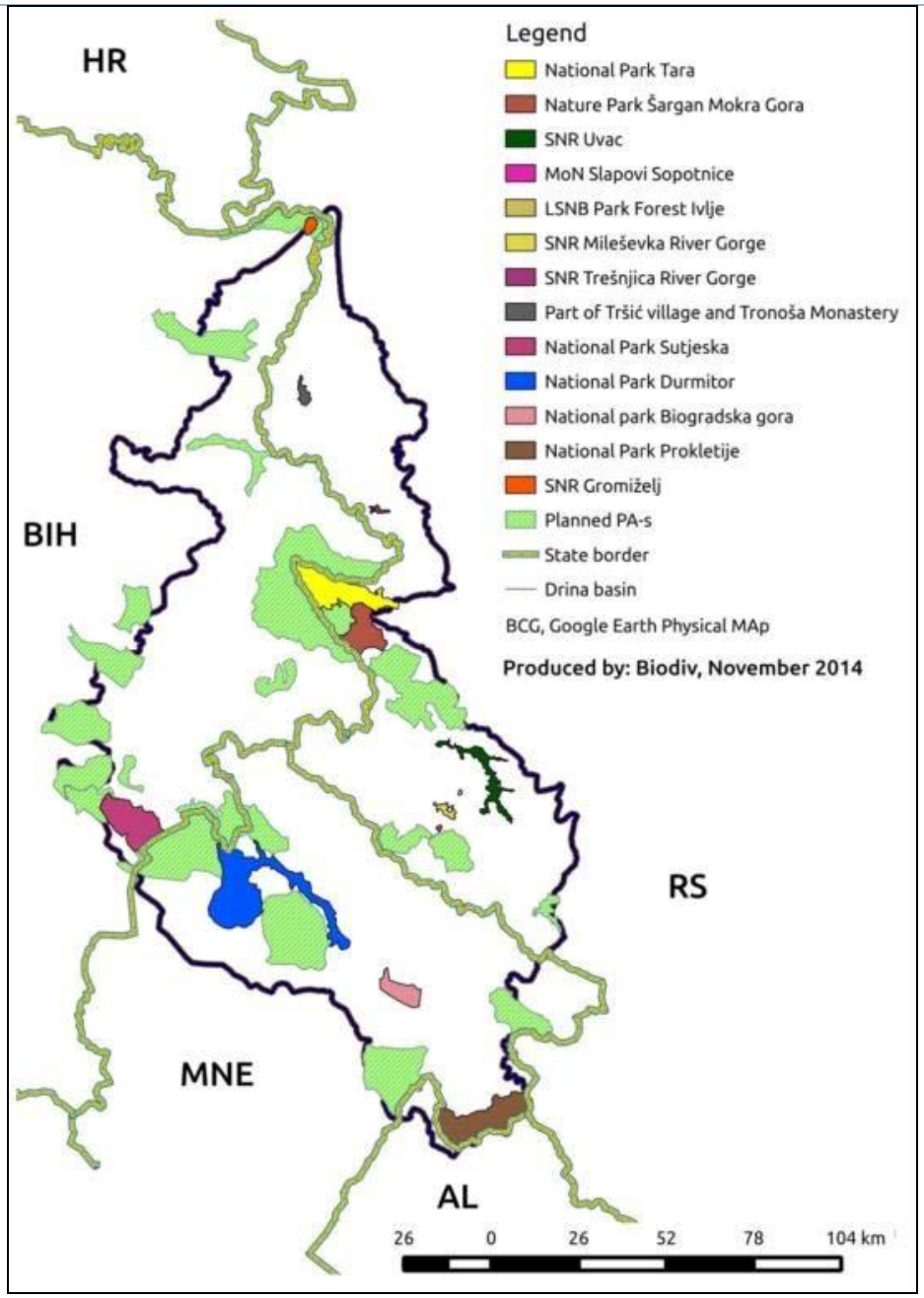
Name and type of Protected Area	Size	Date Formed
Montenegro		
Biogradska gora: NP	56.5	1952
Durmitor: NP, UNESCO world heritage site, IBA	390	1952
Prokletije: NP	166.3	2009
Komovi: RP, IUCN: VI	195.04	not yet protected
Piva: RP, IUCN: VI	200	2015
Ljubišnja		not yet protected
Serbia		
Tara: NP, Emerald site, IUCN: II	191.7	1981
Šargan – Mokra Gora: RP	108.14	2005
Part of the area of the village of Tršić and Troneša		1965
Trešnjica River Gorge: SNR Trešnjica River Gorge		1995
Mileševka: RNP	4.57	1976
Uvac: SNR Canyon of the Uvac River		
Slapovi sopotnice: MoN Waterfalls of Sopotnica River		2005
Many other MoN (small objects)		

Zasavica: SNR, IUCN: IV Sremska Mitrovica and Bogatić		
BiH: Federation		
Plans in progress (See below)		
BiH: Republika Srpska		
Sutjeska: NP, IUCN: II	160.52	1962 (2012)
Gromiželj: SNR, IUCN: Ib Bijeljina municipality,		
Perućica (located within NP Sutjeska): SNR, IUCN: Ia	14.34	1954
Drina: NP		not yet protected
Drina: Biosphere reserves		not yet protected
around 25 other PAs (see map)		not yet protected

Legend: MNM: Memorial Nature Monument; MoN: Monument of Nature; NP: Nature Park; RNP: Regional Nature Park; RP: Regional Park; SNR: Special Nature Reserve.

Source: Project questionnaire sent out to relevant institutions in BiH, Montenegro and Serbia

FIGURE 1.2-1: MAP OF EXISTING AND PLANNED PROTECTED AREAS IN DRINA RIVER BASIN



Source: Biodiv, 2014

1.3 Land Use in DRB

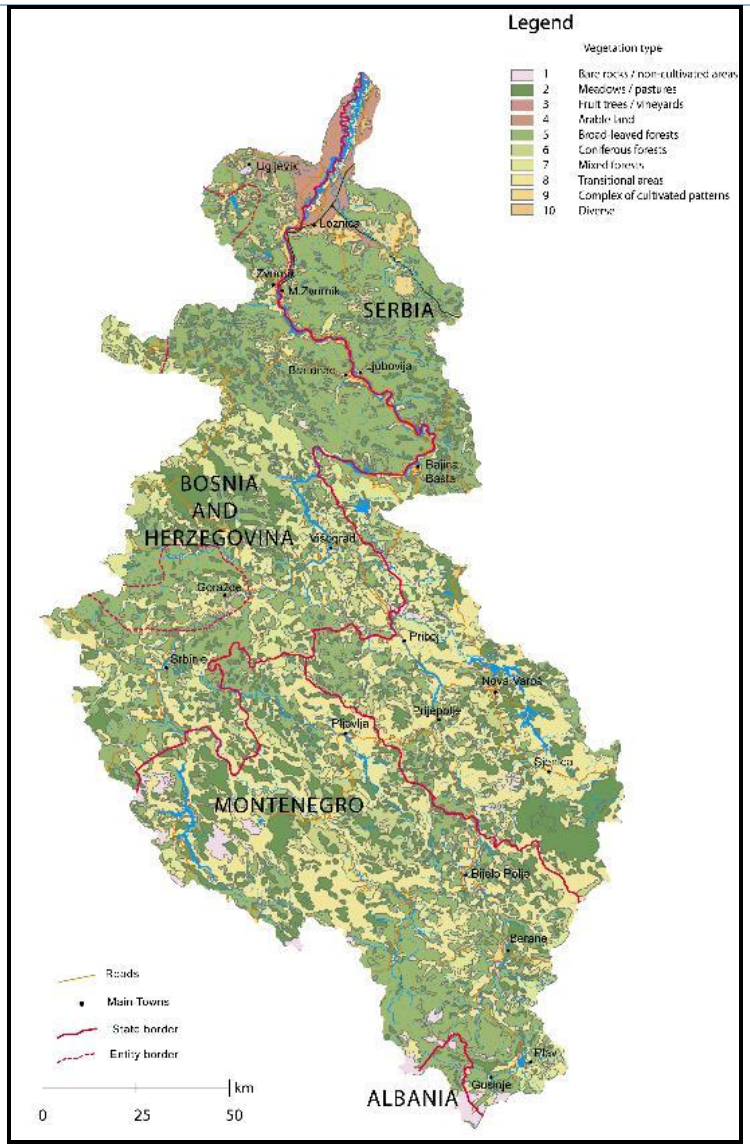
Land use for the DRB, based on CORINE land cover is presented on the map bellow (Figure 1.3-1).

BiH – Forests and forest land in RS occupy an area of 1,294,186.64 ha, or 52.5% of the total area of the terri- tory. The state-owned forest cover 1,000,040.11 ha (77.27%) of forests, while forestlands and private forests occupy 294,146.53 ha (22.73%) of total forest.

In the eastern part of RS the largest area under forest cover is in the area of the municipalities of Han Pijesak, Sokolac, Pale, Tarnovo, Rogatica and Višegrad, and in the eastern area of the municipalities of Šekovici and Vlasenica and gornjo-podrinjski area in the municipalities of Foča, Čajnice, Rudo and Kalinovik.

Land use is an approximation of agricultural, forest and other land since up to date cadastral base in FBiH has not yet been established: agricultural land covers 9,966.32 km^2 or 38.2%, forest occupy 14,432.31 km^2, or 55.3% and other land occupies 1,687.24 km^2, or 6.5%.

FIGURE 1.3-1: LAND USE FOR THE DRINA RIVER BASIN



Source: WBDIWRM Inception Report

Montenegro – Agricultural land covers about 5,145 km², or 37% of the national territory. Forests cover approximately 6,225 km², or 45%, while settlements, roads, water, rocks and other categories occupy 2,442 km² or 18% of the country (data from the Spatial Plan, 2008).

Forests and forest land in Montenegro cover an area of approximately 738,000 ha, or about 53.4% of the total land area. Of that, under forest vegetation is 622,000 ha, which forms forested area of 45%. This % of forested area is very favourable in terms of protecting and improving the environment. According to their basic purpose, forests are classified into three categories: commercial forests, protection forests and

special purpose forests. Of the total area of state forests into commercial forests have been allocated 79%, 18% in protective and 3% special purpose forests.

Forest structure in North forest area is much more favourable than the southern area (high forest in this area cover 65%), as it contains best quality and most productive forest ecosystems which make significant raw material resource.

Serbia – About 56% of the total territory of the Zlatiborski and Moravički administrative district is under agricultural land (about 516.3 km2), which is considerably less than the state average (63.7%). The total forest area is approximately 1,435 km^2 (about 25% of the area of Zlatiborski and Moravički administrative district).

According to available data, Kolubarski and Mačvanski administrative district have approximately 390000 ha of agricultural land (Kolubarski district – 170.8 thousand ha and Mačvanski – 219.4 thousand ha), which occupy 67.9% of its total area (69% and 67%, respectively, in two regions). The share of agricultural in total area, as a rule, decreases in parallel with increasing altitude, in favor of increasing the percentage of forest cover. Forests cover 29.6% of total area (29% in the Kolubarski district and 30% in Mačvanski district), which is below the optimum afforestation projected in Spatial Plan for Republic of Serbia (34% of Kolubar– ski and 37% for Mačvanski district).

1.4 Hydropower

The utilization of hydropower potential is one of the most important ways of using water resources of the Drina River and its tributaries. In the part of the basin located in Serbia, there are seven HPPs. The issue of unused potential has been recognized by countries development plans as an potential for fostering development of local economies. The lack of realization of planned hydropower facilities is the consequence of conflicts of interest between stakeholders, unsolved property relations, environmental issues, unattractive economic parameters, etc.

The potential of water resources of Drina River and its tributaries are being used as hydropower source for decades. Currently 10 main reservoirs (accompanied with smaller ones) and 9 associated HPPs exist in DRB. The total installed capacity of the existing HPPs amounts to 1,838.6 MW, with an average annual output approximating

5,200 GWh[1] (2014). Dam and reservoir built on the Piva River stands for the largest structure of all, while Mratinje Dam is one of the highest in Europe, thus resulting impoundment of "Piva" reservoir, provides favourable conditions for important discharge regulation (for years "Piva" HPP has operated in the "peak-load" mode within regional hydropower systems). Significant energy production is achieved at the "Bajina Bašta" HPP (with the associated "Bajina Bašta" reversible pump storage (PSHPP) included), the "Zvornik" HPP and the "Visegrad" HPP. Other 5 main are important for hydropower, however their reservoirs are of relatively small volumes, having small potential for discharge regulation. Weekly and seasonal discharges regulation are provided with the reservoirs "Bajina Basta", built on the Drina River and "Sjenica" and "Kokin Brod", both built on the Uvac River. Other remaining reservoirs and HPPs in DRB have small daily/weekly discharge regulation potential also used for hydropower, except the "Otilovići" reservoir.

The data on existing hydropower facilities in DRB is provided in the Table 1.4-1.

[1] http://www.henadrini.com/?lang=en; http://www.dlhe.rs/latinica/hidroelektrana-zvornik; http://www.dlhe.rs/latinica/he-bajina-basta; http://www.dlhe.rs/latinica/he-kokin-brod; http://www.dlhe.rs/latinica/he-potpec; http://www.dlhe.rs/latinica/he-uvac;

TABLE 1.4-1: EXISTING HYDROPOWER FACILITIES IN DRB

			“Bajina	“Bajina		“Radoinja	“Kokin	“Uvac			
Reservoir	River	Drina	Drina	Beli Rzav	Drina	Uvac	Uvac	Uvac	Lim	Ćehotina	Piva
		Serbia	Serbia /								
	Area (km²)	17 423	15 195		13 310	1500	1170	920	3605	352	1758
	Discharge (m³/s)	399.4	349	0.55	342	14.4	13.9	11.5	77.6	4.68	74.4
	Total volume (Mm³)	47.43	340	170	161	7.6	250	200	27.5	1.8	880
	Active volume (Mm³)	21.32	218	153	101	4.1	209	160	19.8	1.3	790
	Dam crest elevation	164.0	292.5	883.4	339.0	816.2	888.5	990.0	439.0	842.0	678.0
	Maximum OWL (masl)	160.4	290.2	881.5	336.0	815.0			437.0	841.0	677.7
	Regular OWL (masl)	157.3	290.0	880.0		812.0	885.0	988.0	435.6	837.5	675.0
	Minimum OWL (masl)	155.0	267.0	815.0	319.0	805.0	845.0	940.0	423.6	822.0	632.0
HPP	Type	NDIV	NDIV	PSHPP	NDIV	DIV	NDIV	DIV	NDIV		Undergrou
	Maximum head (m)	22.7	69.94	609.5	44.4	378.3	73	100	38.4		182.39
	Rated head (m)	20.3	65.1	572.0		360.0		97.5	37.6		162.0
	Minimum head (m)	17.0	42.9	504.5		344.6		55.0	25.6		138.0
	Installed	620	644	129.2	800	36.0	37.4	43.0	165		240
	Installed power (MW)	96	368	614	333	102.6	21.4	36	51		342
	Annual production	500	1650	1200	1010	370	60	72	300		800
			Francis		Kaplan						
	Number of units	4	4	2	3	2	2	1	3		3
	Managed by	EPS	EPS	EPS	EPS	EPS	EPS	EPS	EPS	EPCG	EPCG

Source: WBDIWRM Inception Report

1.5 Water Quality and Water Use

In order to purse IWRM in DRB surface water, as well as groundwater quality extremely important. Different uses of DRB water resources are interdependent. Polluted drainage flows, or increasing irrigation demands, contaminated municipal and industrial wastewater results in less available water for drinking, pollutes rivers and threatens ecosystems, and consequently affect the agriculture (less water to grow crops). Thus, water quality data serves as one of the basic sources for prioritizing protection measures and define trans- boundary cooperation in the DRB. Monitoring is of essence for acquiring and systematizing water quality data, thus providing solid ground for future decision making.

Monitoring of water quality in DRB countries is performed by following institutions:

- In Serbia is performed by the Serbian Environmental Protection Agency (SEPA).
  - 5 monitoring stations in the Serbian DRB: on the Uvac River (tributary to Lim), at Prijepolje on the Lim River (tributary to Drina), two on Drina, at Bajina Bašta and Badovinci, and one on Jadar River, 2 km before the confluence with the Drina.

- In Montenegro water quality and quantity monitoring is performed by Institute for Hydro-meteorology and Seismology of Montenegro (IHMS).
  - maintains 6 monitoring stations on the Lim River, 6 stations on the Tara River, and 4 stations on the Ćehotina River.

- In BiH, the Public Institution "Vode Srpske" from Bijeljina is responsible for water quality monitoring in Republic of Srpska.
  - monitoring stations in DRB include: 3 stations on the operational monitoring net- work (Karakaj on the Drina River, Brioni on the Ćehotina River, and Rudo on the Lim River), 2 stations on the transboundary monitoring network (Pavlovića Most and Foča on the Drina River), and 10 stations on the national monitoring network.

- Sava River Watershed Agency of the FBiH is responsible for water quality monitoring in FBiH. No information is currently available on the monitoring stations and scope of the work.

Overall, the water quality in DRB is good, and corresponds to water class II, according to (BiH, SRB, or MNE) national legislation[2]. However, for more accurate and sustainable water management certain issues should be dealt on a transboundary level, as there is a difference in river classification in regard to water quality between the DRB countries. Description of water classes, potential and the ecological status is contradictory in countries reports. Due to the low economic activity and decrease in population in DRB, it is not expected that the water quality will be significantly changed or negatively impacted in future period, rather improved. Nevertheless, the data base of hydrology parameters in DRB should be improved and widen in order to encompass more in depth information of potential challenges rising from occurrences of natural hazards (e.g. influence of floods on surface and underground water quality). Strengthening data gathering and harmonization among DRB countries is something that would increase the potential for efficient DRB IRWM.

Interlinked with water quality, as mentioned at the beginning of this section, is the sustainability of the use of water potential of DRB. One of the objectives of IWRM is to provide an adequate supply of potable water for domestic consumption, which requires substantial reconstruction and modernization of the water supply system in the future in DRB. The municipalities in DRB have water supplied through a utility company, also in charge of sanitation services. Water distribution network mostly covers urban centers and close by villages, but they are in a general poor state of repair. Other villages and settlements have their own water wells or boreholes, while in some water is abstracted usually from the first water bearing layer and is, generally, safe from the chemical standpoint.

According to the World Bank Diagnostic Study for Drina the current per capita water

[2] Decision on characterization of surface and ground water, reference conditions and parameters for the evaluation of water and monitoring of water („OG of FBiH", No. 1/14); Regulation on the Classification of Water and Waterways in republic of Srpska ("OG of RS", No. 42/01); Regulation on classification and categorization of surface and groundwater („OG of MNE", No. 2/07); Regulation on Watercourse Categorization and the Regulation on Water Classification in Serbia ("OG of RSRB", No. 5/68)

consumption is also very high and almost two times average consumption in Western Europe (i.e. up to 160 l/capita/day in EU, while ~ 500 l/capita/day in DRB, including losses). In addition, network losses in DRB, which include illegal consumption are very high, ranging from 40% to 81%.

At the current state, the irrigation in DRB does not have significant part, however the indications are that the land cover under irrigation will increase in the future, in order to foster economies of DRB countries. In DRB one of the most important agriculture area with high quality land is Semberija in RS of BiH situated along the Lower Drina and Sava River with a total area planned for irrigation of about 43,700 ha, and significant need for irrigation taking into account the lowest level of precipitation detected there. No specific data are publicly available for FBiH part of DRB. In Montenegro, current irrigated land cover does not belong to DRB. The irrigation systems Ovsine-Berane, Brezojevica-Plav, developed in the past and within the Drina basin are degraded and not in use. Montenegrin government shall invest in rehabilitation of these areas in order to increase irrigation potential. Agricultural production is the predominant activity in Serbian DRB. Even though Serbia has municipalities with significant portion of agricultural land (Municipality of Bogatić – 70%) the exact data on the total land area under irrigation is not available for comparison. Currently, available information provide that delivery systems in Serbia are simple, with overhead “rain wings” or simple pumps. Mostly these are small and located on private property.

In relation to the industries, unfortunately due to the historic conflicts in the region and economic crises the industrial water consumption has dropped significantly in the last 30 years in DRB, especially in BiH as many of the factories and heavy machinery plants have now closed. Currently, small and medium sized companies are predominate users. Per capita consumption remains at about 100 l/capita/day. In Serbia, heavy industries have never been developed in DRB. In Montenegro major user is the TPP Pljevlja (using water for cooling purposes), causing water pollution (by disturbing water ecosystem balance downstream due to increased temperature of water discharged) downstream in the Veţišnica River and Ćehotina River in Pljevlja. The only other water use is for six mineral

water bottling plants that have water demand requirements of 330,000m^3/year.

The inventory of potential pollution sources in DRB has been conducted by Regional Environmental Center (REC) in 2011[3], in relation to the water-endangering activities (WEA) and the water-endangering deposition (WED) for each country. Following sources of pollution are identified:

- In Montenegro: 50 WEA and 26 WED
- In Serbia: 14 WEA 43 WED
- In BiH (FBiH): 7 WEA
- In BiH (RS): 9 WEA and 62 WED

The major sources of pollution include (the list is not exhaustive):

- "Pljevlja" TPP (Montenegro), Cellulose Factory in Berane (Montenegro; closed but there is stored hazard waste), Chemical industry in Goražde (FBiH), Aluminium factory in Zvornik and Glinica (BiH-RS), Factory of viscose in Loznica (Serbia; closed but there is stored hazard waste) etc.
- Wastewater and storm water (at the moment there is only one operational wastewater treatment plant (WWTP) in the whole basin, located in Mojkovac in Montenegro. Another WWTP is under construction in Bijeljina in the Republic of Srpska).
- Many illegal waste landfills are located near Drina River or its tributaries. Up to now, Perućac Lake has been cleaned of waste several times – mostly comprising plastic bottles and bags.
- Floating wastes.
- Wood processing in small private enterprises.
- Other sources of pollution.

1.6 Flood Hazards and Risks

Floods in the Drina River basin occurred on December 7th, 2010 and on May 15th, 2014, from the confluence with the Sava River upstream, to the confluence of Piva River and

[3] http://www.rec.org/publication.php?id=281

Tara River, which endangered almost the entire area. Extreme rainfall from December 2009 to January 2010 flooded a great number of houses in the area Municipality of Berane. The Semberija area, a relatively flat part of the DRB containing valuable arable areas and land intended for construction has also been affected. At the "Zvornik" measurement station on December 7th, 2010 a discharge of 4,900 m^3/s was recorded, which corresponds to a probability of approximately 2% (1 in 50 year flood).

In Serbia, in 2014 floods, the Municipality of Mali Zvornik, had seven houses destroyed, and 146 houses and 300 supporting facilities damaged and Municipality of Krupanj had 39 houses destroyed. The landslide in Mali Zvornik have interrupted the main road Loznica - Ljubovija - Bajina Bašta. In the Municipality of Bajina Bašta and surrounding villages (Marijanović Gvozdac Okletac, begins, Bačevci. Bogdanovići), floods and landslides have destroyed 300 houses.

The mentioned specific weather disasters/floods have endangered a population of close to 10,000 and caused damage to residential buildings and plants estimated to more than 33 million KM (Euro 20 million). During the latest flood that occurred on May 15th, 2014 the discharge amounted to 3,500 m3/s, that corresponds to a 1 in 40 year return period, but the damages were even more severe (even the streets in the Bijeljina centre were covered with water), because they coincided with an intrusion of floods (back surge) from the direction of the Sava River.

THE FLOOD AREA OF IN DRB IS PRESENTED IN THE MAP BELLOW (

Figure 1.6-1).

FIGURE 1.6-1: AREA AFFECTED BY MAY 2014 FLOODS

Source: Al Jazeera Balkans

Propagation of flood waves/surges in the DRB are somewhat less adverse, as compared to the natural conditions, due to the fact that in the upstream zones in Montenegro, Serbia and BiH large reservoirs exists that have been built within the hydropower systems (in the parentheses are given reservoir volumes): "Uvac" HPP (213 million m^3), "Kokin Brod" HPP (273 million m^3), "Bistrica" HPP (7 million m^3), "Potpeć" HPP (44 million m^3), "Piva" HPP (880 million m^3), "Višegrad" HPP (161 million m^3), "Bajina Basta" HPP (340 million m^3) and "Zvornik" HPP (89 million m^3 initially, presently its volume is considerably reduced due to sedimentation and allows only daily discharge regulation). A problem arises from the fact that the calculated flow regulation (developed from mathematical models that can optimize future storage management) are not being correctly applied. Hence, the control

of water release equipment (sluice gates etc.) during the flood periods that would allow for management in accordance with the minimization criterion Qmax, are not providing the optimal effect. Present management methods, allegedly based upon operator's long "experience", can lead to inefficient management of sluice gates on the dams that can generate a flood wave with a discharge higher.

Problems with the realization of protection systems, especially along the lower part of the Drina river course, have even more adverse effect due to the following fact that the major part of the state boundary between Serbia and BiH no longer runs along the line of the river, because the unstable and meandering nature of Drina riverbed that has been constantly migrating to the east causing confusion on issues of responsibility. The Drina River was considered the boundary between Serbia and Bosnia. It is, of course, still the natural boundary between the two countries, but there is also a true, legal, boundary that was very well defined by geodetic survey. Now, the Drina River riverbed moving towards the east, while the legal demarcation line is not. Settlers (refugees) have now come to these areas to start building without any construction permission. Various financial institutions want to support the construction of embankments in Bosnia (Bijeljina, Goražde etc.), but not in Serbia. On the other hand, Serbia has a problem with investments aimed at the protection of Bosnian citizens who are illegally building on its territory.

The ISRBC proposed and facilitated the development of the Protocol on Flood Protection to the Framework Agreement on the Sava River Basin (FASRB) as an international legal basis for regional cooperation of the Sava River Basin (SRB) countries in the field of flood management. The Protocol regulates the issues of sustainable flood protection in the Sava River Basin caused by either natural phenomena, such as high discharges of rivers and ice jamming, or artificial impacts like water discharge from reservoirs and retentions induced by dam collapsing or inadequate handling, with aim to prevent or limit flood hazard, to reduce flood risk and to reduce or mitigate detrimental consequences of

floods. The key joint activities to be implemented based on the provisions agreed by the Protocol are:

- Development of the joint Flood Risk Management Plan in the Sava River Basin with all preliminary steps in accordance with the Directive 2007/60/EC on the assessment and management of flood risks.
- Establishment of the Flood Forecasting, Warning and Alarm System in the Sava River Basin
- Exchange of information relevant for sustainable flood protection
- Other commonly agreed activities, including development of mechanisms for mutual assistance in flood emergency situations

It is important to emphasize that significant steps have already been taken in terms of implementation of this Protocol, even though it has not yet formally entered into force. The draft of the Programme for Development of the Flood Risk Management Plan has already been prepared at the expert level. The expected timing of adoption is Q3/Q4 of 2015. A joint report on preliminary flood risk assessment in the Sava River Basin has been prepared, which is considered the fulfilment of the obligation to ensure that exchange of information takes place between the competent authorities of states in international river basin districts, as stipulated by the EU framework directive and the provisions of the Protocol. Regarding the information exchange, the ISRBC prepared, in cooperation with WMO, the document "Policy for the Exchange of Hydrological and Meteorological Data and Information in the Sava River Basin", which was signed by all parties involved.

In addition, an initial hydrological data exchange system has been developed at the ISRBC web site, with plans to upgrade it to Sava HIS (hydrologic information system), if adequate resources are available.

1.7 Climate Change

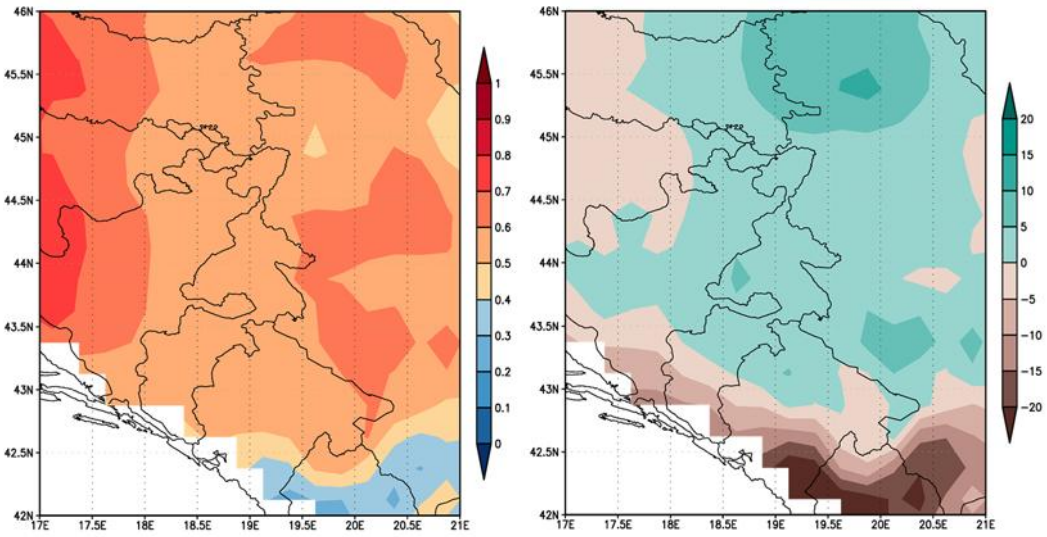
During the period 1981 to 2010 in the entire DRB a mean annual temperature increase has been observed compared to the base period 1961 to 1990. The intensity of the warming varies from 0.4 to 0.6 °C in the middle part of the basin to 0.7 °C at Žabljak and 0.8 °C in Bijeljina. In the same period an increase in mean annual precipitation is

measured in the most part of the basin, from 4% at Sokolac to about 6 % in Loznica and Bijeljina.

The southern basin experienced a small decrease of annual precipitation between 2% at Žabljak and 3% in Pljevlja. Although the mean annual precipitation change is not large, a change of the distribution within the pluvio-metric regime has been observed in a way that the number of days with precipitation of over 1 mm is dropping, while the amount of precipitation due to extreme events above the 95th percentile is growing. Alongside with an increase of the precipitation increase, more frequent drought occurrence is noted in the past 30 years. Change of the mean annual temperature (°C) and annual precipitation (%) for the period 1981 to 2010 in comparison to the base period 1961 to 1990 in the basin according to e-OBS data is presented in Figure 1.7-1.

FIGURE 1.7-1: CHANGE IN THE MEAN ANNUAL TEMPERATURE

(LEFT PANEL) AND THE MEAN ANNUAL PRECIPITATION (RIGHT PANEL) FOR THE PERIOD FROM 1981 TO 2010, COMPARED TO THE BASE PERIOD FROM 1961 TO 1990 ACCORDING THE E- OBS DATASET



Source: (*SUPPORT TO WATER RESOURCES MANAGEMENT IN THE DRINA RIVER BASIN, Inception report)*

All three riparian countries in their respective National Communications under the UNFCCC framework have analysed climate change projections using the same coupled regional climate model, EBU-POM, under the A1B ("medium") and A2 ("strong") IPCC

Special Report Emission Scenarios for the two future periods from 2001 to 2030 and from 2071 to 2100.

For the near future period from 2001 to 2030 under the A1B scenario, projected an increase of annual mean temperature in the entire basin from 0.8 to 1.1°C relative to the base period from 1961 to 1990. In the southern half of the basin, a precipitation decrease up to 5% is projected, while downstream a 5% precipitation increase is expected.

A temperature increase is projected also for the distant future period, from 2071 to 2100, from 2.4 to 2.8°C under the A1B and 3.4 to 3.6°C under the A2 scenario. Precipitation is expected to decrease, from 10 to 20% under the A1B and up to 15% under the A2 scenario.

1.8 Monitoring

Monitoring in DRB is under auspices of different institutions and is premiered, reflecting different levels and scopes of responsibilities.

Following institutions have different responsibilities in regard to monitoring in DRB:

- Ministries and related institutions,
- Electric Power Industries,
- Organizations involved in meteorology, hydrology, geological observations,
- Water supply and sewage companies,
- Fisheries,
- Small hydropower plants etc.

The Table 1.8-1 provides an overview of most important institutions for monitoring in DRB.

TABLE 1.8-1: MOST IMPORTANT INSTITUTIONS CONCERNED WITH MONITORING IN THE DRB

Item	Serbia	Montenegro	RS	FBiH
Basin area (km^2)	6,002	6,219	6,242	840
Basin area percentage (%)	30.5	31.6	31.7	4.2

Item	Serbia	Montenegro	RS	FBiH
Percentage of the territory covered by the basin (%)	7.7	45.0	25.7	3.2
Separate Ministry of water resources management	NO	NO	NO	NO
Ministries	MAEP EPA State Water Directorate Ministry of Internal Affairs Sector for emergencies	MARD Directorate for WRM	MAFWRM	MAWRMF MOFTER
Electric Power Industry	EPI of Serbia HPPs on Drina River and Lim River	EPCG	Electric Power Industry of Republic of Srpska "Hydropower Plants on Drina River" a.d. Višegrad	Electric Power Industry of BiH
Public companies	State HMS of Serbia Srbijavode	HMSS GSS	State HMS Public institution "Water of RS WRM Service Water Institute Bijeljina	Federal HMS Water Agency for Sava River District

Source: WBDIWRM Inception report

Legend: MAEP =Ministry of Agriculture and Environmental Protection, EPA = Environmental Protection Agency, MAFWRM = Ministry of Agriculture, Forestry and Water Resources Management, MAWRMF = Ministry of Agriculture, Water Resources Management and Forestry, MOFTER = Ministry of Foreign Trade and Economic Relations of BiH, HMS = Hydro Meteorological Service, EPCG = Electric Power Industry of Montenegro

EPI = Electric Power Industry, HMSS = Hydro-Meteorological and Seismologic Service, GSS = Geologic Survey Service, WRM = Water Resources Management, FBiH = Federation of Bosnia and Herzegovina

Official monitoring and measuring of hydro-meteorological data in the DRB are operated by the hydro-meteorological service in all three countries. Taking into account previous political arrangements of countries involved, it has to be emphasized that former SFRY has conducted monitoring, namely observation, measuring and archiving of hydro-meteorological data through republic hydro-meteorological services (Serbia, Montenegro, and Bosnia and Herzegovina). Only specific data have been published in "Yearbook of the Hydro-Meteorological Service of Yugoslavia" ("Hydrological Yearbook" and other.) that was the responsibility of Federal Hydro-Meteorological Service (FHMS). Another task performed by FHMS was development of the "Hydrological and Meteorological Database", with partial hydro-meteorological databases developed within the republic hydro-meteorological services.

Up to now, the "Jaroslav Černi" Institute for Development of Water Resources in Serbia has implemented several projects, which resulted in systematized hydrological data of the DRB, archived in the "Drina" Hydro-Information System ("Drina" HIS), and regularly updated with new and updated data. Data management implemented in the "Drina" HIS provides for better data exchange between interested entities in the basin and is also supported by the dedicated internet portal for data viewing and support to operational system management. The portal is active as of 2011, showing all observed data from the basin relevant for HPPs, PSHPPs and other reservoirs management in the basin. Such a monitoring database with predetermined and documented technical data quality provides for long-term hydrological and hydropower analyses and application of mathematical models.

2. Water and Environmental Legal Framework in Drina River Basin

2.1 Water Legal Framework in DRB

BiH (FBiH and RS)

In Bosnia and Herzegovina the field of integrated water resources management is regulated through a legal framework at the level of Entities (Federation of Bosnia and Herzegovina and Republic of Srpska). Specific jurisdictions are assigned to BiH Ministry of Foreign Trade and Economic Relations (MOFTER) with regard to protection of the environment under the Law on Ministries and other administrative bodies of BiH, as specified in Article 9: "This Ministry shall also be responsible for carrying out tasks and executing duties which are within the competence of BiH and relate to defining policy, basic principles, coordinating activities and harmonizing plans of the Entity authorities and bodies at the international level in the fields of agriculture, energy, protection of the environment, development and use of natural resources".

In order to implement water resource management, the Ministry of Agriculture, Forestry and Water Management is implementing the provisions of the Law on Waters ("OG of RS", No. 50/06, 92/09, 121/12) and bylaws, harmonized with the EU regulations. In addition to integrated water management, the purpose of this Law is achievement of good status of water and prevention of its degradation, achievement of sustainable water use and ensuring equal access to water (Article 2). The Law prescribes the identification of locations and boundaries of structures and bodies of surface water and groundwater for the purpose of water management, as well as their initial characterization according to the methodology set out in the Water Framework Directive. The Ministry is responsible for the organization of monitoring of the implementation of necessary measures to prevent derogation of status of surface water and groundwater. The Government of Republic of Srpska and the Ministry of Agriculture, Forestry and Water Management, have adopted legislation enabling protection from pollution through prevention activities and prevention of uncontrolled discharge of wastewater for water intended for human consumption and drinking water.

The basic legal document that regulates the issue of water management is the FBiH Law on Waters ("OG of FBiH", No. 70/06). Transposition of the Water Framework Directive (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000) was done through This Law. Implemented assessment of compliance indicated that the Law on Waters is 93% compliant with the Directive. According to the provisions of Article 1 of the Law on Waters, the Law regulates water management within the territory of the FBiH. Water management includes: water protection, water use, protection from the harmful effects of water and arrangement of watercourses and other waters. According to provisions of Article 2 of the Law, the purpose of the Law is to ensure water management in order to: reduce water pollution, achieve good water status and prevent degradation of water; achieve sustainable water use; ensure equitable access to water; encourage social and economic development; protect ecosystems; reduce the risk of flooding and other adverse impacts of water; ensure public participation in decision-making related to water; prevent and resolve conflicts related to protection and use of water; meet obligations under international agreements that are binding for BiH.

Both entities' Water laws (Federation of Bosnia and Herzegovina and Republic of Srpska) prescribe the adoption of planning documents for water management. The Framework Plan for Water Management in Republic of Srpska[4] has been developed and it this document defines the strategic objectives of developing in the water sector in Republic of Srpska. It describes the current situation of water management infrastructure and the necessary conditions and criteria including restrictions for further development of water management and the entire water sector.

Water Management Strategy of FBiH is the key document with the planning horizon being 2022.

The major goals defined in these documents are classified in the following categories:

Legal, Institutional and Economic Activity Framework with strategic objectives

[4]Source: The Framework Plan for Water Management in Republic of Srpska

- water sector legal and institutional reform, arising from the need to adopt to new social circumstances, along with the EU alignment in the water management sector, as a part of process of BiH stabilization and association to EU,
- adequate integration of water management sector in economic system as a whole, with larger representation of the economic tools in the process of water resources management,
- improving efficiency, transparency and accountability in water management,
- provision of financial viability in water management and reform of water pricing system along with progressive introduction of economic water price.

Water Use

With two strategic objectives:

- increase in coverage and improvement of public water supply systems, and
- ensuring conditions for sustainable use of water in the areas whose development depends on market interest.

Water Protection

With the following objectives:

Achieving and maintaining good status of surface water and groundwater for the purpose of protection of aquatic flora and fauna and needs of water users. This includes also the achievement of the strategic objective: „Reducing the risk at extreme hydrological phenomena“, and implementation of the measures to achieve the operational objectives:

- reconstruction and rehabilitation of existing, and construction and maintenance of protection facilities for the purpose of increasing the safety level in terms of flood control;
- development and adoption of plans for protection against adverse effects of water;
- reduction of erosions;
- setting out programs to combat droughts, and
- prevention and preparedness in case of disaster, such as demolition of overflow.

Flood risk management and protection and mitigation / Disaster Risk Reduction or prevention is an integral component of the concept of water management, which derives from the EC Directives and documents. The national policy of Bosnia Herzegovina (BiH) towards Disaster Risk Reduction (DRR) does not exist as a formal document but rather within the established system of decentralized responsibilities and capacities at all levels. The Ministry of Security (Sector for Prevention and Rescue) has coordinated the development of the National Platform for DRR. BiH launched in March 2013 the National Platform for Disaster Risk Reduction in Bosnia and Herzegovina, in order to implement coordinated approach in reducing risk to disasters at the local and national level.

At the national level, the framework is set by the Law on the Protection and Rescue of People and Material Assets from Natural and Other Disasters (hereinafter referred to as the Law on Protection and Rescue of Bosnia and Herzegovina) ("OG of BiH", No.50/08) in Bosnia and Herzegovina, which was passed in 2008 and calls for the creation of a development programme that includes the development of mechanisms for Disaster Risk Reduction (DRR). Laws on the protection and rescue of people and property from natural and other disasters at lower levels of organization (i.e., the two entities, the Brčko District and the cantons) provide for the development of certain strategic documents, which will inter alia, include the issue of DRR. Entity level protection and rescue laws are:

- The Law on the protection and The Law on the protection and rescue ("OG of FBIH", No. 39/03);
- The Law on the protection and rescue in Republic of Srpska ("OG of RS", No. 01-346/02).

The national Law as well as legislation on protection and rescue in the entities prescribes the development of risk assessment. The basis for the national risk assessment is the Methodology for the Assessment of Risk from Natural and Other Hazards ("OG of BiH", No. 86/09), which has been developed by the Sector for Protection & Rescue in cooperation with the UNDP. It includes a risk assessment whose goals are articulated as (i) identification of all hazards for the territory of BiH, (ii) an assessment of the vulnerability of people, property and critical infrastructure and (iii) the systematic

dimensioning of risk, their likelihood, causes and consequences (expressed in human, material and or financial losses) as well as capacities.

Republic of Srpska has developed a Protection and Rescue Plan in 2003, whilst in 2008 the Federation of BIH adopted its Protection and Rescue Plan.

There is no Ministry of Spatial Planning at state level, however they do exist at entity levels. Under the Law on Spatial Planning and Land Usage in the FBiH spatial plans must contain data on areas prone to flooding. Spatial Plan of Republic of Srpska for period 2005-2015 exist.

In addition to the above, the Article 90 of the Law on Waters ("OG of BiH", No. 70/06) stipulates that "the scope of protection against harmful effects of water and appropriate measures are determined by the following plans: special protection plans against flood and ice; protection from erosion and torrents; protection plans from emergency water pollution". The Federation BiH enacted the Decree on types and contents of plans for protection against harmful effects of water ("OG of FBiH", No. 26/09). The Regulation fully transposed the provisions of the EU Directive on Floods, timeline of implementation aligned with national conditions.

In order to foster flood protection measures the area can be classified into categories due to the degree of vulnerability. The regulation governing this is adopted by the Federal Government. With the adopted of above stated Decree on types and contents of plans for protection against harmful effects of water, the Federal Government prescribed the adoption of two plans for protection against floods. One of these plans is the Plan of flood risk management that is focused on flood prevention, taking into account the characteristics of the particular river basin and sub-basin. The second plan relates to protection against flood and ice.

Funds for implementation of flood protection are provided from water charges and other sources. The criteria were established for the distribution of water charges and revenues collected on the basis of the of lease water assets on water and categories. The percentage of funds allocated are following: Agencies for water areas (40%), Canton budgets (45%) and the Environmental Protection Fund FBiH (15%). The revenues generated by the lease of public water property on Category II surface waters belong entirely to the

Cantonal budgets. The method of allocation of resources from water charges may change, on which the decision is made by the Government every two years.

Montenegro

Water resource management has been well regulated in Montenegro. Main legal act regulating water management is the Law on Waters ("OG of MNE", No. 27/07, 32/11, 47/11, 48/15 from 2015). The Law on Waters regulates the legal status and the method of IWRM, water and coastal land and water facilities, conditions and method of exercising water activity and other issues of significance for water. In addition, the Law on Waters positions the monitoring of water quality and quantity to be under the auspices of the Ministry of Agriculture and Rural Development. Separate law regulates financing of water management activities. Water and water land management covers "activities and measures undertaken to maintain and improve water regime within an integral water system in a specific area for the purpose of: providing required water quantities of compulsory quality for specific purposes, water protection against pollution and protection against harmful effects." (Article 18). Specific provisions of the Law regulate individual forms of water use, including "*for electricity generation and other water power purposes*"; sets methodology of "water area" formation that combines small basins with large basins or by connecting with neighbouring smaller basins; groundwater that does not completely follow a specified river basin is added to the closest or the most suitable water area. Additionally, the Law also provides for use in catchment, pumping from surface and groundwater for various other purposes (e.g. drinking, sanitation, irrigation, bottling, salt production etc.); for fish, shells and crawfish farming; navigation; sports, tourism, bathing, recreation and climatological purposes; use of thermal and mineral water (except for groundwater to be used for extracting beneficial mineral raw materials and geothermal energy); and water use for environmental and other purposes, in accordance with the present law (Article 41). In addition Law on waters recognize four categories of water acts: 1) water requirements; 2) water approval; 3) water permit and 4) water order. For ensuring a unified water regime, IWRM and a fair approach to waters, water acts set the requirements and the method of realization of water rights.

The Law on Waters prescribe development of the strategic environmental assessment (SEA), cooperation with public and compulsory harmonization with spatial planning documents.

Water areas in Montenegro are set as follows, according to the Law on Waters:

- Black Sea basin, covering the basins of: Ibar (not DRB), Lim, Ćehotina, Tara and Piva, with associated groundwater; and
- Adriatic Sea basin, covering the basins of: Zeta, Morača, Skadarsko Jezero, Bojana, Trebišnjica and the waterways of the Montenegro coastal area, with associated groundwater and coastal seawaters

Based on the Decisions on Setting Waters of Significance for Montenegro ("OG of MNE", no. 9/08, 28/09), Black Sea basin in Montenegro comprise the following water bodies: Lim, Tara, Ćehotina, Ibar, Piva, Komarnica, Grnčar, Ljuča, Komaračka River, Zlorečica, Šekularska River, Gradišnica, Kaludarska, Bistrica Beranska, Jelovica, Dapsića River, Popča, Vrbička River, Brzava, Tronoša, Ljubovića, Lješnica, Bistrica Bjelopoljska, Veruša, Drcka, Svinjača (Kolašinska River), Plašnica, Selaška River, Opasanica, Maočnica, Suva Dubočica, Voloder, Luška River, Kravska, Crnja, Županica, Lovnička River, Bukovička, Vrbnica, Komarnica, Pridvorica, Bukovica and Tušinja.

Borders of sub basin areas and small basin areas are set by the Ministry competent for water management (MARD). Consequently, the Black Sea basin has been renamed the Danube basin. Water bodies used or intended for human use with an average quantity of above 10 m^3/day, or for supply of more than 50 inhabitants, including the zones of their protection must be stipulated.

Delineation of surface and groundwater bodies in Skadar Lake Basin has been completed by IHMS, in 2014 – 2015. Delineation of the Danube Basin in Montenegro and the remaining segment of the Adriatic Sea catchment is planned upon availability of funding sources.

Water classification is ensured based on ecological, chemical status and ecological potential, according to the Law on Waters. Categorization of water bodies of surface waters means their sorting according to the quality to be maintained or provided for reaching a good water status. Classification and categorization of water bodies of

groundwater relative to their quantitative and chemical status are conducted for the purpose of groundwater quality protection and improvement - Regulation on Surface and Groundwater Classification and Categorization ("OG of MNE", No. 2/07).

The Law has recognized four categories of water acts: 1) water requirements; 2) water approval; 3) water permit and 4) water order. For ensuring a unified water regime, IWRM and a fair approach to waters, water acts set the requirements and the method of realization of water rights.

Water Management Master Plan (WMMP) of Montenegro represents the long-term national program of water management, and sets the elements of water management in the water area of the river basin. If the WMMP implementation cannot be ensured thorough water management plans, the Government, upon the Ministry's proposal, adopts a special water management plan for individual waterway categories or for individual water management issues.

Continuous control and monitoring of the environment (environmental monitoring) has been defined in the Law on Environment ("OG of MNE", No. 48/08, 40/10, 40/11, 27/14), and the Law on Waters ("OG of MNE", No. 27/07, 32/11, 47/11, 48/15 from 2015) has several segments about monitoring (segment about WMMP, water management plans, water facilities, etc.). Article 109 has set a general definition that "the line administrative authority shall ensure monitoring, observation and measurement (monitoring) of natural and other phenomena (floods, torrents, erosion and other) for the purpose of providing data required for protection against the harmful effects of water. In this case the line ministry responsible for water monitoring is Ministry of Agriculture and Rural Development. Water quantity and quality control obligation has been defined in Articles 51 and 52.

Annual water monitoring programs is implemented in the Country, however not yet been harmonized with EU standards, due to the fact that programs do not include parameters and water classification schemes as prescribed in Annex V of the WFD. Concerning drinking water, there are no relevant regulations on water quality in small water supply systems (less than 50 persons).

Relevant to water resource management is "ensuring guaranteed minimum", which has been regulated by a special by-law Rule Book on the Method for Setting the Guaranteed Minimum Discharge Downstream from the Water Intake ("OG of MNE", No. 22/08), adopted by the MARD. This Rule Book set the grounds to ensure a good status downstream from the water intake, for survival and development of downstream biocenosis. The newly adopted Law on Waters (2015) the "guaranteed minimum" term is replaced with the "ecologically acceptable discharge", which will be regulated by separate regulation related this specific issue. "Ecologically acceptable discharge" is set "*on the basis of research, according to the specific features of the ecosystem and seasonal variations of the water discharge in order to ensure a good water status*." (Article 22). Another important aspect of water resource management is the quality of discharge waters into recipients, which is regulated by the Rulebook on Quality of Sanitary-Technical Requirements for Discharging Waste Waters into Recipient and Mains, manner and procedure for testing waste water quality, minimal number of tests and content of the report on determined water quality (OG MNE No. 45/08 from 31.07.2008, 09/10).

Harmonization of regulations with EU regulations in the field of water management is partial[5]. There is no full compliance of national regulations with key EU regulations in the water sector exits (e.g. WFD 2000/60/EC, Directive 91/271/EEC on Urban Wastewater Treatment, Directive on Nitrates 91/676/EEC, Framework Directive on Marine Strategy 2008/56/EC, Directive on Water Quality Standards 2008/105/EC, Directive on Groundwater 2006/118/EC, Directive on Bathing Water Quality 2006/7/EC). The newly adopted Law on Waters has been aligned with WFD. However, the full harmonization will be achieved by the adoption of bylaws on water quality standards and criteria for determining the status of water (deadline: end of 2016), as well as by adoption of water management plans, and improvement of the monitoring system (2021), etc.

The progress report on "Monitoring of Transposition and Implementation of the European Union Legislation in the Field of Environment" in 2013 and 2014 showed modest transposition percentages as follows:

[5] See: Report on analytical overview of Montenegro legislation compliance, Chapter 27 – Environment, Explanatory meeting: February 4-8, 2013, bilateral meeting: March 18-22, 2013.

- Directive 2006/118/EC on the protection of groundwater against pollution and deterioration (17 %),
- Directive 2006/7/EC concerning the management of bathing water quality (14 %),
- Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture has the highest transposition percentage (93%).
- Directive 91/271/EEC, concerning urban waste-water treatment has been transposed. (47.4%) [6]

Table 2.1-1 shows status of other parts of the WFD that have not yet been transposed by Montenegrin legislation and estimated deadlines for their transposition

TABLE 2.1-1: EU WFD ARTICLES NOT TRANSPOSED WITH MONTENEGRIN LEGISLATION AND DEADLINE

EU WFD Directive 2000/60/EC	Deadline
Article 24 Implementation	III quarter 2021
ANNEX I Information required for the list of competent authorities	non-transferable
ANNEX II Surface waters, Groundwater	III quarter 2021
ANNEX III Economic analysis	III quarter 2021
ANNEX IV item 1, Protected areas	III quarter 2021
ANNEX V, Status of surface and groundwater	III quarter 2021

[6] MSDT, Annual report on water supply, waste and wastewater management, implementation of priority activities in utility services with a proposal of priority utility infrastructure projects and recommended measures. 2015, p. 21.

ANNEX VI, List of measures to be included within the programmes of measures	III quarter 2021
ANNEX VII Part A River basin management plans	III quarter 2021
ANNEX VII Part B	III quarter 2021
ANNEX VIII, Indicative list of main pollutants	III quarter 2021
ANNEX IX, Emission limit values and environmental quality standards	III quarter 2021
ANNEX X, List of priority substances in the field of water policy	III quarter 2021
ANNEX XI Eco regions	2021

Source: WBDIWRM Report and Law on Waters (2015)

In respect to **flood risk management**, the new Law on Waters (2015) has in it several provisions (including six separate articles) regulating flood risk management. Thus transposition of the Directive 2007/60/EC on flood risk assessment and management is high. However, the application of the Directive is in the early.

The current amendments of the Law on Protection and Rescue ("OG of MNE", No.13/2007, 32/11) will provide harmonization with EU *acquis* in the sphere of civil protection and disaster management policies. Currently, two rule books defines methodology for risk assessment (Rulebook on methodology for development of elaborate on Assessment of threats from natural, technical-technological and other accidents ("OG of MNE", No.41/2008) and methodology for preparation of rescue plans (Rulebook on methodology for development of protection and rescue plans ("OG of MNE", No.44/2008)

Serbia

The central legal act that regulates water management in the Republic of Serbia is the Law on Water ("OG of RSRB", No. 30/10 and 93/12). Various regulations have been passed in accordance with this Law. Other regulations encompasses different aspects of water

management and integrated river basin management, and among them the most important are in the field of environmental protection (e.g., pollution, waste management), energy sector (particularly renewable sources of energy, i.e. hydro energy) and water transport.

The Law on Water regulates the legal status of water resources, IWRM, water facilities and river basin land management, sources and means of financing water resources management, supervision over the implementation of the Law, as well as other issues which are significant for water management (Article 1). The Law has 12 chapters, one dedicated to integrated water management (referred to as "*water management*" in the Law). Integrated water management in the Law is defined as a "s*et of measures and activities aimed at maintenance and improvement of water regime, ensuring sufficient amount of water with required quality for different purposes, protection of water from the pollution and protection from adverse effects of water*", is the subject of chapter IV of the LW (Articles 24 – 113). Additionally, the Law on Waters prescribes several types of planning documents, including: 1) Water Management Strategy for the Territory of the RS; 2) Water Management Plan; 3) Annual Water Management Program; 4) Plans for protection against adverse effects of water, consisting of: Flood Risk Management Plan, General and Operational Plan for protection against flood, as well as plans regulating water protection (Plan for protection of water against pollution and monitoring program) (Article 29).

The Law adopted in 2010 aimed at harmonization with the EU Water Framework Directive and other EU legislation. Approximately 76% of the EU WFD is transposed in regulations of the Republic of Serbia, and full harmonization is expected by 2018. Certain challenges are expected with the implementation of WFD in Republic of Serbia due to due to lack of necessary data on monitoring as well as capacity in institutions that directly implement the EU WFD.

Provisions of the EU WFD that have not yet been transposed in the Law on Waters are shown in Table 2.1-2 together with planned deadlines.

Based on the stated Law on Waters According territory of the Republic of Serbia is a single water area for water management (Article 26), including: 1) part of the Black Sea basin -

the Danube River basin; 2) part of the Aegean Sea basin – sub-basins of the Pčinja, Lepenac and Dragovištica Rivers; 3) part of the Adriatic Sea basin – Beli Drim River basin and the Plavska River sub-basin. The Danube River basin includes the sub-basin of the Sava River with the Drina and Kolubara Rivers, sub-basin of the Tisa River, sub-basin of Velika, Južna and Zapadna Morava Rivers with the Ibar River, sub-basin of the Tamiš River basin and other Banat waterways, part of the direct Danube River basin, with Mlava, Pek, Porečka Rivers and the Timok River on the territory of the RS. The Ministry, and the line provincial authority on the territory of the autonomous province, sets the borders of sub-basins. Borders of the sub-basin have been regulated by the Rule Book on Sub-Basin Borders ("OG of RSRB", No. 54/11). Sub-basin of the Sava River, with the Drina and Kolubara Rivers, covers the territory of the municipalities of Bogatić, Vladimirci, Gornji Milanovac, Ivanjica, Kosjerić, Koceljeva, Krupanj, Lajkovac, Loznica, Ljig, Ljubovija, Mali Zvornik, Osečina, Priboj, Prijepolje, Ub and the City of Šabac, as well as parts of the territory of the municipalities of Aranđelovac, Bajina Bašta, Mionica, Nova Varoš, Sjenica, Tutin, Čajetina and the cities of Belgrade, Valjevo, Užice.

The Rule Book on Water Bodies of Surface and Subsurface Waters ("OG of RSRB", No. 96/2010) sets the water bodies of surface and subsurface waters in Republic of Serbia. Total of 493 surface water bodies – waterways, 5 surface water bodies – lakes, 153 subsurface water bodies.

TABLE 2.1-2: PLANNED HARMONIZATION OF THE EU WFD WITH SERBIAN LAW ON WATERS

Respective Article from Water Framework Directive 2000/60/EC	Planned amendments on the Serbian Law on Water	Deadline for transposition
Article 2 Definitions:		
• "Environmental quality standard"	Amendments to the LW	2015
• "Water services"	Amendments to the LW	2015
• "Water use"	Amendments to the LW	2015

Respective Article from Water Framework Directive 2000/60/EC	Planned amendments on the Serbian Law on Water	Deadline for transposition
• "Emission controls"	Amendments to the LW	2015
Article 3.1 Adjustment of administrative organization within water areas	Regulations on determining water management institutes	2016
Article 4.2 Goals of environment	Amendments to the LW (second cycle of amendments)	2017
Article 6 Register of protected areas	Regulations on criteria to determine protected areas and protected areas registry	
Article 7.3 Water used for abstraction of drinking water	Amendments to the LW, Regulations on determining sanitary protection zones (the Ministry of Health)	2017
Article 8.2 Monitoring of surface waters, ground water status and protected areas		2016
Article 9.1; 9.2; 9.3 Reimbursement of expenses on water services		2014 2015 2017
Article 10.2; 10.3 Combined access to concentrated and scattered sources of		2017

Respective Article from Water Framework Directive 2000/60/EC	Planned amendments on the Serbian Law on Water	Deadline for transposition
pollution		
Article 11.3; 11.4 Program of measures	Amendments to the LW (second cycle of amendments 2017)	2017
Article 22.5; 22.6	Not determined	2017
ANNEX V, Status of surface and ground waters		2017

Source: WBDIWRM Report

Surface water bodies' are classified for the aim of the improvement of surface water quality, and the classification is based on ecological and chemical status. Respectfully, the classification of sub-surface water bodies is made based on quantitative and chemical status (Article 111 of the Law of Water). The Rule Book on Parameters of the Ecological and Chemical Status of Surface Waters and the Parameters of the Chemical and Quantitative Status of Sub-Surface Waters ("OG of RSRB", No. 74/11) sets these parameters - ecological and chemical status, and quantitative and chemical status.

Regulation on Water Classification ("OG of RSRB", No. 5/68) and the Regulation on Waterway Categorization ("OG of RSRB", No. 5/68) sets the water classification and waterway categorization.

Specific provisions of the Law on Waters and Law on Environmental Protection, as well of other relevant regulations sets monitoring, which encompasses: 1) for surface water - volume, water level and water discharge to the extent that is significant for environmental and chemical potential, as well as parameters of environmental and chemical status and ecological potential; 2) for ground water - level and control of chemical and quantitative status. Monitoring of water status in protected areas also includes additional indicators of water status, in accordance with regulations that determine such areas as protected (refer to Article 65 and 107 of the LW). Article 65 regulates additionally regulates the role of

the republic organization in charge of hydro-meteorological activities, identification of parameters determining ecological status and ecological potential, etc., in the monitoring process.

In respect to **flood risk management**, the Republic of Serbia in order to develop a systemic approach towards risk reduction and management, should undertake activities and measures on strengthening prevention, plan and implement investments based on understanding risk, and ensure the highest possible level of protection of lives and assets from new floods and other natural disasters, as well as reduce risk and damages of natural disasters launched The **National Disaster Risk Management Program for Serbia** in March 2015, and in addition plan to adopt several other strategic documents, such Danube River Basin Management Plan for seven water areas and Water Pollution Protection Plan, which will support efficient combating and minimizing risk of food, as well as contribute to efficient water resource management.

The Figure 2.1-1 bellow present the overall status of transposition of Water Framework Directive in Drina river basin countries.

FIGURE 2.1-1: WFD TRANSPOSITION STATUS IN DRB COUNTRIES

TARGETS FOR IMPLEMENTATION	BiH	MNE	SER
Defining RBDs	C	C	C
Legal effect to administrative arrangements	C	C	C
Designating competent authority/ies.	C	C	C
Meeting environmental objectives	2027	2025	TBD
Establishing a register of Protected Areas	C	2025	2017
Analysis of the characteristics of the RBD	C	2025	2015
Review of environmental impact of human activity	C	2025	2015
Economic analysis of water use	C	C	2015
Establishing programmes for monitoring WQ	C	2016	2020
Establishing programmes of measures for RBDs	2015	2025	2015
Publishing draft RBMP including public comments	C	2025	2014
Publishing RBMP	2015	2025	2015
Effective enforcement system.	C	C	2018
Full implementation.	2027	TBD (2026)	TBD
LEVEL OF TRANSPOSITION %	98	67	76

Source COWI IPF

2.2 Environmental Legal Framework in DRB

BiH (FBiH and RS)

The main principles serving as a basis for environmental legislation in Bosnia and Herzegovina are defined in the are as follows: a) Sustainable development principle, b) Principles of precaution and prevention, c) Substitution principle, d) Principle of integration, e) Principle of cooperation and division of responsibilities, f) Public participation and access to information g) "Polluter pays" principle.

There is no framework law on environmental protection at the state level, but there is the Law on Ministries and Other Bodies of Administration of Bosnia and Herzegovina ("OG of BiH", No. 5/03, 42/03, 26/04, 42/04, 45/06, 88/07, 35/09, 59/09 and 103/09), where:

- The Article 8 stipulates jurisdiction of the BiH Ministry of Foreign Affairs to implement the established BiH policies, to work on the development of international relations in accordance with positions and guidelines of the BiH Presidency and to propose positions on issues relevant to the foreign policy activities and the international position of BiH;
- The Article 9 provides for responsibilities of the BiH Ministry of Foreign Trade and Economic Relations to define policy, basic principles, coordination of activities and harmonisation of plans of the Entity authorities and bodies, including international institutions in the fields of agriculture, environmental protection, development and use of natural resources and tourism. Within this Ministry, there is the Veterinary Office of BiH, as an administrative organization and the Administration for Plant Health Protection of BiH.

In the most recent EU Progress Report for Bosnia and Herzegovina for 2014 it has been stated that further efforts needs to be invested in the harmonisation of national/entity legislations with EU regulation, as well as to strengthen the implementation of regulations and by-laws. The notion has been made that certain steps were taken towards preparing the Implementation Plan for the Convention on **Environmental Impact Assessment (EIA)** and the Protocol on Strategic Environmental Assessment. Alignment with Strategic Environmental Assessment and Public Participation Directives still needs to be improved in both Entities.

Concerning the **air quality,** Republic of Srpska adopted implementing legislation on monitoring, zones and agglomerations, and air quality values. Implementation of the relevant *acquis* is at an early stage. Air quality planning and monitoring systems need upgrading. A countrywide air-monitoring network has not yet been established.

As regards **nature protection**, Republic of Srpska adopted a Law on Nature Protection (The Law on Protection of Nature ("OG of RS", No. 20/14) advancing towards alignment with the Birds and the Habitats Directives.

The country took steps to identify an initial list of 95 potential NATURA 2000 ecological areas that account for approximately 20 % of its territory. Regulations implementing the nature conservation *acquis* have been drafted in consultation with the responsible ministries of both Entities and the Brčko District, but remains to be adopted.

On **waste management**, there have been no efforts to implement solid waste management plans prepared with EU support for selected regions. Countrywide strategic planning of investments in this sector has yet to be completed. The Federation adopted implementing legislation on the management of plastic bags. Republic of Srpska has adopted a new Law on Waste Management ("OG of RS", No.111/13). Republic of Srpska and the Federation have started implementing a packaging and packaging waste management system. Economic instruments to promote recycling and prevention of waste generation remain limited. There have been no new investments to improve waste sorting and recycling. Capacity to manage industrial and hazardous waste remains to be strengthened.

A law on **chemicals** is in parliamentary procedure in the Federation. Republic of Srpska continued to adopt legislation advancing the alignment with the EU *acquis* on classification, labelling and packaging of substances and mixtures. Significant efforts are needed in the areas of industrial pollution control and noise.

In the area of **civil protection**, given the impact of disasters in the country, disaster risk reduction and disaster management need to be treated as a matter of priority, particularly in the light of the recent severe floods. In July, Bosnia and Herzegovina expressed its interest in becoming a member of the EU Civil Protection Mechanism. A memorandum of

understanding on cooperation between the relevant civil protection bodies of the Entities was signed.

Regarding **climate change**, the country adopted a strategy for adaptation to climate change adaptation and low emissions development strategy. Efforts should be made to streamline this strategy into sectorial policies and strategies. Bosnia and Herzegovina regularly associated itself with EU positions in the international context. A second National Communication was submitted to the United Nations Framework Convention on Climate Change and the biennial update report on greenhouse gasses is under preparation. The country has not yet put forward a mitigation commitment by 2020 in the context of the Copenhagen Accord and the low-emission development strategy adopted does not include any mitigation commitment. The country needs to put forward by the first quarter of 2015 its intended nationally determined contribution to the 2015 Climate Agreement, consistent with those of the EU and its Member States. The country needs to develop a comprehensive countrywide climate policy and strategy in line with the expected EU 2030 policy framework on climate and energy. The country is at a very early stage in aligning with the EU climate *acquis*. At State level, the adoption and implementation of management plans to phase out ozone-depleting substances is advancing.

Some specific regulation in BiH and Republic of Srpska related to environmental protection

Republic of Srpska

The Law on Environmental Protection of the Republic of Srpska ("OG of RS", No. 71/12 and 79/15) is the key law in this field in the Country, and serves as the basis for adoption of other regulations governing the environmental protection. The law was passed for the first time in 2002 (and was subject to four amendments), and the new law was adopted in June 2012, and in 2015 some amendments to the Law have been adopted. This Law governs the protection of the environment for the purpose of its preservation, decrease of risks for human life and health, as well as ensuring and improving the quality of life, protection of all environmental elements, informing and access to information in the field of environmental protection, environment planning and protection, strategic

environmental impact assessment, procedures for issuing environmental permits and prevention of large-scale disasters, ecosystem labelling and environmental protection management, financing of activities related to the environment, issues related to damage caused to the environment, including rights and obligations of natural and legal persons performing activities under this Law.

The Law on Environmental Protection of the Republic of Srpska as the general act related to the environment, including other system laws such as the Law on Administration of RS, provide legislative framework for adoption of special laws and bylaws, which also govern protection of environment and natural resources, including issues relevant for environmental protection and environment management system, such as:

- The Law on Nature Protection ("OG RS", No. 50/02, 34/08 and 20/14) governing renovation, protection, preservation and sustainable development of landscapes, natural areas, plants, animals and their habitats, soil, minerals, fossils and other components of the nature which make part of the environment. In addition Republic of Srpska adopted Strategy for Nature protection in 2011 ("OG of RS", No. 65/11).

By-laws:

- Regulation on the red list of endangered species of flora and fauna of the RS ("OG of RS", No. 124/12)
- Ordinance on the monitoring system of deliberate keeping and killing of protected animals ("OG of RS", No. 75/05)
- Ordinance on the manner of establishing and managing an information system for nature protection and tracking system ("Official Gazette of the Republic of Serbian", No. 85/05)
- Ordinance on the contents, identification and manner of implementation of the measures of management of protected areas "OG of RS", No. 56/09)

- Ordinance on the register of protected natural resources "OG of RS", No. 55/15)
- Ordinance on the internal order in national parks "OG of RS", No. 83/11)
- Ordinance on the official uniform, identity card and the use of official arms control services in the national park ("OG of RS", No. 83/11)

- The Law on Air Protection ("OG of RS", No. 124/11), which governs protection of air from the pollution in order to protect human health, climate and the environment from the harmful effects of air pollution (protection of air from pollution caused by radioactive substances, industrial accidents and natural disasters, is regulated by a special law);
- The Law on Waste Management ("OG of RS", No. 53/02, 65/08, 111/13) governing the waste categories and waste management to promote and ensure the prevention of waste, including processing of waste for reuse and recycling, etc;
- The Law on Environmental Protection Fund ("OG of RS", No. 51/02, 53/07, 117/11, 71/12, 63/14) created for the purpose of collecting and allocating of financial resources for the protection of environment in the territory of Republic of Srpska;
- The Law on Utility Activities ("OG of RS", No. 124/11) governing utilities serving the special public interest, including organisation of conducting utility activities and the manner of their financing in RS;
- The Law on National Parks ("OG of RS", No. 75/10) governing issues relevant for protection, development, improvement, management, financing and sustainable use of national parks in the territory of Republic of Srpska. Meanwhile the Republic of Srpska has adopted the Law on National Park Kozara ("OG of RS", 121/12) and the Law on National Park Sutjeska ("OG of RS", No. 121/12),
- The Law on Waters ("OG of RS", No. 50/06, 92/09, 121/12) governing issues of integrated water management within the Republic of Srpska territory;
- The Law on Agricultural Land ("OG of RS", No. 93/06, 86/07, 14/10 and 5/12) governing planning, protection, landscaping and use of agricultural land and other

issues relevant for the protection, landscaping and use of agricultural land as a property of public interest;

- The Law on Mineral Fertilisers ("OG of RS", No. 24/12) governing issues related to mineral fertilisers and their classification, including quality requirements, testing, phyto-sanitary controls, etc. in the environmental protection context;
- The Law on Forests ("OG of RS", No. 66/03, 75/08, 30/10, 60/13) governs policies in the field of management of forests and forest land in RS, including other issues of importance to the forest and forest land;
- The Law on Fishery ("OG of RS", No. 4/02 and the new one 72/12 from August 2012), governing cultivation and protection of fish, transport and use of fish, fish eggs, crustaceans and other animals in the fishing waters of RS, etc.;
- The Law on Chemicals ("OG of RS", No. 25/09) governing the classification, packaging and labelling of dangerous chemicals, exchange of information on chemicals, restrictions and prohibition of substances of concern, import and export conditions for chemicals, etc.;
- The Law on Biocides ("OG of RS", No. 37/09) regulating the conditions for marketing and use of biocides, related to the assessment of biocide risk and efficacy for the purpose of issuing permits for
- The Law on Spatial Planning and Construction ("OG of RS", No. 55/10, 40/13), governing basic aspects of organisation, arrangement and spatial planning, including location requirements, authorisation of construction, etc.;
- The Republic of Srpska Law on Mining ("OG of RS", No. 59/12), governing conditions and methods for extraction of mineral resources from the soil and on its surface, in the river or lake bottom or beneath, and other issues related to the use of mineral resources in the territory of RS and taking into account environmental protection and sustainable development;

- The Law on Rescue and Protection in Accidental Situation ("OG of RS", No. 121/12), regulating the system of protection and rescue in emergency situations, power and subjects of protection and rescue, rights and obligations of the republican administrative organs and other organs, organs of local self-government, companies and other legal entities, the rights and duties of citizens, emergencies and treatment in emergencies, the organization and activity of civil protection in the system of protection and rescue and eliminating the consequences of natural disasters and other disasters, planning and financing the protection and rescue, surveillance, honours and awards and other issues of importance to the organization and functioning of protection and rescue system.

- The Law on Spatial Planning and Construction ("OG of Republic of Srpska", No. 40/13), regulating the organization, planning and development of the space, the type and content of spatial planning documents, methodology of development and process of adoption of spatial planning documents, rules and plan implementation of spatial planning documents, the type and content of the technical documentation, responsibilities and relations between participants in construction building, the provision of location conditions, building permits, approval for the use and authorization for removal, to control the implementation of this law, etc.

Federation of BiH

The framework environment protection law (*lex generalis*) in Federation of BiH is the Law on Environmental Protection of FBiH ("OG of FBiH", No. 33/03 and 38/09), on the basis of which the following special laws (*lex specialis*) were adopted:

- The Law on Environmental Protection ("OG of FBiH", No. 33/03, 38/09)
- The Law on Nature Protection ("OG of FBiH", No. 66 / 13)
- Decree on Natura 2000 – protected areas in Europe ("OG of FBiH", No. 43/11)
- The Law on Air Protection ("OG of FBiH", No. 33/03 and 04/10)
- The Law on Waste Management ("OG of FBiH", No. 33/03 and 72/09),
- The Law on Environmental Protection Fund of FBiH ("OG of FBiH", No. 33/03)
- The Law on Noise Protection ("OG of FBiH", No. 110/12)
- The Law on Water ("OG of FBiH", No. 70/06)

- Law on spatial planning and land utilization at the level of the FBiH ("OG of FBiH", No. 2/06, 72/07, 32/08, 4/10, 13/10, 45/10)

Important By-laws:

- Regulations on plants and facilities requiring a mandatory environmental impact assessment and plants and facilities allowed to be constructed and commissioned only if they have environmental permit ("OG of FBiH", No. 19/04)
- Decree on unique methodology for preparation of physical planning documents ("OG of FBiH", No. 63 / 04, 50/07)
- Ordinance on the content and the method of preparing management plans for protected areas ("OG of FBiH", No. 65/06)
- Ordinance on the establishment and management information system for the protection of nature and monitoring ("OG of FBiH", No. 46/05)
- Ordinance on the content and manner of keeping the register of protected areas ("OG of FBiH", No. 69/06)
- Regulations on new measures for research or conservation to prevent significant adverse impact on the types of deliberate capture or killing of species ("OG of FBiH", No. 65/06)
- Regulation on the establishment of the monitoring system of deliberate keeping and killing of protected animals ("OG of FBiH", No. 46/05)
- Red List of endangered wild species and subspecies of plants, animals and fungi ("OG of FBiH", No. 7/14)

The issue of water protection is covered by the Law on Waters ("OG of FBiH", No. 70/06), which falls under competence of the FBiH Ministry of Agriculture, Water Management and Forestry, while the FBiH Ministry of Environment and Tourism has corresponding responsibilities under this Law. Similar laws exist in the ten (10) cantons of FBiH.

In addition to the presented main legal "environmental" acts, the Federation of Bosnia and Herzegovina has adopted several strategic documents in order to strengthen environmental protection under its responsibility:

- Federal Environmental Protection Strategy FBiH 2008-2018, which includes the Federal strategy for nature protection, Federal Air Protection Strategy and the Federal Waste Management Strategy.
- Water Management Strategy of the Federation of BiH 2010 – 2022.
- Strategy of Bosnia and Herzegovina with an action plan for protection of biological and landscape diversity (NBSAP BiH 2015-2020).

Montenegro

Legal system in the field of environment is bounded by the constitutional declaration of Montenegro as Ecological State (since 1992). [7] In that respect the water management is also part of the environment issues, on which the environmental legal framework has an impact or is related to. Basic, umbrella, regulation in the sphere of environment is the Law on Environment ("OG of MNE", No. 48/08, 40/10, 40/11, 27/14). The Law on Environment regulates: principles of environmental protection and sustainable development, subjects and instruments of environmental protection, the documents of sustainable development and environmental protection, environmental monitoring, information system, public participation on environmental issues and other issues of importance for environment. Environmental protection ensures integrated preservation of environmental quality, conservation of biological and landscape diversity, rational use of natural resources and energy in the best way for the environment as a basic condition for a healthy and sustainable development. The state shall protect the environment. Integrated management of environmental protection is carried out in a way to ensure sustainable development in accordance with this Law and special regulations. The law

[7] Article 1 of the Constitution defines Montenegro as a "civic, democratic and ecological state based on the respect of social justice and rule of law"

encompasses water resource management in several instances. In order to be fully aligned with EU regulations, a new Draft Law on Environment has been prepared.
A new aspect of environmental protection has been given with the adoption of the Law on Liability for Environmental Damage ("OG of MNE", No. 27/14), setting the framework and conditions/principles of liability for environmental damage and damage inflicted to among other, water resources, as well as implementation of prevention and mitigation measures, to prevent and eliminate environmental damages.

The current Law on Nature Protection ("OG of MNE", No. 51/08, 21/09, 40/11, 62/13 and 6/14) provides framework for protection and the preservation of nature; natural resources characterized by biological, geological, geomorphological and landscape diversity. Certain natural resources of the value, which is characterized by biological, geological, ecosystem and landscape diversity, are under protection (hereinafter: the protected areas). The Law on Nature Protection regulates the protection and conservation of nature, ecological network (Natura 2000), protected areas, categorization and protection regimes in protected areas, procedure for a declaration of protected natural resources, management and use of protected natural resources, as well as measures of protection and conservation nature. The Law describes the classification of protected natural assets. These include: (i) protected areas –strict and special nature reserves, natural parks, nature monuments, protected habitats and landscapes with outstanding features; (ii) protected species of plants, animals and fungi – strictly protected wild species and protected wild species; and (iii) protected geological and paleontological sites. Use of natural resources requires a permit/license. According to provisions of Article 4, nature protection is implemented by setting measures and conditions in the spatial planning documents, natural resources management master plans and programs, including water management, energy, etc.

As mentioned, the law also reflects to water resource management in following provisions: protection of wet and water habitats (Articles 19 and 20), use of speleological structures (Article 29), protection of the natural monuments (Article 41), conditions of use of natural resources (Article 67), prohibitions have been also prescribed regarding water (Article 82), as well as penal provisions (Article 119, Item 5). The role of the

ministry in charge of agriculture, forestry and water management has been defined for declaration of protected natural resources (Article 55), setting the use of protected wild species of plants, animals and fungi (Article 84).

In regard to biodiversity protection the Fifth Montenegro Report within United Nations Convention on Biological Diversity has been submitted by Montenegro in December 2014.

Forestry policy in the Country is defined by two documents: The National Forest Policy (2008) and The National Forest Strategy (2014-2023). The basic law that governs the forestry is Law on Forests ("OG of MNE" 74/10, 40/11) and regulations in the field of environment, especially nature. This law regulates the production, protection, conservation and enhancement of forests, planning, method and terms of use of forests, construction and maintenance of forest roads, forests monitoring, as well as other issues relevant to forests, forest land and forestry. This law also applies to the protection, conservation and utilization of forest trees located out of the forest and forest land (hereinafter referred to as trees outside forests). Forests and forest land, as well as goods of general interest, enjoy special protection, which can be realized through: Permanent preservation and enhancement of forests and forest lands and their function; Sustainable and multifunctional forest management; Preservation and enhancement of biological and landscape diversity of forests, as well as the quality of their environment.

The protected areas/national parks in the Country are governed by the Law on National Parks ("OG of MNE", No. 56/09, 40/11 from 8.08.2011, 28/14). Law on National Parks governs national parks, the conservation, development and improvement of national parks, the use of National parks, as well as the management of national parks.

Each national park, in addition to the five-year management plan and annual management programme, should also have a special purpose spatial plan. As of February 2014, spatial plans for all national parks were under revision. Management plans for all national parks except NP Prokletije have been adopted by the Government for the period 2011-2015. In 2013, annual management programmes for all five national parks were in place.

The amendments of the Law from 2014 revised the boundaries of the National Park Durmitor and incorporates the concept of ecosystem services.

The Law on Sea Fishing and Mari culture ("OG of MNE", No. 56/09) and the Law on Fresh Water Fishing ("OG of MNE", No. 11/07) provide legal provisions that regulate fishing sector in the Country. The Law on Fresh Water Fishing states that fishing waters are all waters with fresh water fish species and other water fauna granted for use aimed at exercising sports-recreational and economic fishing activities, excluding water: 1) in fish ponds; 2) storages, lakes or running water used or planned in spatial planning documents for public water supply; 3) in protected natural structures as declared by special laws. Special measures aimed at protection and improvement of fish stocks and preservation of biodiversity in fishing waters are prescribed. On order to foster sustainable principles and sustainable fishing the Government has adopted Strategy of Fishing and Aquaculture Development 2006 – 2016.

Integrating licensing are regulated by the Law on Integrated Environment Pollution Prevention and Control ("OG of MNE", No. 80/05, 54/09, 40/11) and accompanied by-laws regulate, prescribing the requirement and procedure of issuing integrated IPPC license for installations and activities that may have adverse impacts on human health, the environment or material goods, types of activities and facilities, monitoring and other issues of importance for the prevention and control of environmental pollution.

The Law is applicable from 2008, and a number of implementing regulations have been adopted, including the Regulation on the types of activities and facilities that require integrated permits ("OG of MNE", 7/08). The Law has set the deadline of January 1, 2015 for existing facilities and activities to obtain the permit. The 2012 Programme on the adjustment of certain industries with the Law on IPPC ("OG of MNE", 19/12) listed 10 existing installations in need of an IPPC permit and the approximate timing for the procedure. By the end of 2013, three IPPC permits had been issued by the EPA and one at local level (chapter 2). The Programme was amended in January 2014 to remove two installations from the list ("OG of MNE", 3/14). Undergoing amendment of the Law will extend the deadline for operators to obtain a license, from January 1, 2015 to January 1, 2020. According to the Regulation, categories of industrial activities that are subject to an integrated license are energy generation, production and treatment of metals, mineral industry, waste management and other activities.

The Law on Protection and Rescue ("OG of MNE", No. 13/07, 5/08, 32/11) among other things regulates the measures and activities undertaken for identifying and preventing danger of natural disasters, fire, floods, etc., adjoined with the rescue of citizens and material assets threatened by such disasters". The current amendments of the Law on Protection and Rescue (2007) will provide harmonization with EU acquis in the sphere of civil protection and disaster management policies.

Not all of the elements of the Seveso II Directive are integrated into Montenegrin legislation. Issues covering emergency plans, reporting system and inspection system etc. still need to be included.

The Law on Waters encompasses provisions related to rights and responsibilities of individual entities in undertaking various measures aimed at prevention of the negative flood effects. Financing works and infrastructure against the harmful effects of water has been set by the Law on Financing of Water Management ("OG of MNE", No 65/08, 74/10 and 40/11). In 2010, the General Plan of Protection against Negative Water Effects (2010) and Operational Protection Plan have been adopted. The Water Master Management Plan set preliminary Flood Risk Assessment, which need updating. The newly amended Law on Waters (2015) regulates flood risk management in several provisions, thus transposing the Directive 2007/60/EC on flood risk assessment and management.

Taking into account that water and waste management are closely interlinked through the method of the waste management system, legislative framework in this filed is of importance for integral water management. The Law on Waste Management ("OG of MNE", No. 64/11) regulates the types and classification of waste, waste management planning, securing conditions for handling waste, rights, obligations and responsibilities of legal and natural persons in waste management, conditions and procedures of licensing, supervision and other issues of importance for waste management (Article 1, Paragraph 1).

The Law requires the waste producer to make all efforts to prevent and reduce the generation of waste. It also provides for extended producer responsibility. Holders of waste are obliged to ensure the treatment of waste. If the treatment is impossible or unjustified from the point of view of cost efficiency or environmental protection, the holder of waste should ensure the disposal of that waste. Separate collection is

mandatory for paper, metal, plastic, glass and bio-waste. Separate collection, and collection of municipal waste for treatment are the responsibility of local self-government authorities.

New National Waste Management Plan 2015 - 2020 has been adopted at the end of July 2015.

In the process of legislation harmonization with EU regulation, following Directives have been transposed:

- The Waste Framework Directive 2008/98/EC, and the Directive 1999/31/EC on landfill of waste are largely transposed;
- The PCB/PCT Directive 96/59/EC and the Sewage Sludge Directive 86/278/EEC are almost fully transposed;
- The Directive 94/62/EC on packaging and packaging waste, Batteries Directive 2006/66/EC, Directive 2012/19/EU on waste electrical and electronic equipment are partially transposed.
- Harmonization with Directive 2006/21/EC on the management of mining waste is at a very early stage.

The Law on Chemicals ("OG of MNE", No. 18/12) sets the base for chemical management in the Country by regulating classification, packaging and labelling chemicals, sale, import and export of hazardous chemicals, as well as other issues of significance for human health and life protection and environmental protection against harmful effects of chemicals. Nevertheless, the amending of the Law, in order to harmonise it with EU regulations is envisioned for 2016. The National Plan of Stockholm Convention Implementation for 2014-2021 has been adopted. The Law on biocides is expected to be adopted in close future, while implementation of the Regulation on Biocides (EU) no. 528/2012 has not started yet. The Strategy on the chemicals management 2015-2018 has been prepared.

The environmental legislation is in numerous instances is directly related to soil protection. The Montenegro Law on Mining ("OG of MNE", No. 65/08, 74/10) sets

requirements and method of ore exploitation, meaning "all organic and non-organic solid, liquid and gaseous mineral resources located in the primary pit, deposits, landfills, as well as the technogenous mineral resources created by the exploitation process (… mineral resources)." (Article 3). It is the obligation of the land owner to rehabilitate the land area degraded by the works upon completion of mineral resources exploitation works, not later than 30 days after cessation of exploitation (Article 23). As for the concessionaire, he is also obliged to return the land to its original use, not later than one year from completion of work. The Law does not fully transpose the Directive 2006/21/EC on the management of mining waste.

A Draft Action Plan for Land Degradation Preventions and Mitigation of Flood Consequences was adopted in late 2014.

The air quality is governed by the Law on Air Protection ("OG of MNE", No. 25/10, 40/11) and 12 by-laws (7 regulations and 5 rulebooks). The Law regulates the way of air quality monitoring, protection measures, evaluating and improving air quality, information and reporting on air quality, as well as the planning and management of air quality. and improving air quality, information and reporting on air quality, as well as the planning and management of air quality.

The Law envisages a range of measures for the prevention and reduction of air pollution, such as setting limit values for emissions from stationary and mobile pollution sources and setting national emission ceilings for specific pollutants, as well as phasing out ozone-depleting substances (ODS).

The implementation of the Law on Air Protection is relatively well on track. The National Strategy for Air Quality Management for the period 2013–2016 was adopted in 2013. An air quality plan was developed in 2013 for the Municipality of Pljevlja where, in 2011, significant exceeding of PM10 were recorded. Air quality plan for the Municipality of Nikšić has been adopted in March 2014.

The network for air quality monitoring functions with seven automatic monitoring stations and one European Monitoring and Evaluation Programme (EMEP) station (at Žabljak). The latter has been in operation since 1993 to oversee transboundary

emissions. Air quality zoning has been finalized. Further implementation of the Law requires significant investment to introduce new equipment at several installations.

Draft Law on Amendments and Supplements to the Law on Air Protection is developed and is undergoing adoption procedure in the Montenegro Assembly. With the amendments to the Law, the alignment with EU regulation will take place. Under the auspices of UN Framework Convention on Climate Change in 2010, Montenegro submitted the I National Communication, and the Second National Communication has been also prepared. Taking into account that the adoption of the National Strategy for Climate Change until 2030 is undergoing, it can be expected that other legislation and/or documents regarding climate change to be developed and adopted in the near future.

The Law on Spatial Development and Construction ("OG of MNE", No. 51/08, 40/10, 34/11, 47/11, 35/13, 39/13 and 33/14) governs the system of spatial development of Montenegro, the manner and requirements for construction of structures, as well as other matters of importance for the spatial development and construction of structures.

While the basic legislation that governs construction and spatial planning in the Country is the above stated law, in relation to the water management that Law on Water sets the requirements of building the facilities for water (Article 63). Additionally, designing and building dams and storages for hydropower should also provide a multi-purpose use to the greatest possible extent (e.g. flood protection, water supply, irrigation).

The Law on Agriculture and Rural Development ("OG of MNE", No. 56/09 and amendments in 2014), accompanied by the group of by-laws is the basic legal document of agricultural policy. This Act, among other things, regulates: planning the development of agriculture and rural areas of agricultural policy, incentives for agriculture and rural development, the conditions for their exercise, incentive beneficiaries, organization of producers, quality and labelling of agricultural products, agricultural products, additional activities, activities of public interest, registers and records, as well as other issues of importance for the development of agriculture and rural areas. The importance of agricultural policy is described in detail in the section on policy measures, while overall agricultural policy presented in four main groups: market - price policy, rural

development policy, activities of public interest and social transfers to family agricultural holdings. Law on Amendments to the Law on Agriculture and Rural Development (2014) stipulates that a strategy of development of agriculture and rural areas determine the long-term development directions of agrarian policy. The Government of Montenegro adopted the Strategy for the period of 7 years. Bearing in mind the changed context, the new strategy is made before the expiration of the previous and complies with the CAP 2014-2020.

Concerning the issue of land reclamation involving drainage of excess water from land and routings for water inflows to the area protected against flooding and where irrigation water, the transposition of this has taken place (Article 22). The land reclamation area (including borders) is set by the line administrative authority. Intake and use of surface and groundwater for irrigation of agricultural or other land is exercised according to the requirements set by water permits. Owners, i.e. users of irrigation facilities and system, are responsible for covering the proportional share of maintenance and management cost (Article 60). Further, water for irrigation of agricultural crop must meet prescribed quality criteria. The subject of a concession is a public water asset that can be, among others, a water intake for irrigation of agricultural land that uses more than 175 m3 per day (Article 134).

Serbia

The National Environmental Protection Program ("OG of RSRB", No. 12/10) provides the general policy framework in the field of environment, while basic law and "umbrella act" in the field of environmental protection is the Law on Environmental Protection ("OG of RSRB", No. 135/04, 36/09, 36/09, 72/09 and 43/11). The act regulates systemic issues, thus having effect on certain aspects of water management, and furthermore contains general provisions (including the Article 23) that directly regulate water management. The on-going process of amending the law will provide several new aspects, such as: approval to use surface and ground waters as natural resources (Article 15), base for establishment of "*Green Fund of the Republic of Serbia*", determining deadline for their gradual breakdown, limit values reaching by legal entities and entrepreneurs who discharge wastewaters into the recipients or public sewage system, as well as treatment,

disposal and usage of sludge, that is processing of sludge which is residue from waste water treatment plants.

One of the most significant issues in integrated water management is certainly the n**ature protection-protection and conservation of nature, biological, geological and landscape diversity**. These aspects of nature and environmental protection are regulated by the Law on Nature Protection ("OG of RSRB", No. 36/2009, 88/2010 and 91/2010) and also by other regulations, including the Law on National Parks ("OG of RSRB", No. 9/93, 44/93, 53/93, 67/93, 48/94, 101/05, 36/09, 84/15), Law on Wildlife and Hunting ("OG of RSRB", No. 18/10) and others. The Law on Nature Protection contains several provisions that directly refer to water resources management (e.g. Article 18 of the Law on Nature Protection - in wetlands and aquatic ecosystems with coastal areas, all actions and activities which endanger hydrological phenomena and preservation of biological diversity shall be prohibited (paragraph 3); in speleological objects (e.g. caves) and their surrounding area, it is forbidden to conduct construction works that may cause major unfavourable and permanent alterations of geomorphological and hydrological nature (Article 25, paragraph 4).

The Country protection regime in protected areas recognize following categories: 1) I degree, 2) II degree and/or 3) III degree.

- Protection regime I degree – strict protection implemented in the protected area or ne part of the protected area with original or slightly altered ecosystem of exceptional scientific and practical significance providing for the processes of natural succession and habitat and animal community preservation in wilderness environment. Protection regime I degree: 1) prohibits use of natural resources and construction; 2) limits the works and activities to scientific research and observing natural processes, controlled visits serving to educational, recreational and general cultural purposes, etc.
- Protection regime of II degree limits, inter alia, regulation and damming of water streams, formation of catchments, melioration and other hydro-technical works, construction of hydropower plants, solar power plants and bio-gas power plants, energy and communal facilities, as well as other infrastructure facilities (Article 35).

As part of conservation of migratory species, it is provided that electric power systems, hydro-engineering constructions and other facilities that impede diurnal, nocturnal or seasonal migration of wild animals, cause habitat fragmentation or in some other way disrupt their normal life cycles, must be built "in a way which reduces negative effects by the use of special construction and technical – technological solutions on facilities and their surrounding areas, during construction and exploitation" (Article 80).

The Law on Nature Protection, in its Article 9 states that nature protection requirements issued by authorized Institute for Nature Conversation (Institute) (Article 10) need to be obtained in the process of development of plans, basis, programs, projects, works and activities..

Another aspects of water management and use of water resources is **fisheries**, which is regulated by separate provisions of the Law on Protection and Sustainable Use of Fish Stock ("OG of RSRB", No. 128/2014 and by-laws passed upon previous law regulating this field (Law on Protection and Sustainable Use of Fish Stock, "OG of RSRB", No. 36/09 and 32/13 – Constitutional Court). The law defines fish stock management in fishing waters, which covers protection and sustainable use of fish stock as public good. Fishery waters at borders of protected areas, as well as protected species and protected movable natural documents, are governed by regulations in the field of nature protection, unless otherwise stated by this law. Six fishery areas in the Serbia are recognised: "Serbia – Vojvodina", "Serbia – West", "Serbia – Southwest", "Serbia-South", "Serbia – East", "Serbia – Center", determined by the Decision on determining fishery areas ("OG of RSRB", No. 115/07).

Issuing of an integrated permit as well as risk management mechanisms is regulated by separate legal framework in Republic of Serbia. The main legal act is Law on IPPC ("OG of RSRB", No. 135/04, 25/15). Transposition of the Integrated Pollution Prevention and Control Directive 2008/1/EC is substantially complete via the law on IPPC and associated bylaws. The most recent amendments of the Law (2015) extends deadline for issuing of permits for current facilities and activities (until December 31st 2020). Most of the IPPC Directive provisions are identical in Industrial Emission Directive 2010/75/EU (IED) and therefore already transposed into Serbian national law.

According to the Law on Environmental Protection, an integrated permit is issued for the work of new and existing facilities and activities that may have adverse effect on human health, environment or material goods. According to the Decree on types of activities and facilities for which integrated permit is issued ("OG of RSRB", No. 84/05), which is based on the Law on IPPC categories of industrial activities which are subject to obligation of obtaining the integrated permit include: energy production, production and processing of metals, mineral industry, chemical industry, waste management and other activities. However, some deficiency in transposition has been identified. At national level, the total of 185 facilities is covered by IPPC permits.

At the beginning of 2014, there were registered 46 upper tier and 57 lower tier Seveso establishments, most of them in the chemical industry, oil refinery, storage of oil products, storage of explosives and fertilizer production. With regard to the condition of national regulations in relation to the EU SEVESO III Directive,[8] it is assumed that there should be harmonization of national regulations in segment referring to the Law on Emergency Situations, as well as regulations in the field of environment (EIA, SEA and IPPC) and spatial planning.

The weather condition, or other causes of floods are circumstances that are encompassed by integrated water management. The Law on Emergency Situations ("OG of RSRB", No. 111/09, 92/11, 93/12) regulates protection and rescue from **flood** and accidents occurring on and under the water. The term "flooding area" has been defined by the Law on Waters as "the area periodically subjected to flooding as a consequence of waterway or excess internal water effluent" (Article 3, Item 47). In addition the Law on Waters has several provisions directly related to floods, e.g. Article 16, 23 etc. According to the Law on Emergency Situations, protection and rescue from floods, and other accidents on water and under water includes: planning, construction, maintenance and strengthening of damaged facilities for protection of floods; observation and reconnoitering of the water

[8] The Seveso Directives are the main EU legislation dealing specifically with the control of on-shore major accident hazards involving dangerous substances. The Seveso III Directive adopted in 2012 (Directive 2012/18/EU) came into force on 1 June 2015, replacing the Seveso II Directive.

levels, alerting, planning and evacuation of population and material goods from the affected areas; planning and ensuring transportation and transporting and crossing rivers and lakes; removing waters from the flooded facilities, finding and rescuing of victims and drowned, care and accommodation of the affected population and mending the consequences of floods. Nevertheless, the recent flood devastating events in Serbia, and the region, resulted in amending of the Law on Emergency Situations, which will result in transposition of the majority of the EU Floods 2007/60/EC Directive's provisions into the act, through the Rulebook on the establishment of methodology for preparation of FHMs.

Waste is one of the pressuring aspects and risk for efficient water management. Serbia regulations related to **waste management** encompass: Law on Waste Management ("OG of RSRB", No. 36/09 and 88/10)[9] and Law on Packaging and Packaging Waste ("OG of RSRB", No. 36/09). Waste management presumes and prescribe obtaining following permits: 1) Waste collection permit; 2) Waste transport permit; 3) Waste storage permit; 4) Waste treatment permit; 5) Waste disposal permit. Integral permit could be issues to one operator for the purpose of performing more.

In the process of harmonization of national legislation with EU regulations the Law on the Amendments to the Law on Waste Management has been prepared and is going through the adoption procedure (encompassing public debates). This activity is accompanied with the Serbia efforts to set more efficient waste management system, with recycling as a method of waste quantity reduction. The Country's efforts to harmonise legislation and transpose EU provisions into national legislation, are still lacking efficient enforcement of acts, especially taking into account the on-going development projects and investments, yet to come. The Drina river basin Countries have identified an issue of water flow quality arriving from the upstream territories, due to the floating waste. Estimations indicate that around 25% of municipal solid waste is disposed on sanitary landfills, 45% on registered municipal dumpsites and around 30% on illegal dumpsites, whereas no organized hazardous waste landfills exists and it is mainly kept on the company site. Due to the lack of adequate waste management facilities, major quantities of waste (particularly

[9] Provisions of the Law on Waste Management are not applied on waste waters, except liquid waste and sewage system sludge, except the sludge from facilities for sludge treatment (Article 4).

hazardous waste) are exported Transboundary waste movement has been regulated by the Law and by-laws. Serbia is member of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. However, Serbia has not yet ratified the Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal.

Group of by-laws, of the above mentioned waste management laws are regulating special flows of waste:(used batteries and accumulators, waste oil, electric and electronic equipment waste, waste vehicles, PCB, POPs, asbestos waste, medical and pharmaceutical waste, etc.. Packaging may be subject to sale if it meets principal requirements of packaging production and contents, use and reuse, including packaging suitability to recycling.

Waste management system in the Country sets the framework for management of municipal waste, which is collected, treated and disposed in accordance with present law. The special utility provides such services according to related regulations.

Radioactive waste management has been regulated by the Law on Protection against Ionizing Radiation and Nuclear Safety ("OG of RSRB", No. 36/09) and relevant by-laws. As regards to permanent radioactive waste disposal, according to Article 92 of the Law, Republic of Serbia will create conditions for permanent radioactive waste disposal within ten years as of the day present law has entered into force.

The revised National Waste Management Strategy for 2010-2019 period, from 2010 ("OG of RSRB", No. 29/10) defined general goals and key principles of waste management, which are full alignment with EU goals related to waste management. The Strategy plans include: Establishment of 12 regional waste management centres, increasing packaging waste recycling by 25%, strengthening capacities for industrial and medical waste incineration, etc. In addition, five draft national plans of special flow of waste have been prepared. The National Radio Active Waste Management Strategy has not been adopted yet.

Chemicals management in Serbia is regulated by the Law on Chemicals ("OG of RSRB", No. 36/09, 88/10, 92/11, 93/12, 25/15) and the Law on Biocidal Products ("OG of RSRB", No.

36/09, 88/10, 92/11, 25/15). The Law on Chemicals defines that adequate permits need to be obtained to perform activities related to the use and placing in the market the chemicals which can be classified as particularly hazardous chemicals (MAEP defines which chemicals are classified as particularly hazardous chemicals). In addition, the Law on Biocidal Products – "OG of RSRB", No. 36/09, 88/10, 92/11, 25/15 regulates biocide products.

Mining and geological survey are another aspect that integrated water management takes into account. The Law on Mining and Geological Survey ("OG RSRB", No. 88/11) regulates different activities referring to the ground waters as a "geological resource" (Article 3, item 2). Draft Law on the Amendments to the Law on Mining and Geological Survey is prepared and in the process of adoption.

Soil monitoring is not performed systematically, and it find the base in the Law on Environmental Protection ("OG of RSRB", No. 135/04, 36/2009, 72/2009 – state law and 43/2011 – decision of the Constitutional Court). The Regulation on systematic soil quality monitoring program with indicators for the assessment of risk from soil degradation and methodology to conduct remediation programs ("OG of RSRB", No. 88/10) has been adopted, resulting in the need to create a program for systematic soil quality monitoring that will include establishment of a state and local soil quality monitoring network on locations that does not include agricultural land.

Climate change is a cross cutting issues and it is not regulated by specific act. Regulatory norms are encompassed in different. **Air protection** is governed by the Law on Air Protection ("OG of RSRB", No. 36/09, 10/13), which state that actions of "avoiding, prevention and reduction of pollution which have adverse effect on the ozone layer and climate changes" (Article 2, item 3) will preserve the air quality.[10] The Law is accompanied by the Air Protection Strategy which provide ground for "adoption of the Action plan for the protection of air, atmosphere and prevention of climate changes, which is its integral part" (Article 29). Serbia is a member state of Kyoto Protocol and thus

[10] Apart from this law, some issues related to the achievement of goals in the field of reduction of greenhouse gases emission are regulated by many other provisions of a systemic nature, such as the Law on Planning and Construction, Law on Energy, Law on Efficient Use of Energy and others.

it has the obligation to report on achieved and planned measures for protection of air quality. The 2nd National Communication has also been prepared in accordance with obligations from UNFCCC. In Addition, "initiatives to reduce greenhouse gases emission at national level" is adopted by the Government, aiming at emission reduction of 9.8% by 2030 compared to 1990 levels.

Serbia has no strategy in the field of climate changes.

Construction and spatial planning is another vital scope of integrated water management. The governing law is the Law on Planning and Construction ("OG of RSRB", No. 72/2009, 81/2009 – modified, 64/2010 – decision of the Constitutional Court, 24/2011, 121/2012, 42/2013 – decision of the Constitutional Court, 50/2013 – decision of the Constitutional Court, 98/2013 – decision of the Constitutional Court and 132/2014, 145/2014). Several provisions of the Law refer to water management.

Spatial plan of area with special purpose is made for areas which demand special regime of organization, arrangement, use and protection of space, as well as project of significance for the Country, areas determined by Spatial Plan of the Republic of Serbia or other spatial plan, and especially for areas with possible use of hydropower potential (Article 21, item 4).

Construction permit and technical documents are core requirements of the construction and those have been governed by the conditions prescribed and defined by the law. Article 133 of the Law provides that construction permit for the construction of objects is issued by the ministry in charge for construction activities (Ministry), unless otherwise determined by the law. The Ministry issues construction permit prior to the construction of objects, such as 1) high dams and reservoirs filled with water, mullock or ash, for which technical monitoring is prescribed; 8) regulation works aimed at protection from large waters in urban and rural areas covering the surface larger than 300 ha; 9) objects within boundaries of immovable cultural wealth of particular importance and cultural heritage added in the List of world cultural and natural heritage 17) hydro-engineering objects on waterways; 18) navigable canals and locks which are not part of hydropower

system; 20) objects for production of energy from renewable sources with power of 10 MW or more.[11]

The governing act for **agriculture** in Republic of Serbia is the Law on Agricultural Land ("OG of RSRB", No. 62/2006, 65/2008, 41/2009), setting the following: objectives of agricultural policy and manner of achieving thereof, types of incentives in agriculture, conditions for exercising rights to incentives, incentive beneficiaries, Register of Agricultural Households, record keeping and reporting in agriculture, integrated agricultural information system, supervision over implementation of this Law. This Law shall establish Administration for Agricultural Payments, as an administration authority within the ministry in charge of agriculture (hereinafter: the Ministry), and shall govern its competences. Amendments to the Law have been prepared, along with draft Law on Protection of Agricultural Land, which is in the process of being adopted.

In addition, on November 25, 2014, as part of Serbia's Strategy for Agriculture and Rural Development, the Serbian Parliament adopted the Law on Pre-Harvest Financing of Agricultural Production to facilitate farmers' access to financing, especially at the time of field crop planting ("OG of RSRB", No. 128/14). The law becomes effective June 1, 2015, and it goal is to increase the volume of primary agricultural production by improving existing financing. The new law will create the possibility for establishing pre-harvest funding. It also offers the use of future production (crops, fruits, vegetables, etc.), as a form of collateral to secure a loan. The law also envisages that the contract relating to the financing of production be entered into a registry, thus making it possible to check whether a parcel of farmland is encumbered with a loan. The registry of financing contracts will be run by the Agency for Agricultural Registries and its establishment will be financed by the European Bank for Reconstruction and Development (EBRD).

The above stated Law on Agricultural Land prescribes prohibition to discharge and dispose of hazardous and harmful substances in canals used for irrigation and drainage (Article 16) and it prescribes obligation to test agricultural land and water used for

[11] At the same time, the autonomous province is entrusted a task of issuing construction permits for the construction of objects defined in Article 133 of the Law, which are completely constructed in the territory of the autonomous province. Local self-government units are entrusted issuing of construction permits for the construction of objects which are not determined by Article 133 of the Law.

irrigation, which is aimed at determining the quantity of hazardous and harmful substances and conducted in accordance with the program set by the Minister (Article 17). The Law also regulates construction and maintenance of the system for irrigation and drainage (Articles 50-54), etc.

The legislative framework governing agriculture in Republic of Serbia, certain provisions of certain regulations in the field of water management and environmental protection are related to agriculture, among which the most important among these are the provisions regulating irrigation and drainage.[12] Following provisions in Law on Waters directly regulate certain aspects of irrigation: water facilities for the use of water (Article 18), water objects management (Article 23), reclamation area (Article 28), purpose, conditions and priorities in the use of water (Article 71), the use of water for irrigation (Article 82), design and construction of facilities and devices (Article 85), issuing and revocation of license (Article 112), issuing of water requirements (Article 115), facilities, works and planning documents for which water requirements are issued (Article 117), Association of water users (Article 144), Public enterprise for regional and multi-purpose hydropower systems (Article 146), subject of funding (Article 150), payer (Article 155), payment of compensation (Article 156), exemption from paying (Article 173), compensation for the use of water facilities and the system, grounds for payment (Article 174), payer (Article 175), compensation payment (Article 176).

Based on Law of Waters, the use of water for irrigation of agricultural or other type of land is conducted in accordance with conditions determined by water permit and if the use of water for irrigation is conducted on the grounds of concession then it must also be in accordance with the contract determining concession (Article 82). Water which is used

[12] In accordance with provisions of the Article 2 of the Law on Agricultural Land, the *irrigation* implies "construction, use and maintenance of objects and devices which timely bring water to agricultural land in order to obtain high and stable agricultural crops yield". The term "drainage" comprises "construction and maintenance of objects and devices which are used to drain excess surface and ground water from agricultural land and regular application of specific measures enabling constantly efficient work of all facilities and devices in the process of excess water draining" items 7 and 8).

for irrigation of agricultural land must meet certain quality related conditions, considering the type of land, method of irrigation and agricultural crops.

2.3 Social Legal Framework

BiH (FBiH and RS)

The current state in the area of legislation relevant for the water management in BiH has exceptionally specific characteristics in comparison with neighbouring countries in Drina watershed. These specifics arise primarily from the constitutional character of the state of BiH consisting of two entities: the Federation of Bosnia and Herzegovina (FBiH) and the Republic of Srpska (RS).

In accordance with the Constitution of BiH and the Constitutions of the FBiH and RS, the competencies over water management (including preparation of laws and legal acts) rest with the entities, with exception of the tasks related to international cooperation, which is state responsibility. Moreover, certain specific activities/responsibilities within the water sector in FBiH are under the jurisdiction of the cantons (including preparation of the legislation at the cantonal level). The set of laws on concession on different authority levels, regulates: the modalities and the conditions concerning the granting of Concessions in Bosnia and Herzegovina the competence for granting of concessions, institutional structure, the tendering procedure, the contents and effects of concession contract, the rights and obligations of the Concessionaire and other issues pertain to the concessions of importance for Bosnia and Herzegovina, entities and or cantons.

In BiH the key legislation documents related to the concession issues in Drina watershed are: Law on Concession BiH, ("OG of BiH", No. 32/02), Law on Concession RS, ("OG of RS", No. 25/02), Law on Amendments to the Law on Concession RS ("OG of RS", No. 92/09), Law on concession FBiH, ("OG of FBiH", No. 40/02).

There are other laws established relevant to social issues:

FBiH

- The current Expropriation Law of FBiH ("OG of FBiH", No. 70/07, 36/10 and 25/12) prescribes conditions and procedure on expropriation of real estate for the purpose of public interest construction. Expropriation is exclusion or restriction of rights on property, with compensation according to the market value of the real estate. In cases of expropriation in the area affected by the natural disaster of a bigger intensity (earthquake, floods, fires, etc.), due to the construction of objects and conducting works to remove the consequences caused by these disaster, the special regulation of the Law are applied and the area and the time of application is determined by the Government. In this case Municipal assembly determines the public interest, by a decision for which a complaint cannot be submitted. The land can temporary be taken and when it is necessary and appropriate for placing and constructing temporary objects (business objects, objects for housing of population, property, etc.). Municipal assembly makes the decision on the need and appropriateness of temporary taking of the land and on the suggestion of the expropriation the municipal administrative service makes a decision about temporary taking over of the land. The complaint against that decision does not postpone it execution and the decision is terminated immediately when the need is ceased (Article 39 – 44).

- The Real Rights Law of FBiH ("OG of FBIH", No. 66/13 and 100/13) governs the questions of acquiring, completion and protection of ownership and other real rights. The regulations of this Law that regulate the matter of disposal or transferring the ownership right over the real estate owned by the country, entities, cantons and municipalities are of special importance. For disposal of the mentioned real estates, the Law prescribed special procedures. However in the case of floods there is a need of emergency acting and outside of the mentioned procedures, and the special regulations will be analysed in the following part.

- The Law on Extra-Judicial Proceedings of the FBiH ("OG of FBIH", No. 2/98 and 39/04). If the agreement on the atonement for expropriation of the land is not reached by the authorities in two months from the validity of the expropriation

decision, that authority is obliged to forward the decision with all other documents to the proper court of law which decides in extra-judicial proceeding on the amount of atonement according to the regulations of the Law on Extra-Judicial Proceedings. The court will, ex officio, handle the procedure for determining the atonement for expropriated land and it has to complete it as soon as possible, as late as 30 days from the beginning of the process in the court.

- The Law on Agricultural Land ("OG of FBIH", No. 88/07, 04/10 and 7/13). In FBiH, according to the Law on Agricultural Law of FBiH agricultural land owned by a state could be part of legal transactions but it cannot be sold. The state owned land can be given for a lease, concession and can be exchanged, but solely for establishment of primary agricultural production. The quoted law specified that the ones holding the right of ownership over the agricultural land cannot be foreigners and legal person. The State international contract have not specified otherwise.

- The Law on Construction Land of FBiH („OG of FBIH", No. 25/03, 16/04 and 67/05). This Law enables the construction land to be privately owned. Under the conditions prescribed by the Law, the Municipal assembly determines which land is considered to be the construction land. Privately owned city's construction land could be part of a transaction (Article 7). The owner can build on that land in accordance with physical planning regulation and if he cannot or he does not want to, he can put the land in transaction, that is sell it. The Municipality can expropriate this land in the process of expropriation (Article 16, paragraph 4).

- The Law on the procedure of transferring the ownership rights over the real estate owned by the Federation BiH, cantons, cities, and municipalities in the affected areas ("OG of FBiH", No. 59/14) regulates the disposal of the real estate or the procedure of transferring the ownership rights over the real estate owned by FBiH, cantons, cities and municipalities in the affected areas in favour of persons affected by the natural disaster. The transfer of the ownership right over the mentioned real estates is done without the atonement prescribed by the regulations of the Real Rights Law of FBiH. A person affected by the natural disaster, in the sense of the

law, is natural or legal person to whom during the natural disaster in permanently prevented from using the real estate for living or performing business activity on the affected area. The Decision on transferring the ownership rights over the real estate owned by the Federation is made by the Government of the FBiH.

- The Law on Financial Help for removing the consequence of natural disaster and reconstruction of the area affected by the natural disaster ("OG of FBiH", No. 59/14). The Law on Financial Help for removing the consequence of natural disaster and reconstruction of the area affected by the natural disaster determines the sources of means for removing the consequence of natural disaster and reconstruction of the area affected by the natural disaster determined by the Decision of announcing the state of natural disaster in the area of FBiH caused by the heavy rain that caused floods in the area of FBiH as well as the way of use of these means. The financial resources defined by the quoted law are recorded on special accounts of the budget of FBiH, cantonal budgets and the budgets of the unit of local self-government and are used only for the purposes determined by the law.

- The Law on establishing the federal fund for helping the affected areas by natural disaster in the territory of Federation BiH ("OG of FBiH", No. 59/14) established the Federal fund for helping the areas affected by natural disaster, in the territory of FBiH. The Law determines its organization, activity, resources, purpose and way of using the resource from the Fund and other question related to the implementation of the Fund's activity. In implementation of its activities, the Fund ensures collecting and managing the financial resources intended for the help for affected areas in a way that the uniting of means and coordination of directing of the means is secured.

- The Law on prohibiting discrimination in BiH ("OG of BiH, No. 59/09) establishes the framework for achievement of equal rights and possibilities to all people in

Bosnia and Herzegovina and it regulates the system of protection against discrimination. The central institution that has the jurisdiction for protection against discrimination is Ombudsman for human rights in Bosnia and Herzegovina, who is accepting complaints related to the cases of discrimination and acts accordingly and in relation to that gives recommendation, controls the regulations and suggests adequate measures. The important jurisdiction in this part belongs to the Ministry for human rights and refugees of Bosnia and Herzegovina which has the responsibility to establish the central data base for committed acts of discrimination and it controls the enforcement of the laws.

RS

- The current Expropriation Law of the Republic of Srpska (RS) has been in force since 2006 ("OG of RS", No. 112/06, published on 23rd of November, 2006), with amendments in 2007 and 2008 („OG of RS", No. 37/07 and 110/08) prescribes that expropriation means requisition or restriction of ownership rights over real property with certain compensation (Article 1). It defines expropriation as full (real property acquisition) or limited (restriction of ownership rights – for example by means of creating an easement). The Law defines compensations in the case of expropriation as an equitable compensation that may be below the market value. The owner is entitled a compensation for the expropriated property in form of a replacement property, and if the expropriation beneficiary is unable to provide a replacement property, the compensation (equitable or based on market value) is defined in cash. If the owner lives in an expropriated residential structure or an apartment as a special part of the residential structure, the expropriation beneficiary is obliged to provide use another corresponding apartment prior to demolition. The same policies are applied also to expropriation of commercial premises in which the owner performed his business activities (Article 12).
- The Law on Real Property Rights in RS („OG of RS", No. 124/08, and 58/09, 95/11) regulates the property acquisition, use, disposal, protection and termination of ownership rights, and other real property rights. The most significant provisions of

this Law concerning expropriation are the articles, which allow for the legalization of most "illegally erected" structures as long as the conditions set in the Law are met, which should be the case for majority of such structures.

- Laws on Non-Contentious Proceedings of the Republic of Srpska („OG of RS", No. 74/05 and 36/09) provides the rules for a non-contentious procedure by which Courts or other Authorities proceeds and makes the decisions on personal, family, property and other rights and legal interests that are to be resolved through non-contentious procedure by the Law. In case of the failure to conclude the agreement on compensation for the expropriated property before the administrative authority within two months from the issue of the final expropriation decisions, the authority is obliged to submit the concerned decision with all documents to the competent court, which, ex officio, shall decide on the amount of compensation through non-contentious proceedings in accordance with the Law on Non-Contentious Proceedings.

- Law on Agricultural Land of the Republic of Srpska („OG of RS", No.93/06, 86/07, 14/10 and 5/12) According to Article 27 of this Law, a permanent or temporary change of use of arable agricultural land which belongs to I, II, III, IV and V cadastral or capability class into non-agricultural purposes can be made only in accordance with the law when there is adopted appropriate planning document, which prescribes construction of objects of public interest in the field of: health, education, social welfare, culture, water management, sports, transport, energy and municipal infrastructure, facilities for the state authorities and local community facilities for the defense of the country, ensuring environmental protection and protection of natural disasters, for exploitation of mineral resources, as well as for the construction of objects, if there is regulation plan or other planning document according to which the construction is considered as construction of public interest (Article 36).

- Law on Spatial Development and Construction of the Republic of Srpska („OG of RS“, No. 40/13), include facts that a legal construction requires provision of the location permit, construction approval and use permit in accordance with the Law on Spatial Development and Construction („OG of RS“, No. 40/13), to pursue registration of the pertaining structure into the land registry thereafter in compliance with the Land/Real Property Surveying and Registry Law and registration into the land registry in compliance with the Land Registry Law.

- The Law on Administrative Procedure of the Republic of Srpska („OG of RS“, No. 13/02, 87/07, 50/10).). By this law civil authorities are obliged to act according to this Law when in administrative matters, direct enforcement of legislation, dealing with the rights, obligations or legal interests of individuals, legal entities or other parties, as well as perform other tasks specified in this law. Also the city and municipality administrative organs are obliged to act according to this Law when carrying out tasks of the state administration. Besides, enterprises, institutions and other organizations are obliged to follow the Law in proceeding of public authorities entrusted to them by law, i.e. when performing the above mentioned activities.

MONTENEGRO

- The national legislation treats the issue of land acquisition under the Expropriation Law (”OG of MNE”, No. 55/00 and 12/02). The present law states that are the state institutions to acquire private property for projects of national and/or local importance, and at the same time the interests of all persons affected by the project who are holders of rights and whose property is expropriated, are to be protected. Moreover, this law guarantees the principle of fair compensation for all persons affected by the process of expropriation who are holders of rights of the

property and whose property is expropriated. It aims to provide a simple, efficient process, to the extent possible, reduce the need for lengthy court proceedings and thus to implement the necessary expropriation. The fair value of the land that is the subject to an infrastructure project is going to be determined by the Commission for the assessment of value, appointed by the Real Estate Directorate of Montenegro/Ministry of Finance. Appropriate private land value is determined based on estimates made by authorized specialized experts. Public land value is also determined by an authorized expert. Those estimates are based on the market price and on some other relevant comparative values such as prices of land in some other expropriation process, type of land, level of infrastructure on the land, etc. In the event of a dispute regarding the determination of appropriate values of the expropriated land, the municipal court has the Jurisdiction over that issue, and is the first instance for complaints about the estimated value of the land. If, as mentioned above, no agreement is reached, the person whose property is affected by the process of expropriation has the right to initiate legal proceedings in front of the municipal court, according to which decision regarding the appropriate land, the payment of the assessed fair compensation will be made.

- Concession Law ("OG of MNE", No. 08/09) define the conditions, manner and procedure for awarding concessions, subject to concessions and other issues of importance to complete the concession, and is related to water use and extraction of sand and gravel.

- Spatial Planning and Development Law ("OG of MNE", No. 28/05). Spatial planning, in terms of this law is considered the determination of purposes and use of space, making space and urban planning, as well as monitoring their implementation. Development of space, in terms of this law, is considered bringing space purposes determined spatial and urban plans. Article 60. determinates an existing building, whose location or other characteristics do not match the conditions of physical or urban plan, may, within the existing footprint, approve reconstruction and

rehabilitation which is necessary to maintain and operate the facility, according to its purpose, the purpose of such location according to the plan.

SERBIA

- The Republic of Serbia Expropriation Law (passed in 1995 and enacted on January 1, 1996, amended in March 2001, amended again on March 19, 2009), does not use the term "involuntary resettlement", which is used in the relevant IFI policy documents, but instead uses the term expropriation. This law enables government institutions to acquire private property for projects that are deemed to be of national and/or local interest, while protecting the interests of all project-affected persons with legal title, whose assets are to be expropriated. The law also enshrines the principle of fair compensation. Expropriation can only be undertaken for public interest, which must be documented in the proposal for an expropriation decision. The Government agency responsible for property and legal affairs confirms public interest, based on a proposal by the investor. The agency that authorizes public interest can permit the investor to conduct preliminary studies on the lands to be expropriated after consultation with the owner(s). The investor submits an expropriation proposal to the local organ in charge of property and legal rights in the municipality in which the land is located. The proposal is based on a preliminary design and includes documentation confirming the investment in spatial plans and establishing public interest. Identification of the location and ownership of affected plots, with cadastre extract. Estimated cost of expropriation, based on standard evaluation principles. Proof that the estimated cost is deposited in an expropriation account. Plot owners are consulted before the expropriation decision is adopted. Compensation is based on the market value of the land and assets (or market rental value, if expropriation is temporary), transition expenses and damages. Compensation can be in cash or in kind-including substituting land or structures and replacing or moving structures. After public interest has been established, the investor can negotiate the amounts and condition of purchase with owners without resorting to expropriation. After the expropriation decision is adopted, owners are notified in writing of the decision of their right to request

expropriation of a whole plot, proposed compensation method and amounts and the timetable for processing; and are invited to negotiate. If negotiations are not successful, the local property and legal affairs office forwards documentation to the local court to determine compensation. The owner can also appeal to the court for a decision on compensation and the amount of land to be expropriate.

- Law on Fundamentals of Property Relations (adopted in 1980, amended 1990, 1996 and 2005). It regulates the right of ownership of movable and immovable property of individuals and legal entities. The primary property right is the right to ownership, the highest entitlement that provides its holder the right to use, enjoy and dispose of his right. Our legislation recognizes the rule superficies solo credit, which means that object constructed on land succeed property rights of that land and belong to the owner of the land. Foreign natural and legal persons performing activities in Serbia can, under conditions of reciprocity, acquire ownership of real estate on the territory of Serbia that they need to perform these activities.
- Law of Agricultural Land (adopted in 2006, amended in 2009) regulate: planning, protection, regulation, use and of agricultural land, as well as other issues of importance for agricultural land as a common interest. Article 27 states that: permanent or temporary change of use of arable agricultural land referred to in paragraph 1 of this Article may only be used in accordance with law when there is adequate planning document on the land envisages the construction of facilities of general interest, on the following areas: health, education, social protection, culture, water, sport, transport, energy and utilities infrastructure, facilities for the needs of state bodies and local community facilities national defense, ensuring environmental protection and protection from natural disaster for the exploitation of mineral resources, as well as for construction of facilities, if so adopted regulatory plan or other planning document according to which is considered to be established general interest in the building, with payment of fees for change of use in accordance with this law.

- Law on State Cadastre („OG of RSRB", No. 72/2009 and 18/2010). This Law regulates the professional activities and affairs of the state administration related to state survey, real estate cadastre, utilities cadastre, basic geodetic works, address register, topographic and cartographic activities, valuation of real estate, geodetic and cadastral information system and the National Spatial Data Infrastructure and geodetic works in engineering and technical fields. The basis on which to build a record of real property is state survey and based on it to form a real estate cadastre.
- Law on Spatial Planning and Construction („OG of RSRB", No. 72/2009, 81/2009 – amend, 64/2010 – decision of the CC 24/2011, 121/2012). This law regulates: conditions and manner of spatial planning, editing and use of building land and construction of buildings; monitor the implementation of the provisions of this law and inspection; other issues of importance for spatial planning, editing and use of construction land and building construction. The right to use city construction land is one of the last remnants of the socialist system under which property owners are not owners of the land on which the building is located, but the plot entirely is in public ownership. The conversion rights to use the land is voluntary. Law conversion rights to use the construction land into public ownership, is in fact the restitution of property to local governments.

3. Social Analyses and Management

3.1 Social Analyses

3.1.1 Demographic profile

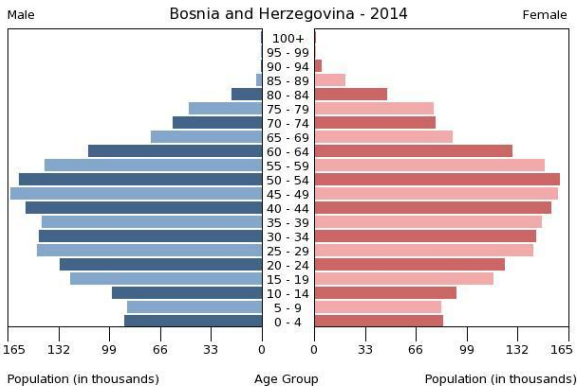
The DRB in the Federation BiH covers twelve municipalities: Goražde, Pale-Prača (FBiH), Foča-Ustikolina (FBiH), Kladanj, Sapna, Teočak, Živinice, Banovici, Kalesija, Tuzla, Olovo and Trnovo. The total number of inhabitants in the part of the DRB that belongs to the FBiH is 58,120 inhabitants (2013 census). At the territory of DRB in the Republic of Srpska, 19 municipalities are located: Bijeljina, Bratunac, Čajniče, Foča, Gacko, Han Pijesak, Lopare, Milići, Novo Goražde, Pale, Rogatica, Rudo, Šekovići, Sokolac, Srebrenica, Ugljevik, Višegrad, Vlasenica and Zvornik. The total number of inhabitants in the part of the DRB that belongs to the RS is 371,461inhabitants (2013 census). The population density in the RS is 51inhabitants/km^2, while in the FBiH it is 59 inhabitants/km^2 in the area covered by DRB. The Municipality of Teočak has the highest population density in BiH and in the whole DRB, with 262 inhabitants/km^2. It is followed by the Municipality of Bijeljina (165 inhabitants/km^2), Zvornik (169 inhabitants/km^2) and Sapna (102 inhabitants/km^2). Low population density was identified in the municipalities of Han Pijesak, Foča (FBiH and RS), Pale (FBiH), Rogatica, Sokolac and Čajnice, with less than 20 inhabitants/ km^2.

TABLE 3.1-1: DEMOGRAPHIC PROFILE OF DRB IN BIH

ADMINISTRATIVE AREA	SURFACE AREA/ km^2	POPULATION (2013)	PERSONS / km^2	ADMINISTRATIVE AREA	SURFACE AREA	POPULATION (2013)	PERSONS / km^2
DRB	**23181.69**	**1091359**	**47.1**				
BiH (RS)	**7324.09**	**371461**	**50.7**	**BiH (FBiH)**	**982.6**	**58120**	**59.1**
Foca	1134.58	19811	17.5	Foca-Ustikolina	169.4	2213	13.1
Čajnice	274.6	5449	19.8	Gorazde	248.8	22080	88.7
Novo Goražde	119	3391	28.5	Pale-Praca	86.4	1043	12.1
Rudo	347.63	8834	25.4	Sapna	118	12136	102.8
Pale	492.8	22282	45.2	Kladanj	331	13041	39.4

Sokolac	693.45	12607	18.2
Han Pijesak	322.9	3844	11.9
Višegrad	448.14	11774	26.3
Rogatica	645	11603	18
Vlasenica	234	20075	85.8
Milići	279.31	12272	43.9
Srebrenica	526.83	15242	28.9
Bratunac	293.49	21619	73.7
Sekovići	237.2	7771	32.8
Zvornik	376.14	63686	169.3
Ugljevik	165.17	16538	100.1
Bijeljina	733.85	114663	156.2
Teocak	29	7607	262.3

Source: www.rzs.rs.ba/ and www.fzs.ba/

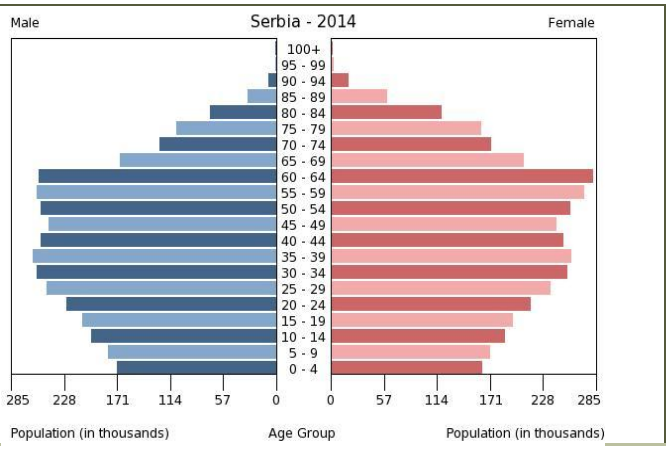


Source: *https://www.cia.gov/library/publications/the-world-factbook/*

Municipalities on the banks of the Drina River in Serbia are: Bagatić, Šabac (for a smaller part), Loznica, Osječina, Mali Zvornik, Ljubovija, Bajina Bašta, Užice, Krupanj, Čajetina, Priboj, Prijepolje, Nova Varoš and Sjenica (Table 3.1-2). The highest population density in DRB is in the Serbian part of the basin with the approximate average of 63 inhabitants/km^2. However, there are significant differences in population density between municipalities, where municipalities of Sjenica, Nova Varoš and Čajetina have less than 30 inhabitants/km^2 (due to the hilly and mountainous terrain), while the Municipality of Šabac has high population density around 145 inhabitants/km^2, Loznica 130 inhabitants/km^2 and Užice 117 inhabitants/km^2. The population size in the area of the Drina River in Serbia is 1,091,359 inhabitants.

TABLE 3.1-2: DEMOGRAPHIC PROFILE OF DRB IN SERBIA

ADMINISTRATIVE AREA	SURFACE AREA/ km^2	POPULATION (2013)	PERSONS / km^2
DRB	23181.69	1091359	47.1
SERBIA	8003	506905	63.3
Bogatić	384	28883	75.2
Šabac	798	115884	145.2
Loznica	612	79327	129.6
Osečina	319	12536	39.3
Krupanj	342	17295	50.6



Mali Zvornik	184	12482	67.8
Ljubovija	356	14469	40.6
Bajina Bašta	673	26022	38.7
Užice	668	78040	116.8
Čajetina	647	14745	22.8
Priboj	553	27133	49.1
Nova Varoš	581	16638	28.6
Prijepolje	827	37059	44.8
Sjenica	1059	26392	24.9

Source: www.stat.gov.rs/

Source: *https://www.cia.gov/library/publications/the-world-factbook/*

The catchment area of the Drina River in Montenegro is formed by 13 municipalities (**Error! Not a valid bookmark self-reference.** – the latest data from WBDIWRM project): Andrijevica, Berane, Bijelo Polje, Kolašin, Mojkovac, Nikšić, Plav, Pljevlja, Plužine, Podgorica, Rožaje, Šavnik and Žabljak. In the strictest terms, there are actually 15 municipalities in the DRB with two newly established ones (2013)– Gusinje, by taking land from Plav, and Petnjica, by taking land from Berane. These 13 municipalities occupy 49.7% territory of the state, with only 25% of the total population of Montenegro. According to the Census from 2011, 154,873 inhabitants live in the catchment area of the Drina River, which is 16,517 less than the number according to the 2003 census, representing over 10% of emigration due to moving to larges urban areas during the last eight years. The area of DRB in Montenegro is located in mountainous terrain, which is characterized by low population density with 22 inhabitants per km^2. Extremely low population density is seen in Šavnik and Plužine municipalities, with less than 4 inhabitants per km^2.

TABLE 3.1-3: DEMOGRAPHIC PROFILE OF DRB IN MONTENEGRO

Municipality	No of Settlements	Municipal Surface Area km²	km²	%	Total Population in Municipalities	Density of Population n/km²	Estimated Population in the DRB
ANDRIJEVICA	24	283	282.96	99.99%	5,117	18.08	5,116
BERANE	66	717	668.12	93.18%	35,452	49.44	33,035
BIJELO POLJE	137	924	907.21	98.18%	46,676	50.52	45,828
KOLAŠIN	67	897	386.22	43.06%	8,420	9.39	3,625
MOJKOVAC	15	367	366.96	99.99%	8,669	23.62	8,668
PLAV	23	486	486.00	100.00%	13,549	27.88	13,549
PLJEVLJA	154	1346	1353.27	100.54%	31,060	23.08	31,228
PLUŽINE	42	854	803.07	94.04%	3,286	3.85	3,090
ŠAVNIK	27	553	512.93	92.75%	2,077	3.76	1,927
ŽABLJAK	27	445	445.40	100.09%	3,599	8.09	3,602
PODGORICA	141	1441	99.26	6.89%	30,916	21.45	2,130
NIKSIC	106	2065	106.28	5.15%	15,546	7.53	800
ROZAJE	26	432	16.38	3.79%	13,745	31.82	521
TOTAL	**582**	**10,810**	**6434.06**	59.52%	**218,112**	**20.18**	**153,119**

Source: WBDIWRM project and MONSTAT

According to the presented demographic profile in DRB, WBDRBM project will have a positive social impact on about 1 million people living in 59 municipalities and cities in all three countries. From the aspects of total population of DRB, only 14% inhabitants live in Montenegro, while 47% live in Serbia and 39% in BiH. This project will contribute to social welfare of the local population in a way that will support activities to prevent and deal with climate change-related disasters, notably floods and droughts.

3.1.2 Gender

Data on the gender structure of the population in the DRB area is available only for whole BiH territory. This data shows that more women than men live in BiH. The **Error! Not a valid bookmark self-reference.** presents the data from Household budget survey 2011 in BiH. The base of the age pyramid indicates a lower share of the population aged 0-4 years, which is caused by a decline of the birth rate. The irregular shape of the age pyramid was

influenced by irregular trend of births, deaths, migration flows, as well as external factors. The highest percentage of the population is age group of 45-59 years (

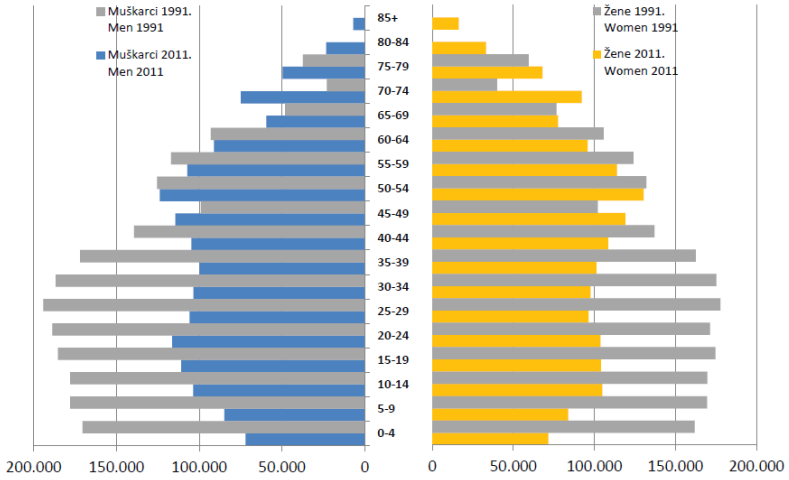
Figure 3.1-1).

TABLE 3.1-4: POPULATION BY MAJOR AGE GROUPS

Age group	Total	Women	Men
0-5	5.6	5.4	5.8
6-17	15.0	14.6	15.5
18-34	22.2	20.9	23.6
35-64	41.3	41.3	41.3
65+	15.8	17.8	13.8
Average age	39.7	40.8	38.6

Source: *http://www.bhas.ba/tematskibilteni/BHAS_Zene_Muskarci_BH.pdf*

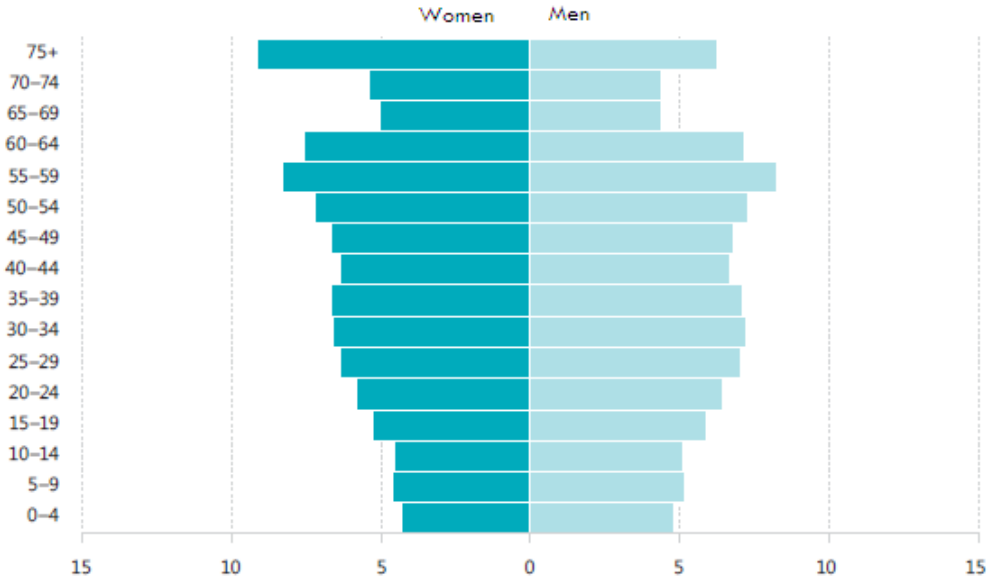
FIGURE 3.1-1: POPULATION STRUCTURE BY AGE GROUPS AND SEX ACCORDING TO HOUSEHOLD BUDGET *Survey in BiH, 2011 and the comparison with Census 1991*



Source: *http://www.bhas.ba/tematskibilteni/BHAS_Zene_Muskarci_BH.pdf*

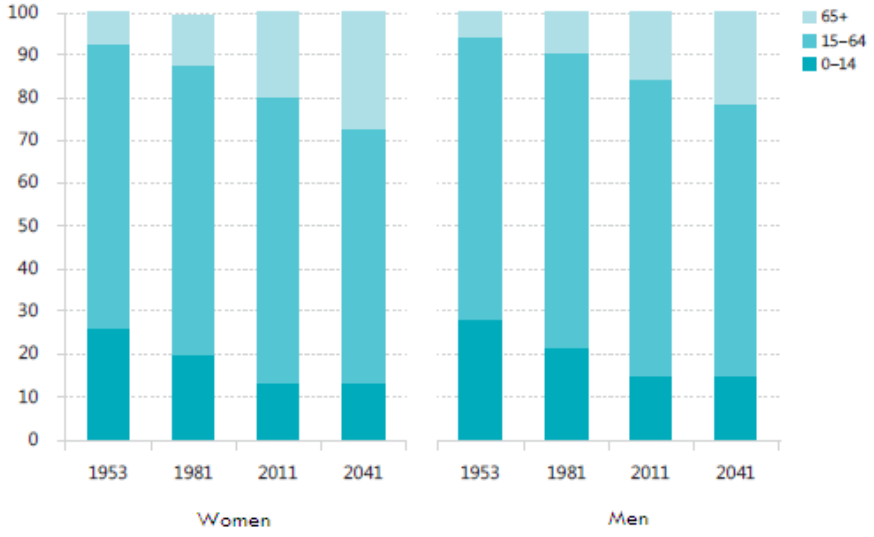
In **Serbia,** women compose 51.3% of the total population of the country (Figure 3.1-2, Figure 3.1-3). Women are on average older than men by 2.7 years. The largest percentage share of the male population (51.5%) is in the Municipality of Osečina, while the highest percentage of female population is in the Municipality of Užice (51.5%). Looking at the absolute values of the municipalities/cities, DRB area has about 6,000 more women than men.

FIGURE 3.1-2: POPULATION, BY AGE AND SEX, 2011 (IN%)



http://webrzs.stat.gov.rs/WebSite/userFiles/file/Stanovnistvo/ZeneiMus/ZiM_srpski_web.pdf

FIGURE 3.1-3: POPULATION BY MAJOR AGE GROUPS AND SEX, 1953, 1981, 2011 AND 2041 (IN %)

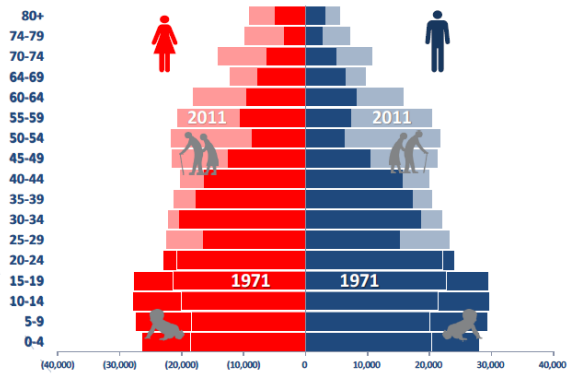


http://webrzs.stat.gov.rs/WebSite/userFiles/file/Stanovnistvo/ZeneiMus/ZiM_srpski_web.pdf

The average age of the population and the average life expectancy in **Montenegro** has been rising steadily. While the average age of women in 1971 was 29.8 and men 27.4 years, in 2011 it was registered as follows: for women 38.4 years and for men 36. In addition, according to the 2011 census, out of the total population of those older than 60 years, women compose 56.3% and men 43.7%. In addition, in the same category of the population there are three times more widows than widowers (**Error! Not a valid bookmark self-reference.**).

Significant demographic changes are taking place in Montenegro and are part of the general trend in Europe, best illustrated by a comparison of the demographic structure of the population by sex and age in the period between 1971 and 2011. While in 1971 the population younger than 20 years composed 42.8% of the total population, in 2011 it is only 26.3% of the total population. In addition, in 1971 persons aged 65 years or more accounted for 7.6% of the total population, while their share in total population in 2011 was 12.8%.

FIGURE 3.1-4: AGE PYRAMID, COMPARISON OF 1971 VS. 2011



Source: http://www.prs.hr/attachments/article/752/Socio-ekonomski%20polo%C5%BEaj%20%C5%BEena%20u%20Crnoj%20Gori.pdf

The Project will not have a particular impact on the gender issue. Namely, the data show that in the DRB region there are slight differences related to the ratio of female and male population. Yet, it is evident from the age aspect that greater number of women is encountered in the middle-aged and old population, while the younger male population is numerically dominant one. Therefore, this project can contribute to the improvement of

general living conditions of the population, both men and women, and provide additional security for work and living in the coming period.

3.1.3 Rural and Urban Areas

BiH (FBiH and RS) – The country can be divided into two parts, urban and rural, which are considerably different. The foremost differences in BiH exist between urban parts that include major cities: Sarajevo, Banja Luka, Tuzla, Zenica, Mostar and Bijeljina, and the rest of the country that is mainly rural. The average level of urbanization in the RS and FBiH is 37%, while the differences at the municipal level are significantly higher. Greater participation of urban compared to rural population is characteristic for municipalities of Foča (62%), Pale (62%), Han Pijesak (53%) in the RS and the Municipality of Goražde (57%) in the Federation. Therefore, Bosnia and Herzegovina accounts for one of the most rural countries in Europe. The reason for this lies in the fact that large part of the population lives in or in a proximity of rural areas, thus many of the differences between urban and rural areas that could be expected are not noticeable.

Montenegro – Analysing three regions in Montenegro (OECD), north, central and southern, the northern region includes 14 municipalities in its composition, and is a predominantly rural area (59.7% of the population lives in rural areas), while coastal (41.7%) and central (20.4%) belong to transition areas (**Error! Not a valid bookmark self-reference.**). According to the Spatial Plan of Montenegro from 2008, the total number of Montenegrin urban settlements is 40 and 1,216 rural, while their spatial distribution is very uneven.

TABLE 3.1-5: STRUCTURE OF POPULATION IN MNE

Region	Population	Urban Population		Rural population	
		Number	%	Number	%
Southern	148.683	86.707	58,3	61.976	41,7
Central	293.509	233.640	79,6	59.869	20,4
North	177.837	71.673	40,3	106.164	59,7
Montenegro total	620.029	392.020	63,2	228.009	36,8

Source: *MONSTAT, Census in 2011*

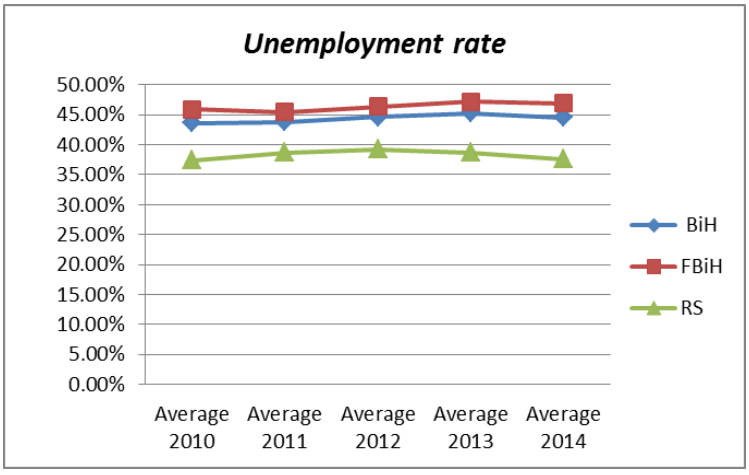
Serbia – By definition (OECD), 85% of Serbian territory lies in the so-called rural areas, with almost 55% of the total population. In the Serbian part of DRB, approximately 41% of people live in urban areas and 58% in rural areas. The highest level of urbanization is in the Municipality of Užice (approximately 77%). Municipalities of Priboj (55%), Nova Varoš (53%) and Sjenica (53%) have the biggest participation of urban compared to rural population.

In its upper and middle part of the basin, the Drina River flows through rural areas. Except from the lower part, which belongs to the RS, it flows through the urban area of the Municipality of Bijeljina. This project will therefore have a great positive impact on the development of rural areas compared to urban, in terms of creating new opportunities and safe business environment for rural development and ecotourism.

3.1.4 Employment

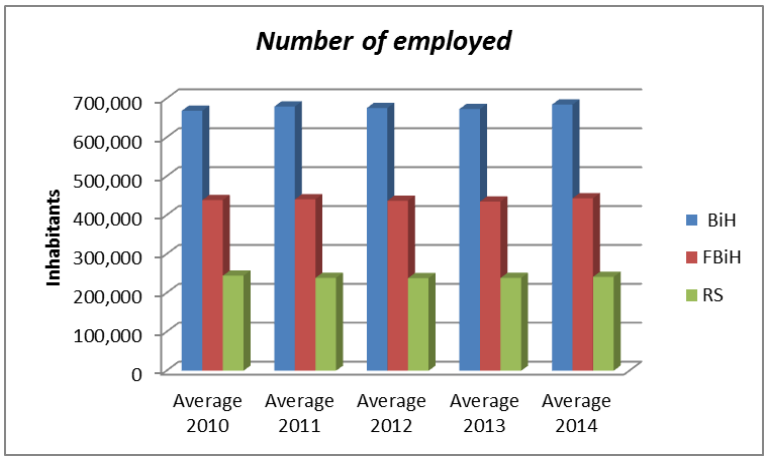
The unemployment rate in BiH in the last 5 years has not changed significantly, as shown in Figure 3.1-5: Laboure fource of BiH. The average unemployment rate in FBiH during the last 5 years is 46.356 %, while it is 38.35% in the RS. In the RS, the highest unemployment in recent years was in 2012 (39.26%), while the lowest rate of 47.14% in FBiH was recorded in 2013.

FIGURE 3.1-5: LABOURE FOURCE OF BIH



Source: http://www.irbrs.net

FIGURE 3.1-6: NUMBER OF EMPLOYED IN BIH



Source: http://www.irbrs.net

The number of employed in BiH did not also change significantly in the last 5 years, both at the state and the entity level, as can be seen from the

Figure 3.1-6. The lowest rate of employment in the last 5 years was recorded in 2013 in both entities.

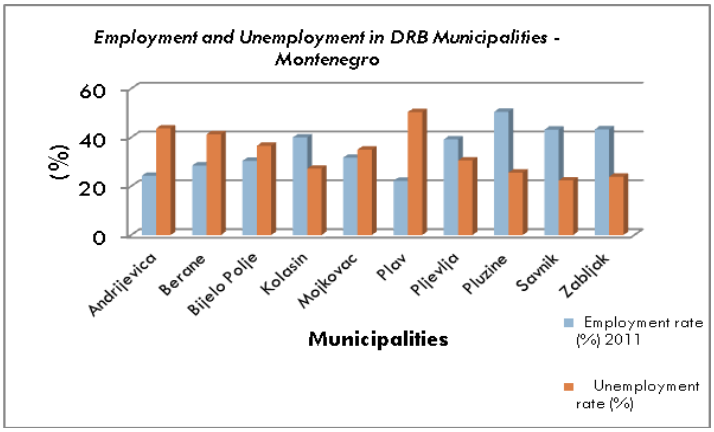
In the area of DRB, which belongs to Republic of Srpska, the Municipality of Ugljevik (65.5%) has the highest employment rate as opposed to the lowest employment rate in the Municipality of Rudo (29%), with the regional average of 37.7%. The employment rate above the regional average is accounted in municipalities of Han Pijesak (62.3%), Zvornik (61%), Bijeljina (60.6%) and others. The Municipality of Bratunac has the highest unemployment rate in the Republic of Srpska (64.7%), with the average in 2014 being 46.2%. Unemployment rates below the regional average are accounted for in the municipalities of Han Pijesak (38.6%), Zvornik (39.2%) and Pale (41%).

For DRB territory in FBiH, the Municipality of Goražde has the highest employment rate (57.0%), while the lowest employment rate is in the Municipality of Teočak (15.1%). The highest unemployment rate in the Federation of Bosnia Herzegovina is in the Municipality

of Sapna (82.2%) and the lowest in the Municipality of Goražde (35.4%). The regional average employment rate in 2014 is 37.7% and the regional unemployment rate average is 46.2%.

Montenegro – According to data received through the Labour Force Survey conducted in 2014 (survey on 8,213 households) that encompassed 21,101 persons, which makes 1.2% of the total number of interviewed persons aged 15 and more, the rate of active population for the 2014 is 52.7%, the employment rate is 43.2% and unemployment rate is 18.0%. For 15-64 age groups: the rate of active population is 61.6%, the employment rate is 50.4% and the unemployment rate is 18.2%. Figure 3.1-7 presents an overview of employment/unemployment rate in Montenegro northern municipalities.

FIGURE 3.1-7: EMPLOYMENT/UNEMPLOYMENT RATE IN MONTENEGRO NORTHERN MUNICIPALITIES.



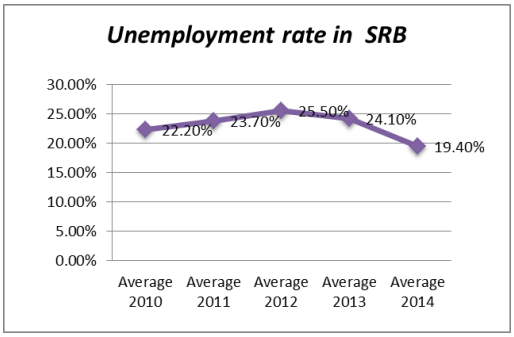
Source: http://www.monstat.org/

The regional average employment rate in municipalities of DRB is 37.7%. The highest employment rate is in the Municipality of Plužine (43.3%) and the lowest in the Municipality of Plav (22.2%). It is noteworthy that employment in other municipalities is not negligible: Žabljak (43.3%), Šavnik (43.2%), Kolašin (40%) and Pljevlja (39.2%). The regional average of unemployment rate is 46.2%.

Serbia – According to Statistical Office of the Republic of Serbia, in the last 5 years the largest unemployment rate was in 2012 (22.5%) and the lowest in 2014 (19.40%). The **Error! Not a valid bookmark self-reference.** provides an overview of the employment rate in

Serbia in the last 5 years. Data of labour force trend indicates certain reduction of unemployment.

FIGURE 3.1-8: UNEMPLOYMENT RATE IN SERBIA



Source: Statistical Office of the Republic of Serbia

The employment rate for DRB territory in the Republic of Serbia is the highest in the Municipality of Užice (39.6%) and the lowest in the Municipality of Bogatić (14%). The unemployment rate is the lowest in the Municipality of Čajetina (18%) and the highest in the Municipality of Krupanj (58.4%). The average unemployment rate in Serbia in the last 5 years is 22.98 %.

Based on the presented data, unemployment in BiH is higher than in Montenegro and Serbia. The unemployment rate has not significantly changed during the last 5 years, except in Serbia, where unemployment decreased. The project will have a positive contribution to the unemployment issue, especially from the standpoint of self-employment within a family farm. Integrated management of water resources will contribute to a more secure business environment and thus have a positive impact on employment and economic growth.

3.1.5 Poverty

Poverty estimates are based on the national absolute poverty line, which was obtained in accordance with the methodology recommended by the World Bank.

BiH (FBiH and RS) – The results of the Household Budget Survey in 2011 show that the level of relative poverty in BiH is at the same level of around 18% in the past few years. In Bosnia and Herzegovina, there were almost 180,000 households classified as poor in 2011, accounting for 17.2% of the total, or nearly 570,000 poor people (17.9% of the total population). Poverty is most distinct in the Republic of Srpska, where every fifth household is counted as poor. In the Federation of Bosnia and Herzegovina, out of 100, there are 16 poor ones. In comparison to 2007, no significant difference has been noticed in the size of poverty at the state and entity level.

From the aspect of household size, the poorest ones are households with five or more members, as well as one-person households (21.6% and 20.6% respectively). According to the type of households, the poorest are elderly single households and couples with children and other relatives (poverty rate 24.8% and 24.5%). In contrast, poverty is least present in couples without children with the holder under the age of 65 (9.9%) and couples with one child (12.7%).

Montenegro – According to MONSTAT, absolute poverty line in Montenegro in 2013 is 186.45€ per adult equivalent, which is about 4€ more than in 2012. In 2013, 8.6% of the population had equivalent consumption below the absolute poverty line.

The total poverty rate in 2013 was reduced, while depth and severity of poverty were decreased. The share of persons in poverty decreased from 11.3% as it was in 2012 to 8.6% in 2013. Available indicators of trends on average earnings and consumption in 2013 show that poverty reduction is expected result of economic development. In 2013, poverty declined in both urban and rural areas. Assessing the urban areas, the poverty rate in 2013 was 7.9%, while in 2012 it was 8.1%, or decreased rates by 0.2 % points. In rural areas, the minimum poverty rate was in 2013 (9.7%), while in 2012 it was 18.1%. In 2013, compared to 2012, poverty rate in rural areas decreased by as much as 8.4 %

points and amounted to 9.7%. The rural population has a higher risk of poverty than the urban population. The depth and severity of poverty is higher in urban areas.

There is a significant difference in the extent of poverty among the southern region and other parts of the country. Poverty rate in north region was 10.3% in 2013. In that region, 25% of the population lives, including 30.1% of all the poor. The poverty rate in central region is 10.3% and in the south it is 3.8%

Serbia – According to the results of the Household Budget Survey of the Republic Institute for Statistics, the poverty line in Serbia in 2012 was 8.8%, i.e. consumption of 8.8% Serbian population was located below the absolute poverty line (10,223 dinars a month for the equivalent adult).

Broken down by sex, the risk of poverty is similar for women and men in relation to the overall risk rate of 24.6%, the rate for women was 24.3% and for men 24.9%, forming negligible difference. In the EU, the risk rate for women is higher than men: 17.5% versus 16.3%.

The risk of poverty is very different according to the degree of urbanization: while the medium density populated area is close to the average for Serbia (23.5%), in the sparsely populated areas it is almost three times higher than in the very populated area (36.1% to 13, 8%). The largest number of people at risk of poverty is in the sparsely populated area. Similar relationships are given for the type of settlement: the risk of poverty in the metropolitan area is 17.8%, while in the other areas it is 34.6%, which means twice the size. The positive aspect is similar to the average depth of poverty in these two areas, as measured by Relative gap: the urban and 35.7% of the remaining 37.8%.

It is noticeable that younger population groups, all under 25 years of age, have an above average rate of risk of poverty: with less than six years, the rate is 27.3, six to 11 the rate is 29.7%, 12 to 17 is 32.7% (the highest of all) and 18 to 24 the rate was 27.3%. The middle generation, from 25 to 64 years, are on average at risk of poverty in Serbia. The

oldest generation consisting of those of 65 or more years of age (hazard ratio was 19.5 %) is at risk, even being below average with less poverty than other groups.

The level of poverty is much higher in BiH than in the other two states. Poverty is more pronounced and higher in rural, less populated areas than in urban. An equal percentage of poverty is among women and men. Managing water resources as a way to reduce the risk of flooding will have a significant impact on household incomes and therefore on poverty reduction.

3.2 Social Management

The goal of WBDRBM project is to achieve improvements in water management in a way to contribute to mitigation of climate change. The project will contribute to the multi-lateral co-operation between the three countries with goal to balance conflicting water uses in trans-boundary Drina waters. The project is focused on two components, of which, sub-component 2A would provide capacity strengthening for climate resilience, and sub-component 2B identification and design of pilot investments for basin-wide climate change resilience.

The Project would be implemented over a period of 38 months and it will end in 2018. The Project would have to ensure that the relevant actors and stakeholders are consulted properly, or involved in the shaping of the conclusions, depending on the case. Key actors and stakeholders are notably the respective ministries responsible for water management and the related water agencies, the ministries responsible for environment and for energy, ministry of security, sector for protection and rescue, nature and national park management authorities, the energy regulators, the energy utilities and hydropower operators, local governments (municipalities), water utilities, the tourist development sector, disaster prevention agencies, hydro-meteorological institutes, NGOs, etc.

In order to achieve successful implementation of planned activities within WBDRBM Project the following activities are considered to be crucial for project success:

- Preparation of a public awareness program to inform the population in the DRB of the objectives and activities under the Project and its rationale and potential benefits, and to engage the DRB communities into more active partnership.

- Establishment of a stakeholder platform using available bodies already present in DRB or making adequate use of an existing stakeholder platform for meetings and communication.
- Organization of meetings in and among the riparian countries and/or between sectors and preparation of adequate minutes for each individual meeting, including (i) an agenda, (ii) critical issues to be discussed, (iii) agreed actions to solve the issues, (iv) deadlines of deliverables, and (v) persons responsible for delivery.
- Organization of meetings among the responsible ministries (MOFTER, MAFWM-FBiH, MAFWM-RS, MARD and MAFWM) and representatives of the riparian countries.
- Identification and preparation of small, local initiatives by community organizations, schools, academics, private companies and other entities that have meritorious proposals to support the objective of the Project.

Given that pilot projects are known (under sub component 2B), World Bank Operational Policy and Bank Procedures OP 4.12 "Involuntary Resettlement" has been triggered. During the implementation of this Project, involuntary resettlement will be avoided or minimized where feasible, exploring all viable alternative project designs. However, if land acquisition and resettlement occurs, it will be in accordance with Resettlement framework policy – RPF will be prepared in order to satisfy the provisions of WB OP 4.12 and the requirements of the state legislation regarding expropriation.

Involuntary resettlement should be avoided or minimized where feasible, exploring all viable alternative project designs. Where resettlement cannot be avoided, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share project benefits. Displaced persons should be meaningfully consulted and should be encouraged to participate in planning and implementing resettlement programs. Any cases of involuntary real property acquisition, restriction of access to

assets or resettlement that may arise in conjunction with the implementation of sub-projects will be carefully considered and processed in full compliance with the World Bank Operating Procedure (WB OP) 4.12 on one hand, and the current state laws and regulations on the other.

Development of a Resettlement policy framework (RPF) – If expropriation of land cannot be avoided or minimized, Resettlement Policy Framework (RPF) must be prepared specifically for each of the locations/sites where expropriation shall be conducted, whereby local or international consultants may be engaged for support. Therefore, three separate Resettlement Policy Frameworks (RPFs) have been developed (for Bosnia and Herzegovina, Serbia and Montenegro). RPF establishes the principles and objectives relating to issues of expropriation and relocation, and is made in situations where exact impact of the project and sub-projects can not be determined at the stage before the evaluation and approval of the project, as is the case here. When specific impacts become known, the RPF will serve as a guide for the development of the Resettlement Action Plans (RAP) for specific locations.

Resettlement Action Plans (RAPs)–Where it is not feasible to avoid resettlement, the procedures and requirements outlined in RPFs will be followed in the preparation and implementation of site-specific RAPs for each of the locations/sites where resettlement is expected. During the preparation of RAPs, a census and baseline survey will be conducted in order to determine the number of people affected, their average income and standard of living, employment rate and general health condition, and to establish who shall be eligible for compensation and assistance.

Cut-off date – for the establishment of eligibility (for both formal and informal land owners/users) will be the date of submission of proposals for expropriation by the expropriation beneficiary to relevant municipalities, or the date of the baseline survey for any informal properties that are not eligible to expropriation according to pertaining legislation. The cut-off date will be publicly disclosed in the local media and consultation meetings, with an accompanying explanation. Persons who have settled in the Project area after the cut-off date will not be eligible for any compensation, but will be given

sufficient advance notice, requested to vacate premises and dismantle affected structures prior to project implementation. Their dismantled structures materials will not be confiscated and they will not pay any fine or suffer any sanction.

Compensation Entitlements – In cases where land acquisition and resettlement cannot be avoided, all Project Affected Persons (PAPs) shall be entitled to compensation, according to the compensation principles of the laws on expropriation in all three countries and OP 4.12 requirements. The whole process will be transparent, publicly disclosed, and defined in detail within the RAPs. The primary criterion for PAP eligibility is that the person or the asset must have been located within a project area before the cut-off date.

According to WB OP 4.12, there are three categories of persons in terms of compensation eligibility:

- Those who have formal rights to land and are entitled to compensation for the land they use and other assistance;
- Those who do not have formal rights to land at the time the census begins but have a claim to such land and assets, provided that such claims are recognized under domestic laws of riparian countries or become recognized through a process identified in the resettlement plan, and are entitled to compensation for the land and other assistance; and
- Those who have no recognizable legal right or claim to the land they are occupying, but are entitled to resettlement assistance.

This indicates that the persons who have or claim formal rights to land or assets are considered eligible for compensation of the land or assets they lose, as well as other assistance such as moving allowance and support after resettlement. On the other hand, persons that do not have any recognizable legal rights or claims to the land they have been occupying before the acquisition procedure are eligible to resettlement assistance.

In case an amicable sale-purchase agreement between the expropriation beneficiary and the affected owner is reached, the Project Implementation Unit (PIU) must make sure that

the agreement is in accordance with OP 4.12 requirements. No acquisition shall take place prior to the provision of all types of required compensation to affected owners. The issue of compensation eligibility according to various types of assets have to be given in more detail in the RPF. Criteria for eligibility must be established by the local authority in charge. Both the local authority and the PIU are responsible for the implementation of compensation measures.

The whole process must be transparent, publicly disclosed, and should be defined in detail within the RPF. Furthermore, the entire process is monitored by the local authority in charge, whose work is subject to supervision by the Project Implementation Unit.

Assistance to Resettled Parties – Displaced persons should be assisted in improving their former standards of living and livelihoods (income earning capacity, and production levels), or at least in restoring them. The PIUs must make sure monies are allocated for livelihood restoration purposes and must monitor livelihood restoration activities. Where required, PAPs should also be offered support for a certain time period after the resettlement, based on a reasonable estimate of the time needed to restore their standard of living at least to the previous level.

Assistance to vulnerable groups– Particular attention and consideration must be paid to the needs of vulnerable groups. Groups or persons who may be particularly vulnerable include, but are not limited to:

- poor people,
- people with disabilities,
- refugees and internally displaced people,
- children, women, the elderly or ill persons,
- households whose heads are children or female,
- households who have no or have very limited resources,
- ethnic minorities,
- people without land or use rights under local legislation.

The PIUs need to make sure vulnerable people are identified when developing RAPs and that vulnerable people are monitored and taken particular care of. The local authorities

must participate in the identification of vulnerable groups or persons. PIUs must maintain a simple database of vulnerable people, with all related activities recorded.

STAKEHOLDER ANALYSIS

Stakeholder analysis determines the likely relationship between stakeholders and the Project, and helps to identify the appropriate consultation methods for each stakeholder group during the life of the project. The following stakeholder groups are identified in WBDRBM project:

- Local Community Stakeholders
- Local and National NGO Stakeholders
- Governmental Stakeholders
- Groups and Associations Representing Commercial Stakeholders
- Media Stakeholders

Local Community Stakeholders – People that will be affected physically and socio-economically during the project phases of land acquisition, construction, and operation of the Project can be categorised as being directly and/or indirectly impacted. Within these two groups, special attention is given to vulnerable people.

The first group includes directly project affected people (PAP). PAPs are comprised of:

- The villagers who may lose fully or a partially their immovable assets such as houses and cultivated lands, areas and pastures;
- Permanent residents with title who may lose all/some immovable assets
- Permanent residents without title who may lose access to immovable assets or lose right of usage
- Title holder non-residents who may lose their immovable assets

- Permanent residents who may not lose any of their immovable assets but may lose most or majority of their pasture-land and people whose activities extend into the project reservoir area at certain times during the year.
- The people who may not lose their immovable assets but whose transport access to their real estate and/or pastures may be limited/ blocked due to the construction of the project.

  Impacts to directly affected people will be managed through a Resettlement Action Plan (RAP), which will incorporate a livelihood framework.

The second group is the indirectly affected people. These include:

- The residents of the affected villages that have not lost any assets but still may be impacted by the project due to the changes in socio-economic environment,
- Local traders, entrepreneurs and groups offering transportation services.

Although, this group has not lost any of their assets, the Project will affect their lifestyles due to changes in the socio-economic environment. Therefore, their inclusion is essential in order to offer them the opportunity to explore the benefits and risks of the Project.

Vulnerable groups are a specially highlighted group within the category of local communities. These groups are considered vulnerable because the project may pose additional social and economic risks for these groups that are already in a disadvantaged situation or/and have limited capacity to manage significant changes to their livelihoods. In WBDRBM project, vulnerable groups are assessed in terms of gender and human physical need based (gender/age/disability) vulnerable groups; and according to vulnerability due to loss of assets. Potentially vulnerable groups include:

- PAPs that have lost all/most of their arable land and had to share their compensation with a large group of titleholders, even though in practice they were the only cultivators.
- PAPs that lose all/ most of their arable land and there is no additional land to replace their land loss.
- PAPs that do not lose agriculture land but lose all or most of their pasture areas (for livestock).

Socially vulnerable groups, which includes the categories below:

- Gender based: Women
- Age based: Elderly
- Disability based: Disabled
- Poverty based: The Poor

Civil society groups include informal groupings of civil society for example a neighbourhood social group, public schools, women's associations or a local youth sports group. Consultation with such groups can not only identify local interests but is also a good way of reaching and networking with local people.

Local NGOs –There are a few local NGOs that are active in the Drina region:

- BiH (FbiH and RS): Euroregija "Drina", Udruženje „Eko-Drina", Drina River Commetee (DRC), Udruženje građana Mreža razvojnih inicijativa „Logosfera, Ekološko udruženje "Eko Put" Bijeljina Udruženje Drina-Srebrenica
- Serbia: NVO Kriva Drina, "ISKRA" Loznica, „Koreni"- EKO – Grozd Rakita , NVO Drinska regata"
- Montenegro: NVO FORS Montenegro, NVO Natura, NVO Green Youth, NVO Breznica, NVO Mladi ekolozi Nikšić, NVO Amnesty, NVO Trešnjica, NVO ljubitelji rijeke Bukovice.

Governmental Stakeholders –These stakeholders are governmental entities that have an influence on the design, implementation and operation phases of the project. They can be grouped into national, provincial, regional and local government stakeholders (Table 3.2-1):

TABLE 3.2-1: STAKEHOLDERS

MONTENEGRO	SERBIA	BiH (FBiH and RS)
GROUP I – WATER RESOURCES MANAGEMENT AND ENVIRONMENTAL PROTECTION		
- National Council for	- Ministry of Agriculture	- Federal Ministry of

Sustainable Development and Climate Change - Ministries - Ministry of Agriculture and Rural Development (Water Directorate) - Water Management Administration - Ministry of Sustainable Development and Tourism (Environmental Directorate, Waste Management and Communal Development Directorate, Climate Change Directorate, - Ministry of Health - Ministry of Interior (Directorate of Emergency Services) - Ministry of Transportation and Maritime Affairs (Maritime Safety Management Authority, Port Management Authority)	and Environmental Protection (Water Protection Division) - Republic Water Directorate - Environmental Protection Agency - Republic Hydro-Meteorological Service - Nature Protection Office	Agriculture, Water Management and Forestry - Ministry of Agriculture, Forestry and Water Management of Republic of Srpska - Ministry of Tourism and Environment of FBiH - Ministry of Physical Planning, Civil Engineering and Ecology of RS - Ministry of Health and Social Welfare RS - Ministry of Administration and Local Self-Governance RS - Ministry of Security BiH (MOS BiH)
GROUP II – ENERGY		
- Ministry of Economy - Energy Regulatory Agency – Montenegro	- Ministry of Mining and Energy - Energy Agency	- Ministry of Industry, Energy and Mining - Federal Ministry of Energy, Mining and Industry
GROUP III – INSTITUTIONS IN OTHER AREAS RELEVANT TO THE WATER RESOURCES MANAGEMENT		
- Ministry of Finance (Department of	- Ministry of Construction,	RS level: - Republic Institute for

Property) - Ministry of Foreign Affairs and European Integration - Port Management Administration (within Ministry of Transportation and Maritime Affairs) - Maritime Safety Management Administration (within Ministry of Transportation and Maritime Affairs) - Statistics Office (MONSTAT) - Standardization Office (Ministry of Economy), - Accreditation Body of Montenegro (Ministry of Economy) - Legislation Secretariat (within Government of MNE) - Department of Cultural Heritage Protection (Ministry of Culture), - Scientific institutions, etc.	Transportation and Infrastructure - Ministry of Health - Ministry of Internal Affairs - Ministry of Trade, Tourism and Telecommunication - Ministry of Foreign Affairs - Ministry of Public Administration and Local Government - Ministry of Economy - Republic Statistics Office - Republic Geodetic Authority - Human and Minorities Rights Office - Republic Spatial Planning Agency (ceased to operate in December 2014)	Protection of Cultural and Natural Heritage - The Republic of Srpska Institute of Statistics - RS Hydro-meteorological Institute. - Ministry of Health and Social Welfare - Institute for Water-Bijeljina - Department of Public Health - Republic Civil Defence Administration of RS (RCDA RS, - Ministry of Internal Affairs of RS (MIA RS) FBiH level: - Federal Meteorological Institute - Public company for "Area Sava river basin development - Federal Institute for Health Protection - The Institute for Health Protection (cantonal, federal) - Federal Civil Defence Administration FBiH (FCDA FBiH)
GROUP IV – HARMONIZATION OF THE NATIONAL REGULATIONS WITH EU REGULATIONS		

- Ministry of Foreign Affairs and European Integration - Ministries (MARD, MSDT, MH, MTMA, etc.) - Other authorities and services of the Montenegrin Government	- Ministry of Foreign Affairs of the Republic of Serbia	- Ministry of Foreign Trade and Economic Relations (MoFTER)
GROUP V – LOCAL SELF GOVERNMENT UNITS		
- Local Self Government Units - Personnel Department - Ministry of Interior(Segment related to local government) - Communal Police - Public Utility Companies	- Local Self Government Units - Personnel Department - Ministry of Interior(Segment related to local government) - Communal Police - Public Utility Companies -	- Local Self Government Units - Personnel Department - Ministry of Interior(Segment related to local government) - Communal Police - Public Utility Companies -
GROUP VI – AGENCIES, INSTITUTIONS AND INDEPENDENT ADMINISTRATIVE BODIES		
- Environmental Protection Agency of Montenegro - Institute of Hydro-Meteorology and Seismology of Montenegro - Administration for Inspection Affairs - Centre for Eco-toxicological research of MNE - The Public Health Institute	RHMSS, Serbia Seismological Survey of Serbia Sector for inspections of Serbia The Institute of Public health of Serbia "Dr Milan Jovanovic Batut" Council for Gender Equality	- Public Institution 'Waters of Srpska' - Institute for Geological Research of the Republic of Srpska and - Institute for Standardization and Metrology of the Republic of Srpska. - Gender Centre - Administration for Inspection Affairs

Media Stakeholders

The involvement of media, regional and local commercial associations is also necessary for the Project. Media, especially at regional and local levels (local TV station, radio), is crucial to generate the public perception and information dissemination and to provide updated information on WBDRBM project.

STAKEHOLDER ENGAGEMENT AND PARTICIPATION

Stakeholder engagement within the scope of the project *GEF SCCF West Balkans Drina River Basin Management (WBDRBM)* is critical for supporting the project's risk management process, specifically the early identification and avoidance/management of potential impacts (negative and positive) and cost-effective project design.

Stakeholder Engagement presents an analysis of the main, although not necessarily definitive, groups of stakeholders. Stakeholder engagement is an on-going process and there are three phases relevant to *GEF SCCF West Balkans Drina River Basin Management (WBDRBM)* project and this SEP:

- Project GEF SCCF WBDRBM project Baseline Engagement Phase;
- Disclosure & Consultation Phase; and,
- Ongoing engagement after the Project disclosure process is complete and throughout the project life cycle.

Baseline engagement phase

During the *GEF SCCF WBDRBM* project baseline fieldwork the focus of engagement is primarily on gathering information and opinions from stakeholders. Engagement activities will therefore include interviews with stakeholder representatives (informal leaders) and key information organizations (communities, authorities, NGOs) using one-on-one meetings, workshops and smaller focus group meetings.

In the subsequent period the process of consultations, depending on the target group of stakeholders, will also include the following methods: focus group meetings, print media,

text messaging and radio announcements, dissemination of project information to large audiences.

Within the overarching engagement objectives, the specific objectives of engagement during this baseline phase are as follows:

- To introduce the project and process to key stakeholders
- To identify potential impacts and issues that will be covered in subsequent phases
- To further identify stakeholders related to the Project
- To identify and to gain access to relevant data for the baseline
- To gather stakeholder opinions on the proposed project and to ensure that these opinions are fed into the assessment process
- To gather stakeholder feedback on the development of management and mitigation measures of potential impacts, particularly where stakeholders have a potential role to play in these measures.

Affected households and businesses will be individually visited and informed by the municipal departments in charge of expropriation about the impacts of the Project on their property, particularly the precise impacts on their property. The RAPs will include baseline census and socioeconomic survey information; specific compensation rates and standards; policy entitlements related to any additional impacts identified through the census or survey; description of resettlement sites and programs for improvement or restoration of livelihoods and standards of living; implementation schedule for resettlement activities; and detailed cost estimate. PAPs will be consulted during the preparation of the RAP and informed on the results of the census and baseline survey, and their opinions on compensation or other resettlement assistance will be given due consideration.

Disclosure & Consultation Phase

This second phase of engagement focuses on disclosing and consulting on the draft results of the project process. Within the overarching project engagement objectives, the specific objectives for the draft phase of engagement are as follows:

- To provide feedback to the stakeholders on the draft impact assessment and associated management/mitigation measures (disclosure); and,

- To gather stakeholder input on the initial impact assessment and identified mitigation and enhancement measures (consultation).

At this stage of the project it is planned to continue with the inclusion of the public in November 2015 by organizing public hearings in all three states along the Drina river basin. During this engagement phase, disclosure and consultation activities will be designed along the following general principles:

- Consultation events and opportunities will be widely and proactively publicised, especially among project affected parties, at least 2-3 weeks prior to any meeting;
- The non-technical summary must be accessible prior to any event to ensure that people are informed on the assessment content and conclusions in advance of the meeting;
- The location and timing of any meeting will be designed to maximise accessibility to project affected stakeholders;
- Information presented will be clear and non-technical, and will be presented in the local language understood by those in the communities;
- Facilitation will be provided to ensure that stakeholders are able to raise their concerns; and
- Issues raised are answered at the meeting or actively followed up.

Furthermore, all stakeholders will be timely informed about the Project's scope and contacts for further information inquiries, the available grievance mechanism and the availability of the publicly available documents, through:

- the website of the Ministry of Foreign Trade and Economic Relations- MOFTER (www.mvteo.gov.ba)
- the website of the Ministry of Agriculture, Water Management and Forestry of FBiH- MAWMF FBiH (www.fmpvs.gov.ba)
- the website of the Ministry of Agriculture, Forestry and Water Management of RS- MAFWM RS (www.vladars.net)
- the website of the Ministry of Agriculture and Environmental Protection- MAEP (Water Protection Division) (www.mpzzs.gov.rs)
- the website of the Ministry of Agriculture and Rural Development – MARD (www.minpolj.gov.me)
- the website of the involved municipality.

Anyone can comment on the draft document during the disclosure period. Feedback forms will accompany all the disclosure documentation.

The Project Implementation Unit (PIU), together with the representatives of municipal departments in charge of expropriation, is responsible for communicating with affected communities and Project Affected People (PAPs) in accordance with Resettlement policy framework (RPF).

The PIU will disclose this RPF and any future RAPs to municipalities on whose territory land acquisition may take place (in both English and local languages), and assist the municipalities in understanding the requirements set out in these documents. The PIU, in cooperation with local authorities, will ensure that procedures for submitting grievances are communicated and available to PAPs at municipality level.

In addition, the PIU will organize public consultative meetings to present the Project and the expected impacts, and enable participants to present their opinions and remarks in regards to the Project, as well as suggest possible solutions of the issues raised or problems identified, which will be documented and addressed appropriately in Project Progress Reports. The timetable and the venue designated for public consultative meetings will be precisely defined by the PIU. All stakeholders will be informed about the exact date, time and venue of consultative meetings, through the above mentioned websites, as well as daily newspapers/ radio/ television stations as necessary.

Grievances Redress Mechanism

A Complaint and Grievance Procedure provides a mechanism for communities and affected parties to raise complaints and grievances, thus allowing the project to respond to and resolve the issues in an appropriate manner.

The grievance mechanism will be established by the PIU for dealing with the issues of acquisition of land and other assets, as well as the losses and damages caused by the construction works. Therefore, the grievance mechanism shall be in place by the time the

PIU, in cooperation with municipal administrations, starts negotiations with the PAPs, and shall function until the completion of construction activities.

The PIU will establish a register of grievances, and ensure that Project Affected Persons are fully informed of the grievance mechanism by communicating the availability of this registry, its function, the contact persons and the procedures to submit a complaint in the affected areas.

Any comments or concerns can be brought to the attention of the PIU or municipal administrations (the Local municipal officer) verbally or in writing (by post or e-mail) or by filling in a grievance form, without any costs incurred to the complainant.

All grievances will be recorded in the register and assigned a number, and acknowledged within 7 calendar days. Each grievance will be recorded in the registry with the following information:

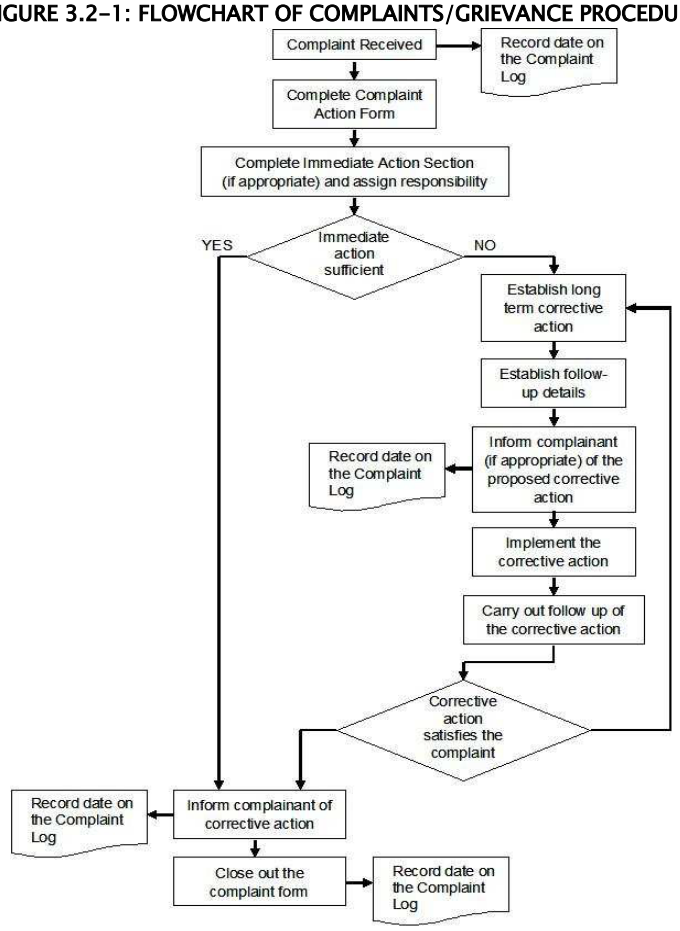
- description of grievance,
- date of receipt acknowledgement returned to the complainant,
- description of actions taken (investigation, corrective measures), and
- date of resolution and closure/ provision of feedback to the complainant.

The PIU or municipal administrations will make all reasonable efforts to address the complaint upon the acknowledgement of grievance. If the PIU or municipal administrations are not able to address the issues raised by immediate corrective action, a long-term corrective action will be identified. The complainant will be informed about the proposed corrective action and follow-up of corrective action within 25 calendar days upon the acknowledgement of grievance.

If the particular issue raised through the grievance mechanism cannot be addressed or if action is not required, a detailed explanation/ justification will be provided to the complainant on why the issue was not addressed. The response will also contain an explanation on how the person/ organization that raised the complaint can proceed with the grievance in case the outcome is not satisfactory.

At all times, complainants may seek other legal remedies in accordance with the domestic legal framework of DRB riparian countries.

FIGURE 3.2-1: FLOWCHART OF COMPLAINTS/GRIEVANCE PROCEDURE



Source: WBDRBM Consultant

4. Water and Environment management structure in Drina River Basin

4.1 Water management organization in DRB

BiH (FBiH and RS)

At the State level, the Ministry of Foreign Trade and Economic Relations (MoFTER[13]) established by the Law on Ministries and other bodies of administration of Bosnia and Herzegovina ("OG of BiH", No. 5/03, 42/03), is responsible for tasks related to defining policies; coordinating activities and harmonising plans of Entity authorities and bodies at international level – among others in the fields of agriculture, energy, protection of the environment, development and use of natural resources and tourism. In relation to water management, the MoFTER focuses on development and use of water resources as part of natural resources, and the coordination of the Entity Ministries of Water Management.

In the respect to activities necessary for EU integration, the important role is with the Directorate for European Integration as a permanent, independent and expert body of the Council of Ministers, thus responsible for activities related to the coordination of activities of the authorities in Bosnia and Herzegovina, and overseeing the implementation of decisions taken by the competent institutions in BiH. Director furthermore, coordinates the financial assistance from the European Union, and Director of Directorate is the State Coordinator for IPA and pre-accession assistance.

Bosnia and Herzegovina has two highly autonomous Entities: the Federation of Bosnia and Herzegovina and Republic of Srpska, each having its own laws that affects and encompass the responsibilities related to delivery of water and wastewater services, addressing most aspects of technical, administrative and financial matters.

[13] http://www.mvteo.gov.ba/

The Federal Ministry of Agriculture, Water Management and Forestry[14] encompass following responsibilities: Preparation of strategies and development policies for water management, water management facilities and public water properties (in the field of water use, water protection and protection against harmful effects of water and water monitoring);Proposing development documents for the integrated water management (river basin management plans, programs of measures, flood protection plans, water pollution prevention plan, plans for water emergencies, droughts and erosion and other documents according to applicable laws) and monitoring the implementation of aforesaid documents; Preparation of legislation and regulations and institutional arrangement in the field of water management within the competence of the Federation BiH; Participation in the process of drafting of budget proposal of the Ministry in the fields as covered by the Sector; Coordination of monitoring activities in water resources and preparation of information material in the field of water management; Guiding the development of water regime and water status through the identification and implementation of development projects and cooperation with units and services for the implementation of projects in the Ministry and with Federal Ministry of Finance, water management institutions and other institutions; Carrying out concession granting procedures within the competence of the Ministry in this field; Carrying out activities related to international contracts, agreements, conventions and protocols in water management (Danube Convention, Barcelona Convention, Helsinki Convention, the Sava River Agreement, Water Management Cooperation Agreement with the Republic of Croatia) and activities related to inter-entity cooperation according to Inter-entity Water Management Cooperation Memorandum, etc. (taking part in the preparation, coordination and implementation of commitments taken in line with these documents together with country-level institutions and the institutions from the Republic of Srpska); Supervision of the activities undertaken by water management institutions at the Federation level (Water Agencies) and control of legality of documents issued by cantons and these agencies in administrative procedure; Coordination with cantons in the field of water management; and Other activities within the competence of the Sector.

[14] http://www.fmpvs.gov.ba

The Ministry of Agriculture, Forestry and Water Management of Republic of Srpska[15] () is responsible for: integrated environmental management; development and adoption of plans and foundation, balance water; enforcement of protection from harmful water, determining conditions and issuing permits for water abstraction and use, implementation and organization of quality control of water, take measures to provide water for water supply and population industry; monitoring; hydro melioration; affairs of establishment and maintenance of information systems: water in GIS and other formats; keeping registers; preparation of strategies, programs, monitoring and coordination of the work of other organizations in the field of water management and other activities determined by law and the administration of the Hydro-meteorological Institute of the Republic of Srpska.

Bothe above presented Ministries are each responsible for their public water sector institutions in their administrative areas, in the FBiH Water Agencies and in Republic of Srpska the Public Institution 'Waters of Srpska'.

In FBiH the Agency has been established for each of the two basins, Sava River Basin and Adriatic basin, as the body responsible for discharging operative functions. There is an Agency for the Sava River area in Sarajevo and an Agency for the Adriatic sea area in Mostar. The Agencies (for Sava River of the similar structure located in Bijeljina and in Trebinje (for the Adriatic watershed) operated in Republic of Srpska, after which they have been merged into one public institution, Waters of Srpska located in Bijeljina. Responsibilities of the Water Agencies in FBiH (Agency for Watershed of Sava River, Sarajevo[16], Agency for Watershed of Adriatic Sea, Mostar[17] and Waters of Srpska[18] (covers the water catchment area of the Sava River in the RS, with regional offices in Doboj, Banja Luka, Zvornik, Višegrad and Prijedor, and the water catchment area of the Adriatic sea in

[15] http://www.voders.org
[16] http://www.voda.ba
[17] http://www.jadran.ba/
[18] http://voders.org

the Republic of Srpska) in Republic of Srpska encompass water policy development, sector planning, water resource management and river basin management.

Cantons and Municipalities

The FBIH is divided into ten cantons with eighty-four municipalities, while the Republic of Srpska is divided into 63 municipalities. Relevant environmental authorities in cantons are ministries of civil engineering, physical planning and environmental protection and the ministries of agriculture, water management and forestry.

Municipalities are responsible for communal activities and provision of public services, in accordance with the law. The Municipalities control the water utility companies, as the local water and wastewater service providers.

Water Utility Company

Company 'Vodovod i kanalizacija', is a company that usually provides only water and wastewater services. However, in smaller municipalities, these services are adjoined with other municipal services, such as street maintenance, central heating, management of parks and cemeteries, solid waste collection and other services.

MONTENEGRO

The responsibilities, organization and capacities of various water management institutions in Montenegro are interlinked, thus for the meaningful overview for the purpose of the project *Technical Assistance for the Preparation of the GEF SCCF West Balkans Drina River Basin Management (WBDRBM)* and related to DRB, they will be presented in two groups:

- Public administration institutions, which scope of work and responsibilities are based on legal provisions and set up aligned with the Country's needs and goal of EU membership.
- Other entities – public and other enterprises, scientific research organizations and citizens' associations.

The most important public administration institutions in charge of WRM in Montenegro are as follows:

Group I – Water resources management

- National Council for Sustainable Development and Climate Change

Ministries

- Ministry of Agriculture and Rural Development (Directorate for Water)
- Ministry of Sustainable Development and Tourism (Directorate for Waste Management and Communal Development)
- Ministry of Health
- The Public Health Institute
- Ministry of Interior (Directorate of Emergency Services)
- Ministry of Transportation and Maritime Affairs (Maritime Safety Management Authority, Port Management Authority)

Agencies, Institutions and Independent administrative bodies

- Environmental Protection Agency of Montenegro
- Institute of Hydro-Meteorology and Seismology of Montenegro
- Administration for Inspection Affairs
- Centre for Eco-toxicological research of MNE

There are different institutions in other sectors, which scope of work and responsibilities, in different instances encompass water management issues, such as:

Group II – Energy

- Ministry of Economy
- Energy Regulatory Agency – Montenegro

Group III – Institutions in other areas relevant to the water resources management

- Ministry of Finance (Department of Property)

- Ministry of Foreign Affairs and European Integration
- Port Management Administration (within Ministry of Transportation and Maritime Affairs)
- Maritime Safety Management Administration (within Ministry of Transportation and Maritime Affairs)
- Statistics Office (MONSTAT)
- Standardization Office (Ministry of Economy),
- Accreditation Body of Montenegro (Ministry of Economy)
- Legislation Secretariat (within Government of MNE)
- Department of Cultural Heritage Protection (Ministry of Culture),
- Scientific institutions, etc.

Group IV – Harmonization of the National Regulations with EU Regulations

- Ministry of Foreign Affairs and European Integration
- Ministries (MARD, MSDT, MH, MTMA, etc.)
- Other authorities and services of the Montenegrin Government (including Legislation Secretariat)
- Certain Parliament bodies, etc.

Group V – Local Self Government Units

- Local Self Government Units
- Personnel Department
- Ministry of Interior (Segment related to local government)
- Communal Police
- Public Utility Companies

Following is the overview of main national institution responsible for water resource management (WRM).

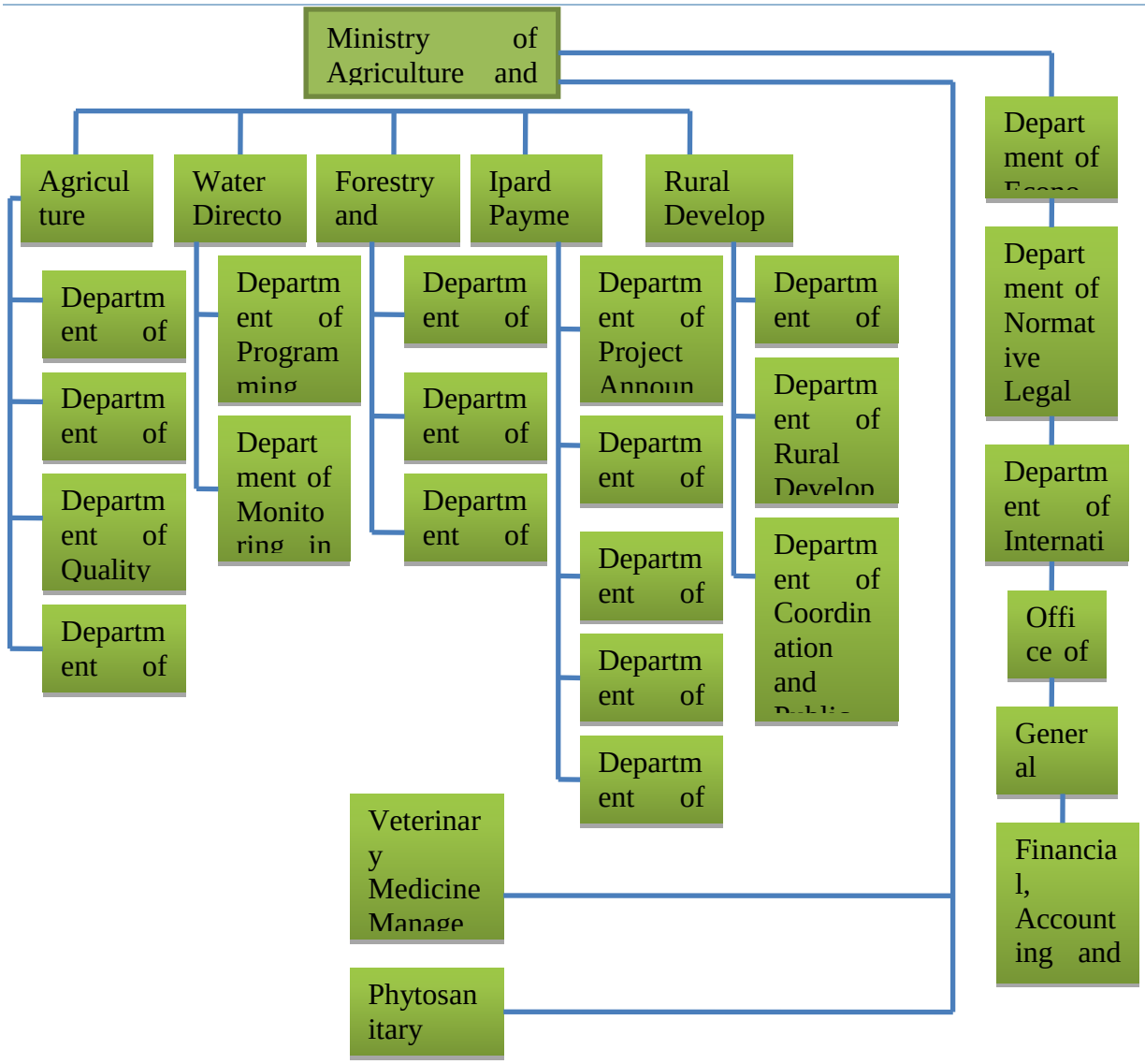
Ministry of Agriculture and Rural Development (MARD)

MARD IS THE MAIN GOVERNMENT INSTITUTION RESPONSIBLE FOR WATER POLICY IN MONTENEGRO. THE SCOPE OF WORK AND SCOPE OF WORK AND RESPONSIBILITIES OF THE MINISTRY ENCOMPASS (AMONG OTHER): DEVELOPMENT OF WATER MANAGEMENT

OF WATER MANAGEMENT POLICY; SYSTEMIC SOLUTIONS OF PROVISION AND USE OF WATER, WATER LAND AND WATER SOURCES AND WATER SOURCES FOR WATER SUPPLY, WATER PROTECTION AGAINST POLLUTION, MONITORING OF WATER QUALITY AND WATER QUALITY AND QUANTITY, WATER AND WATERWAY DEVELOPMENT AND PROTECTION AGAINST HARMFUL EFFECTS OF HARMFUL EFFECTS OF WATER; ; SYSTEMIC AND OTHER INCENTIVES AIMED AT IMPROVEMENT IN THE SUBJECT SPHERE; RELEVANT SUBJECT SPHERE; RELEVANT RECORD KEEPING; INTERNATIONAL COOPERATION WITHIN JURISDICTION OF THE MINISTRY; THE MINISTRY; HARMONIZATION OF DOMESTIC REGULATIONS FROM THE MINISTRY'S SCOPE OF RESPONSIBILITIES WITH THE RESPONSIBILITIES WITH THE LEGAL SYSTEM OF THE EUROPEAN UNION, ETC. THE ORGANIZATIONAL CHART OF THE MARD), WITH OF THE MARD), WITH THE DIRECTORATE FOR WATER MANAGEMENT (DFWM), IS GIVEN IN THE

Figure 4.1-1.

FIGURE 4.1-1: ORGANIZATIONAL STRUCTURE OF MARD



Source: WBDIWRM Inception Report

Directorate for Water Management (DfWM)

DfWM established as per Article 20, Paragraph 1 of the Regulation on Organization and Operation of Public Authorities, as one of five authorities of the MARD and responsible for: provisions and implementation of measures and works of water and waterway development, protection against adverse water effects and protection against water pollution; providing use of water, waterway materials, water land and state owned water faculties, through concessions, lease and similar; water facility management for the

purpose of protection against adverse water effects; issuing water documents; setting water charges; creating and operating water information system, water cadastre, water registry; setting the boundaries of the water assets and setting the status of the public water asset; cooperation with relevant international organizations and institutions in line with relevant responsibilities; as well as other activities within its responsibility (Regulation on Organization and Operation of Public Authorities, Article 20, Paragraph 5).

Institute of Hydro-Meteorology and Seismology of Montenegro (IHMS)

IHMS as the public administration authority, established according to Article 36, Paragraph 1, Item 2 of the Regulation on Organization and Operation of Public Authorities, is responsible for: technical and associated administrative activities by means of applying scientific methods and knowledge, in charge of all physical and chemical processes in the atmosphere and hydrosphere, i.e. hydrological and meteorological activities in the broadest sense (Operational Report, IHMS of Montenegro, 2014, p. 2). In addition, the monitoring of water quality is the responsibility of the IHMS. Analytical data on environmental conditions is published in the Annual Reports, archived and delivered in suitable form to the line Ministry and other interested users.

SERBIA

The responsibilities, organization and capacities of various water management institutions In Republic of Serbia are interlinked and many instances overlapping, thus for the meaningful overview for the purpose of the project *Technical Assistance for the Preparation of the GEF SCCF West Balkans Drina River Basin Management (WBDRBM)* and related to DRB, they will be presented in two groups:

- Public administration institutions, which scope of work and responsibilities are based on legal provisions and set up aligned with the Country's needs and goal of EU membership.

- Other entities – public and other enterprises, scientific research organizations and citizens' associations.

The main public administration institutions in charge of water management in the Republic of Serbia are:

Group I Water Resources Management and Environmental Protection

- Ministry of Agriculture and Environmental Protection (Water Protection Division)
- Republic Water Directorate
- Environmental Protection Agency
- Republic Hydro-Meteorological Service
- Institute for Nature Conservation

There are different institutions in other sectors which scope of work and responsibilities, in different instances encompass water management issues, such as:

Group II Energy

- Ministry of Mining and Energy
- Energy Agency

Group III Other Ministries and Other Entities

- Ministry of Construction, Transportation and Infrastructure
- Ministry of Health
- Ministry of Internal Affairs
- Ministry of Trade, Tourism and Telecommunication
- Ministry of Foreign Affairs
- Ministry of Public Administration and Local Government
- Ministry of Economy
- Republic Statistics Office
- Republic Geodetic Authority
- Human and Minorities Rights Office
- Republic Spatial Planning Agency (ceased to operate in December 2014)

Group VI Local Government Units

Below is the overview of main national institution responsible for water resource management (WRM).

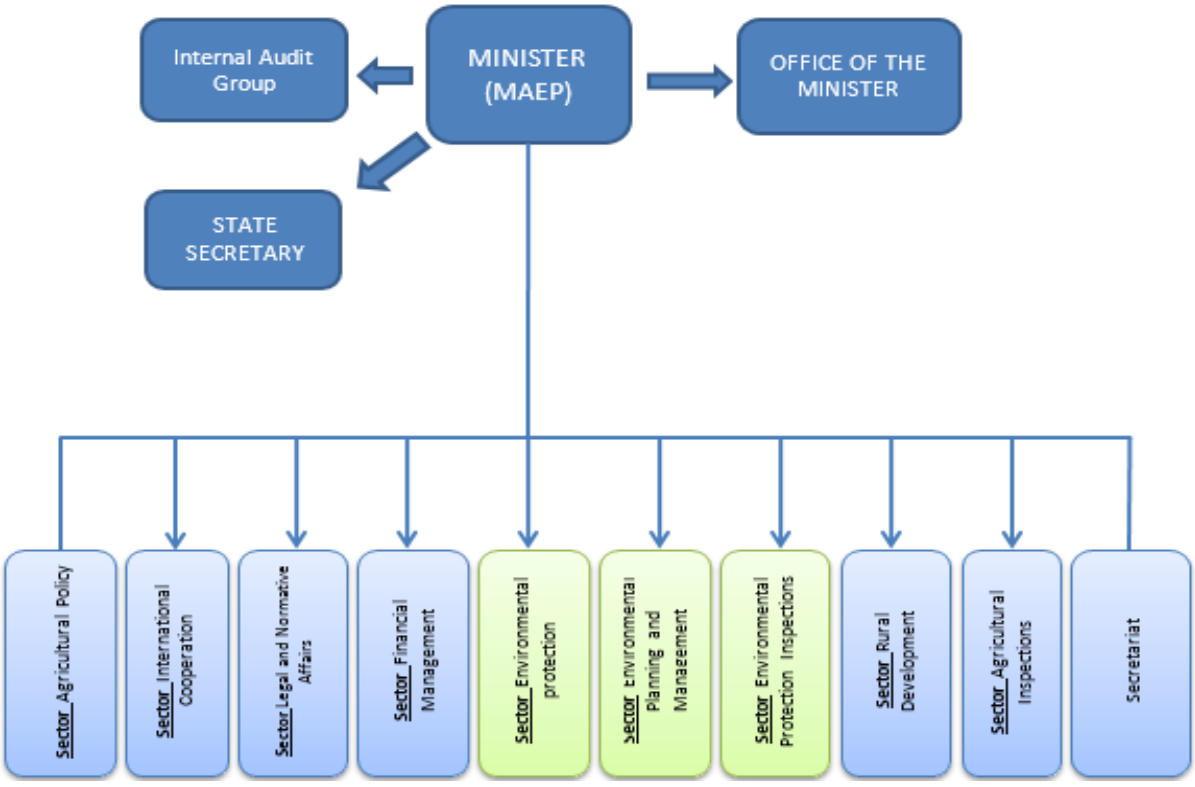
Ministry of Agriculture and Environmental Protection (MAEP)

RESPONSIBILITIES OF THE MAEP, SET IN ARTICLE 5 OF THE LAW ON MINISTRIES ("OG OF RSRB", NO. 44/14 AND 14/15), 44/14 AND 14/15), ENCOMPASS, AMONG OTHERS, ACTIVITIES RELATED TO AGRICULTURE, WATER MANAGEMENT, MANAGEMENT, ENVIRONMENTAL PROTECTION, ETC. THE ORGANIZATIONAL CHART OF THE MEAP IS PROVIDE IN THE

PROVIDE IN THE

Figure 4.1-2.

FIGURE 4.1-2: ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION (BASIC)



Source: http://www.mpzzs.gov.rs/ministarstvo/shematski-prikaz/, date: 19/02/2015

THE REPUBLIC WATER DIRECTORATE IS PART OF THE MEAP, RESPONSIBLE FOR WRM IN THE MAEP, WHILST ENVIRONMENTAL WHILST ENVIRONMENTAL PROTECTION IS UNDERTAKEN BY "WATER PROTECTION DIVISION" OF THE DEPARTMENT OF NATURAL DEPARTMENT OF NATURAL RESOURCES PROTECTION IN MAEP. THE MAIN ROLE FOR WATER AND ENVIRONMENT WITHIN MEAP IS ENVIRONMENT WITHIN MEAP IS WITH RWD, EPA, FOREST DEPARTMENT AND AGRICULTURAL LAND DEPARTMENT (

DEPARTMENT (

Table 4.1-1).

TABLE 4.1-1: GENERAL ASSESSMENT OF CAPACITIES OF THE RWD, MEAP (WATER PROTECTION SECTOR), EPA AND RHMS

Instit.	Assessment	Main Institutional Challenges
RWD	For the purpose of exercising authority responsibility of the RWD, additional employment is required, different professional profiles, especially in the sphere related to water protection, planning and management, water management economy, international cooperation and analytics. For the purpose of exercising responsibilities in accordance with the Law on Ministries and LW within the scope of work of the RWD, particularly considering increased volume of work due to EU joining processes, following 10 or 20 years will need significant capacity strengthening in	Main institutional problems are related to ensuring implementation of the Water Management Strategy on the territory of the RS on regional, national and local level. As regards to equipment/assets to be procured, current and long-term needs are estimated at the following priorities: computers, printers, as well as equipment required for the Water Information System implementation. RWD is financed by RS budget. Budget fund for RS waters has been setup for „registering special funds earmarked for financing activities of general interest " on the territory of RS, except the territory of AP (Article 185 of the LW).[19]

[19] Apart from the assets of the budget fund for RS waters, water management is also financed by budget fund for waters of the autonomous province, i.e. funds from water related charges, than, from original revenues of the local government unit, investor's own assets, IPA funds of the European Union, donations and other sources (international financial institutions, loans by the banks involved in financing infrastructural projects). Assessment is that the existing model of financing does not meet the needs of the system.

Instit.	Assessment	Main Institutional Challenges
	RWD	
MAEP (Water protec. Sector)	Further personnel strengthening in all organizational units, especially staff with bachelor degrees in natural and technical sciences is required.	It is believed that the main institutional problem is the lack of capacity and financial resources. Main obstacle in the sphere of water resources management in the DRB is the lack of staff and funds, and low political priority after that. Main sources of MAEP funding are as follows: state budget, donations and project financing.
EPA	For the purpose of EPA capacity strengthening, it is required to abolish prohibition of new employment in organizations of highly skilled work. According to the assessments, exercising its responsibilities will require significantly more staff in all organizational segments, especially people with degrees from the natural and technical faculties. EU joining processes in the last 10 years resulted in increase of the volume of work by 2 to 3 times and similar trend is expected in future. Highly specialized trainings in the sphere of water, air and soil quality control are required, as well as use of modern information technologies are needed. Equipment required for EAP capacity strengthening is the one	It is believed that the main institutional problem of EAP is the lack of capacity and financial resources required to exercise Agency's responsibilities. Sources of EAP funding are the state budget and donations. First priorities of EAP in the following 10 to 20 years in accelerating the progress of water resources management in the DRB are related to establishing surface and sub-surface quality monitoring in accordance with the Framework Directive on Waters. Main obstacle in the sphere of water resources management in the DRB are believed to be insufficient number of staff members, low political priority and the lack of funds, and secondly, inadequate coordination between the ministries and other state level authorities, as well as inadequate coordination between the

Instit.	Assessment	Main Institutional Challenges
	related to water, air and soil sampling, as well as computer equipment.	central and local level.
RHMS	It is estimated that no additional employment is required to exercise responsibilities[20] and that staff cuts will take place in the following 10 to 20 years, and that the scope of work and responsibilities will expand, as well as the volume of specialized services. First priorities of RHMS in the following 10 to 20 years in accelerating the progress of water resources management in the DRB are related to improvements of the national meteorological and hydrological observation system, improvements in the spheres of early warning and forecast of hazardous meteorological and hydrological phenomena, as well as improvements of meteorological and hydrological support to the environmental and energy sector.	Main institutional problem the RHMS has been facing currently and will face in future in long-term is the lack of human capacities and restrictive financing. Sources of RHMS funding are the state budget (98%) and international financial institutions (2%). RHMS has the staff training plan. Training plan is prepared for one year period and financed by the budget and project finances. Current staff needs specialized trainings. Subject trainings have not been covered by required finances in the current year, and themes of the trainings should be satellite and radar meteorology (EUMETSAT). Equipment to be procured by RHMS for the purpose of current and future long-term capacity strengthening is measurement equipment, ITC equipment and transportation equipment.

Source: WBDIWRM Inception report

Republic Water Directorate (RWD)

RWD, as the administrative authority within MAEP, is responsible for following activities: water management policy; multi-purpose water use; water supply, excluding water

[20] In spite of this conclusion, one response stated that RHMS needs civil engineers, geology-hydrology engineers, as well as meteorologists.

distribution; water protection; implementation of water protection measures and systematic rationalization of water consumption; development of water regimes; tracking and maintaining water regimes creating and cutting Republic of Serbia borders; inspection oversight in the sphere of water management, as well as other activities set by law.

Environmental Protection Agency (EPA)

Monitoring scope of work and responsibility locate EPA as one of the main institutions related to resource water management (RWM).

Republic Hydro-Meteorological Service of the Republic of Serbia (RHMS)

RHMS is the state administration authority and has been set up as a separate organization by Article 23, Paragraph 4 of the Law on Ministries responsible for meteorological and hydrological activities of interest of Republic of Serbia.

Institute for Nature Conservation

Institute for nature Conservation is relevant for certain water resources management entities in the spheres where the nature protection measures are the requirement of water resources use – provisions of the Law on Nature Protection („OG of RSRB", No. 36/09, 88/10 and 91/10-corrected), Decision of Establishment of the Serbian Nature Protection Office („OG of RSRB", No. 18/10) and the Statute („OG of RSRB", No. 73/10). The Institute is reviewed under the environmental protection institutional set up in chapter 8-2 of this document.

4.2 Environmental protection institutional organization in DRB

BiH (FBiH and RS)

Specific jurisdictions are assigned to BiH Ministry of Foreign Trade and Economic Relations (MOFTER) over environmental protection under the Law on Ministries and other administrative bodies of BiH. One of the eight divisions within the Ministry is the Division for natural resources, energy and environment protection. Ministry of Foreign Trade and Economic Relations is competent for the following:

- Foreign trade policy and customs tariff policy of BiH;
- Development of contracts, agreements and other documents in the field of economic relations and trade with other countries;
- Development of bilateral and multilateral agreements and other documents in regard to reconstruction of BiH;
- Relations with international organisations and institutions in the field of foreign trade and economic relations;
- Designing and drafting strategic documents on macroeconomic relations in the field of economic relations;
- Business environment, single economic space;
- Development and promotion of entrepreneurship;
- Control of turnover with goods and services under a special regime in the field of export and import;
- Consumer protection;
- Competition;
- Co-ordination of international economic assistance to BiH, except from the part regarding the EU assistance;
- Veterinary medicine;

The Ministry is also responsible for tasks and duties falling within the jurisdiction of the State of BiH including defining policies and basic principles, coordinating activities and consolidating entity plans with those of international institutions in the following areas:

- Agriculture;
- Energy;
- Protection of environment and use of natural resources;
- Tourism.

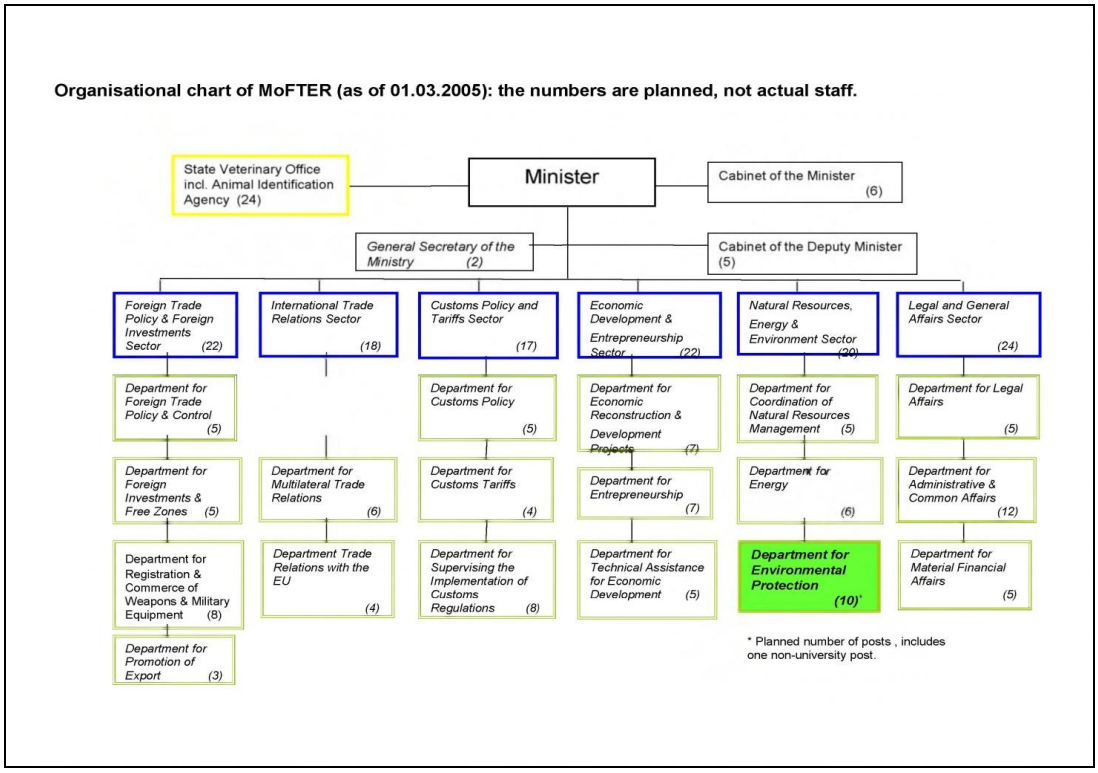
Following administrative units also belong to the MOFTER: the Office of Veterinary Medicine of BiH, the Administration of BiH for Plant Health Protection and the Office for Harmonization and Coordination of Payments in Agriculture, Nutrition and Rural Development of Bosnia and Herzegovina. All of the 10 cantons in FBiH have their own environmental bodies with 2-9 employees, except Sarajevo Canton (27) and Herzegovina-Neretva Canton (44).

Two Entity ministries have specific competencies in the environmental field:

- Ministry of Tourism and Environment of FBiH
- Ministry of Physical Planning, Civil Engineering and Ecology of RS

Bellow, the chart organizational structure of the MOFTER is provided (Figure 4.2-1).

FIGURE 4.2-1: ORGANIZATIONAL STRUCTURE OF MOFTER



Source: UNECE TEIA High-level Awareness Raising Meeting, 19th May 2014, Sarajevo

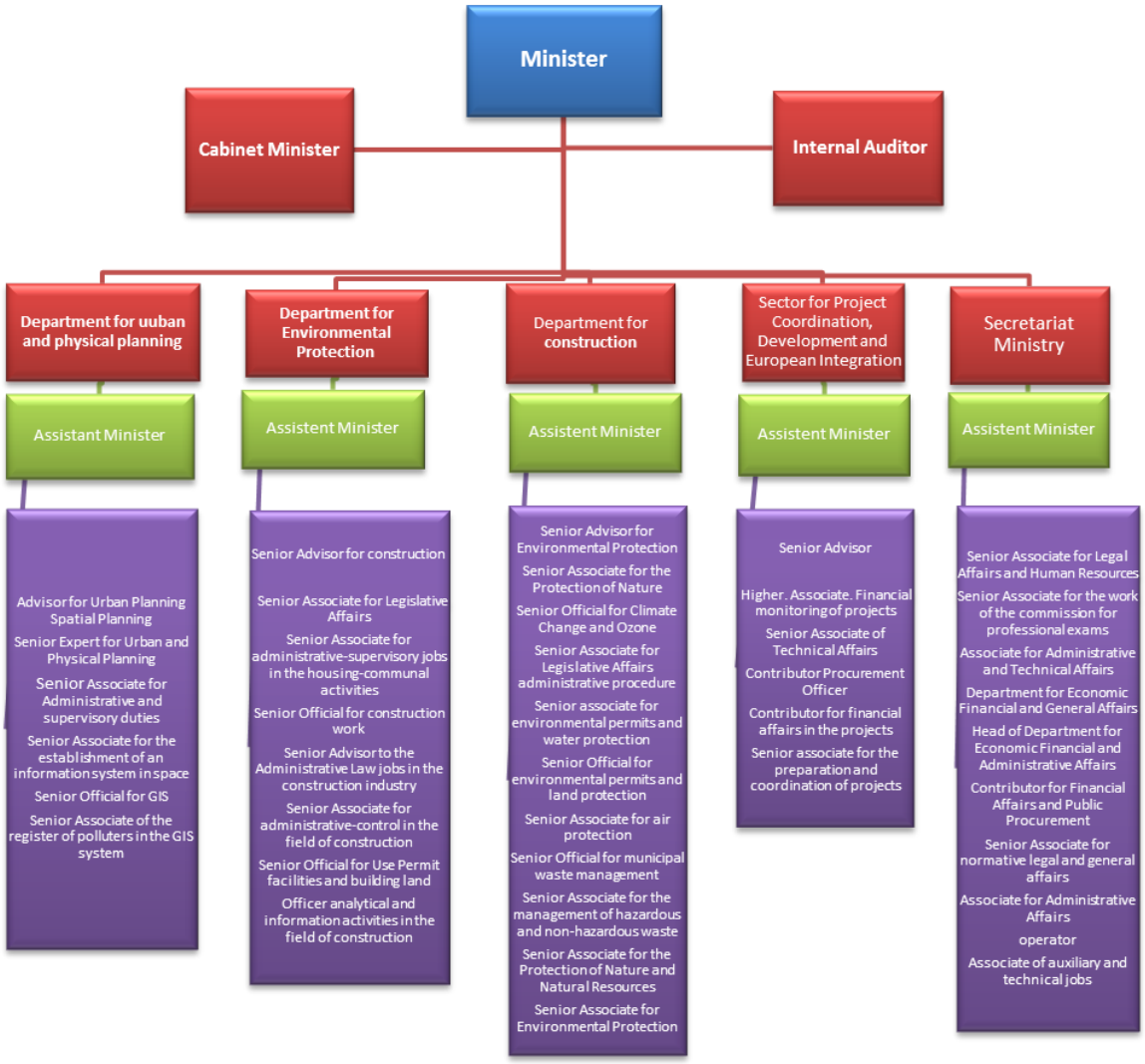
Environmental protection competences in the **Republic of Srpska** belong to the **Ministry of Physical Planning, Civil Engineering and Ecology**. The Ministry performs public administration activities referring to improvement of operation in the areas of spatial planning, construction and environment through preparation and working within the Committees for developing drafts and proposals of laws and other regulations under the Ministry's authority. Within its scope of work the Ministry prepares and proposes questions and materials, and coordinates activities in the areas of spatial planning, construction and environment for consideration by the committees and other Governmental bodies and Council of Ministers responsible for these areas.

Energy is separated as the responsibility of a special authority in all three countries.

FURTHER IS PRESENTED THE ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF PHYSICAL PLANNING, CIVIL ENGINEERING AND ENGINEERING AND ECOLOGY **(**

Figure 4.2-2).

FIGURE 4.2-2: ORGANIZ. STRUCTURE OF MINISTRY OF PHYSICAL PLANNING, CIVIL ENGINEERING AND ECOLOGY OF RS



Source: Ministry web based organizational structure

MONTENEGRO

In Montenegro environmental protection activities are under jurisdiction of the other **Ministry for Sustainable Development and Tourism (MSDT)**. Monitoring and enforcement of environmental sectorial laws falls under the Environmental Protection Agency. Following the governmental restructuring in 2006, environmental policy has been in the competency of the Ministry of Tourism and Environment, reformed into the Ministry of

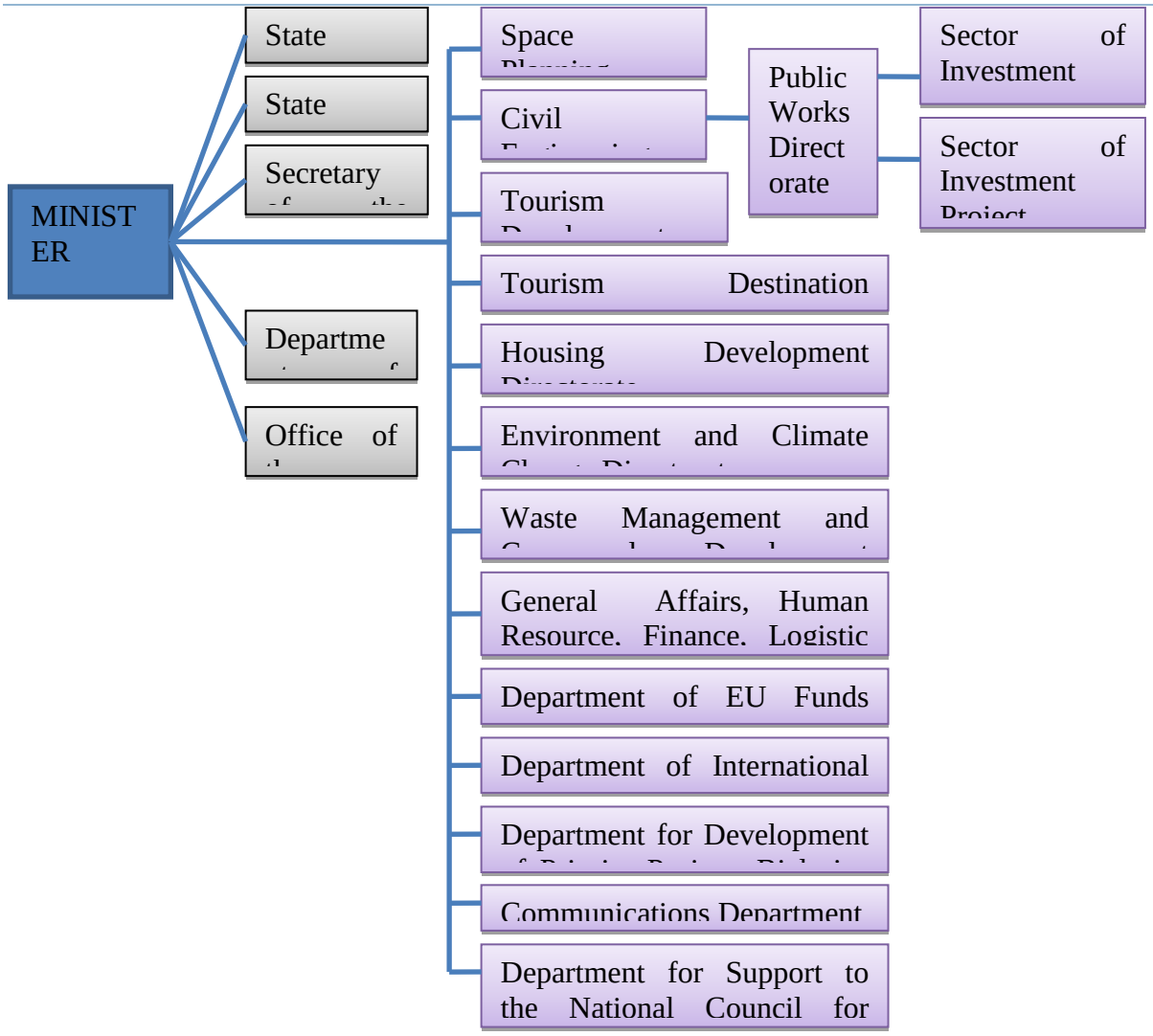
Spatial Planning and Environment in 2009 and restructured again to become the Ministry of Sustainable Development and Tourism in 2011. The Ministry of Sustainable Development and Tourism is the main governmental authority responsible for policymaking on environment and sustainable development. The portfolio of the Ministry is much broader than the environment alone, and includes spatial planning, construction, tourism development and housing, as well as coordination of international cooperation and the management of EU funds in all the above areas.

The Ministry responsibility encompass following: sustainable development; implementation of sustainable development programs and projects; provision of technical, organizational and administrative support to the National Council for Sustainable Development and Climate Change; spatial and environmental strategic planning; system of integrated environmental protection and sustainable utilization of natural resources; integrated pollution prevention and control; organization of communal services, including water supply and sewerage, and wastewater treatment*;* developing environmental protection standards; monitoring environmental conditions; cooperation with the international financial institutions and EU funds in implementation of environmental protection and utility services projects; cooperation with NGOs; harmonization of regulations under the Ministry's jurisdiction with EU *acquis*; and other activities under the Ministry's jurisdiction (Regulation on Organization and Operation of Public Authorities, Article 21, Paragraph 1).

FURTHER, THE ORGANIZATIONAL STRUCTURE OF THE MSDT IS PRESENTED (

Figure 4.2-3).

FIGURE 4.2-3: ORGANIZATIONAL STRUCTURE OF MSDT



Source: http://www.mrt.gov.me/organizacija, date: 25/05/2015

MSDT exercises supervision of legality of work and legality of administrative acts of the IHMS, Public Works Directorate and Environmental Protection Agency – EPA (Regulation on Organization and Operation of Public Authorities, Article 51, Paragraph 1, Item 10).

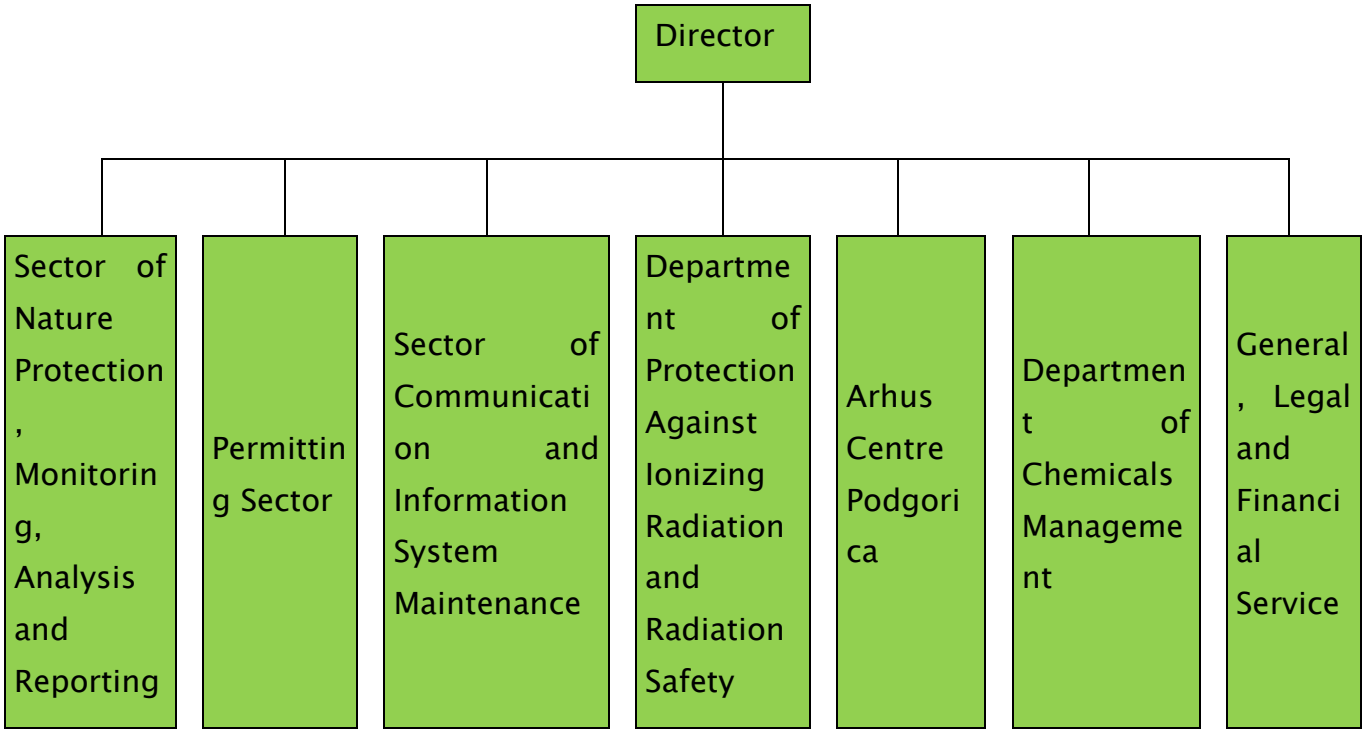
Environmental Protection Agency of Montenegro (EPA) established in 2008 (Regulation amending the Regulation on the Organization and Operation of Public Administration ("OG of MNE", No. 68/08)) and operational since 2009, ensures implementation of environmental legislation. Its mandate includes implementation of strategies, programmes, laws and regulations in the field of environment, implementation of

international treaties within its jurisdiction, environmental permitting, EIA, SEA, IPPC licensing, environmental monitoring, keeping relevant registers and databases, and reporting and coordination of reporting on the state of the environment. The EPA is also responsible for the provision of information to national and international organizations and to the public. As of February 2014, 78 of 88 available positions in the EPA have been filled. In 2012, the EPA opened a regional office in Berane, which functions as Aarhus Centre Berane. The EPA's budget has decreased over the last few years, mostly due to the general economic situation. Although some organizational changes have also taken place (in particular, environmental inspection was taken out of the EPA, while the Institute of Nature Protection was integrated into the Department for Nature Protection, Monitoring, Analyses and Reporting within the EPA), they did not have a major influence on the budget of the Agency.

FURTHER, THE ORGANIZATIONAL STRUCTURE OF THE EPA OF MONTENEGRO IS PRESENTED (

Figure 4.2-4).

FIGURE 4.2-4: ORGANIZATIONAL STRUCTURE OF EPA MONTENEGRO



Source*:* Environmental Protection Agency, 2014.[21]

SERBIA

In Serbia main competencies for environmental protection has the **Ministry of Agriculture and Environmental Protection**. In the scope of environmental protection the Ministry's scope of work includes: system of environmental protection and improvement; national parks; inspection services in the field of environmental protection; implementation of the Convention on access to information, public participation and access to justice in environmental matters; nature protection; air protection; ozone layer protection; climate changes; cross-border pollution of air and water; water protection against pollution for the purpose of preventing the ground and surface water quality deterioration; approval of cross-border trade of waste and protected plant and animal species; other activities determined by the law, etc.

FURTHER, THE ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION OF THE PROTECTION OF THE GOVERNMENT OF SERBIA IS PRESENTED (

Figure 4.2-5, Figure 4.2-6).

FIGURE 4.2-5: ORGANIZATION OF THE MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION

Separate organizational units:

[21] Note: Regional Office in Berane is not represented in the structure of EPA.

• Office of the Minister
• Secretariat of the Ministry
Narrower Internal Units (beyond sectors):
• Internal Audit Group
Internal Units:
• Sector of Agricultural policy
• Sector of Rural Development
• Sector of International Cooperation
• Sector of Legal and Information Affairs
• Sector of Financial Management
• SECTOR ENVIRONMENTAL PROTECTION
• SECTOR OF ENVIRONMENTAL PLANNING AND MANAGEMENT
• SECTOR OF ENVIRONMENTAL PROTECTION INSPECTIONS
• SECTOR OF AGRICULTURAL INSPECTIONS
Administrative Authorities:
• Department of Plant Protection
• Department of Forests
• Department of Veterinary Medicine
• Department of Agricultural Land
• Republic Water Directorate
• Department of Agricultural Payments
• Directorate of the National Reference Laboratories
• Environmental Protection Agency

Source: *Information Booklet of the Ministry of Agriculture and Environmental Protection*, Belgrade, January 2015, p. 15. See: http://www.mpzzs.gov.rs/informacije-od-javnog-znacaja/informator-o-radu/, date: 17/02/2015

FIGURE 4.2-6: ORGANIZATION OF THE SECTOR OF ENVIRONMENTAL PROTECTION – MINISTRY OF AGRICULTURE AND ENVIRONMENTAL PROTECTION

SECTOR ENVIRONMENTAL PROTECTION
I. DEPARTMENT OF PROTECTED AREAS AND ECOLOGICAL NETWORKS
1. Division of Protected Areas
2. Division of Ecological Networks and Acceptability Assessment
II. DEPARTMENT OF BIODIVERSITY PROTECTION PERMITS
1. Division of Fish Stock Protection and Sustainable Use
2. Group for Permitting Collection, Use and Sale of Protected Species of Wild Flora and Fauna
3. Group for Implementation of CITES Convention
III. DEPARTEMNT OF NATURAL REPSURCES PROTECTION
1. Group for Sustainable Use of Natural Resources
2. Division of Water Protection
3. Division of Air and Ozone Layer Protection
4. Group for Soil Monitoring, Rehabilitation and Remediation of Environment from the Consequences of Erosion and Torrents

Source: *Information Booklet of the Ministry of Agriculture and Environmental Protection*, Belgrade, January 2015, p. 15. See: http://www.mpzzs.gov.rs/informacije-od-javnog-znacaja/informator-o-radu/, date: 17/02/2015

Monitoring and enforcement of environmental sectorial laws falls under **the Environmental Protection Agency**, which responsibilities encompass: implementation of state monitoring over the quality of water, along with the implementation of prescribed

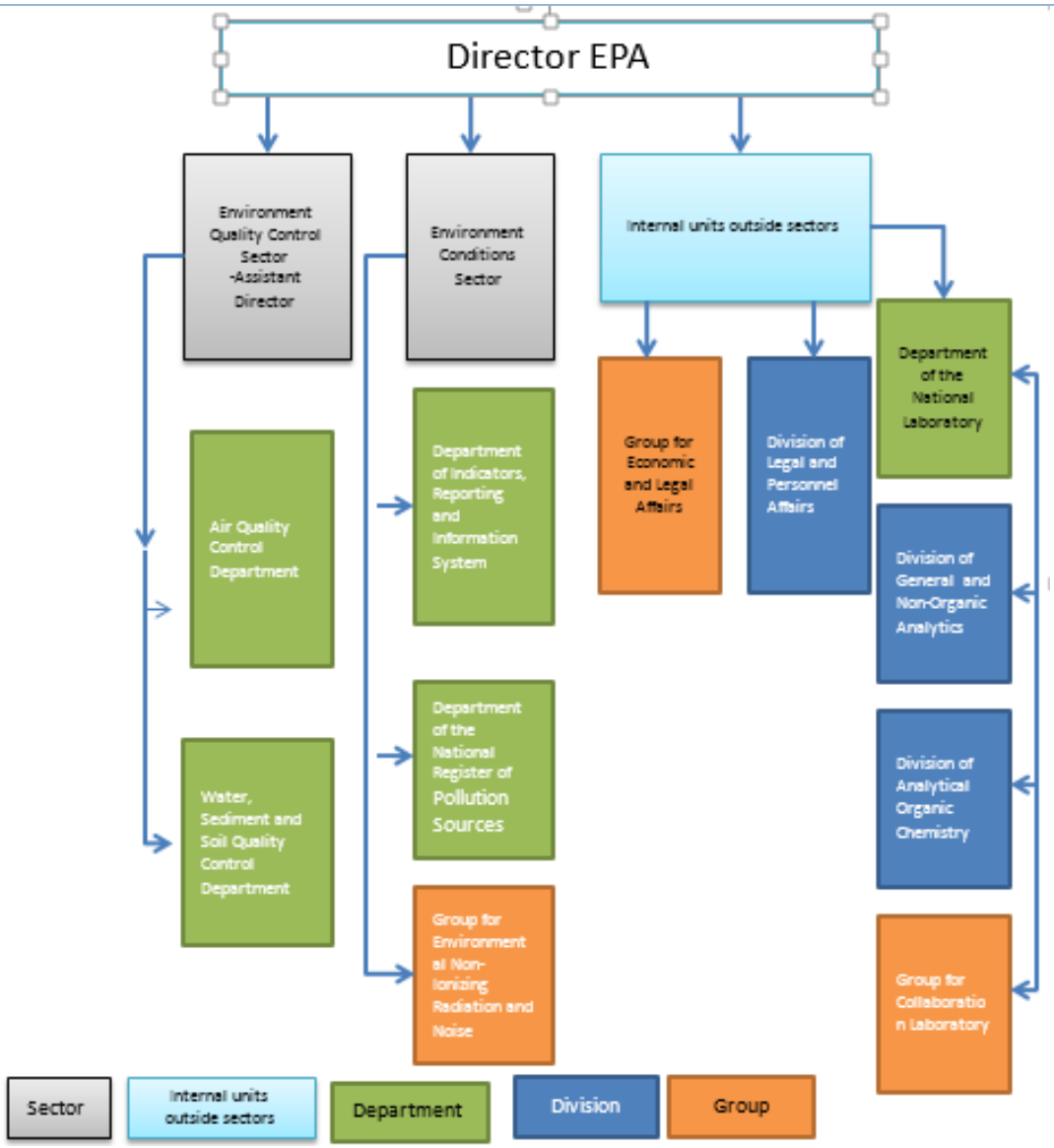
and harmonized programs for surface water quality control, as well as groundwater of unconfined aquifers and precipitation; National Laboratory management; collection and integration of data on the environment, their processing and compiling of the *report on the state of the environment* and environmental protection policy; keeping the national information system in environmental protection; Cooperation with the European Environment Agency (EEA), etc.

FURTHER, THE ORGANIZATIONAL STRUCTURE OF THE ENVIRONMENTAL PROTECTION AGENCY OF SERBIA IS PRESENTED (

PRESENTED (

Figure 4.2-7).

FIGURE 4.2-7: ORGANIZATIONAL STRUCTURE OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) SERBIA



Source: *Information Booklet,* Environmental Protection Agency, November 2014, Belgrade, p. 16, See: http://www.sepa.gov.rs/download/IJZ/informatorNov2014.pdf, date: 20/02/2015

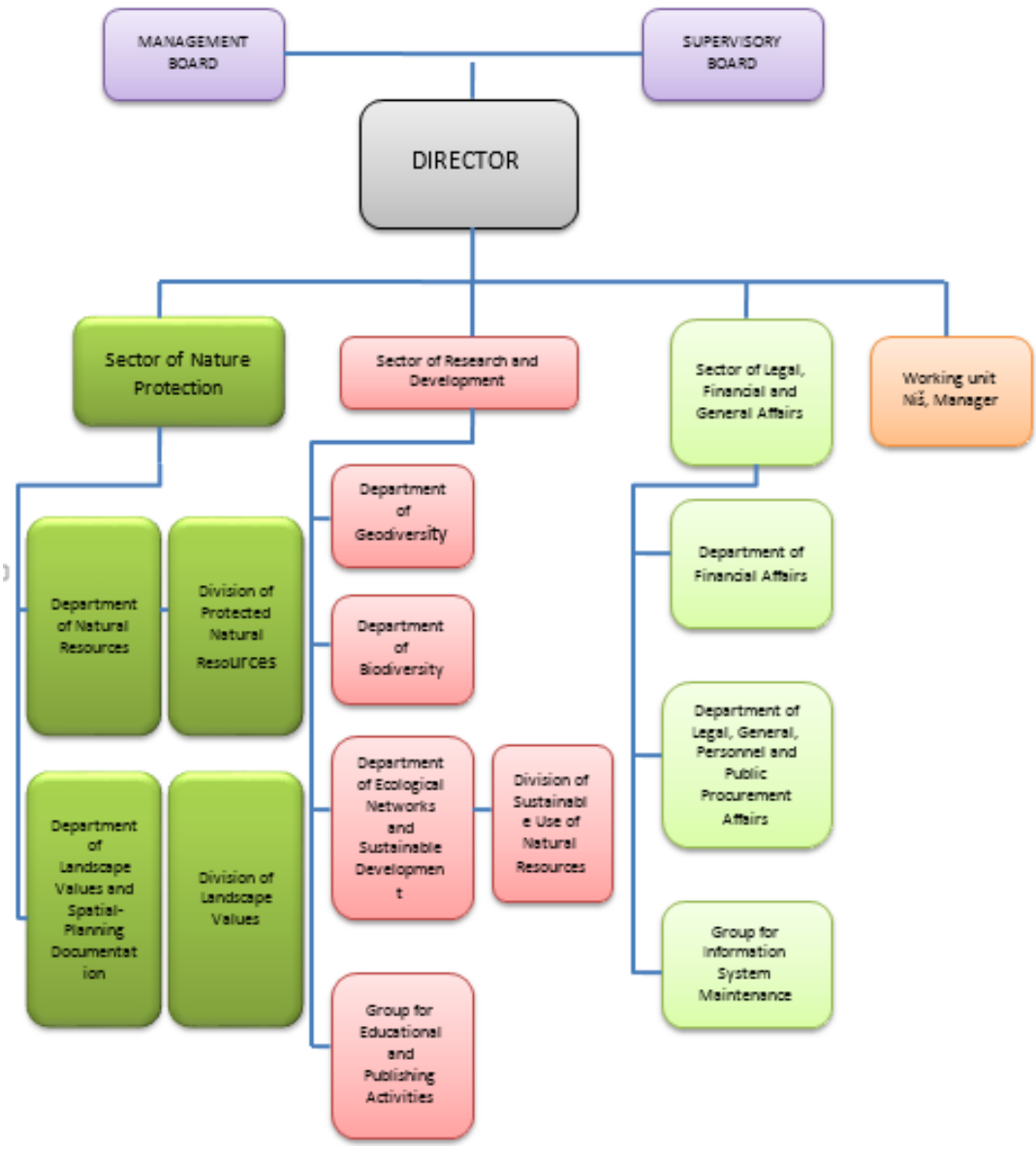
Another important institution in the field of nature protection in the Government structure of environmental protection is **Institute for Nature Protection** of the Government of Serbia. Institute for Nature Conservation of Serbia was founded by the Government of the Republic of Serbia in order to carry out activities on protection and improvement of nature in Serbia by performing the following activities: The initiation of the procedure on

protection, that is, conducting field research and drafting the studies on protection as technical basis for the protection of the area, which includes data collection and processing, determining the boundaries of the area proposed for protection, valuing and proposing protective measures, protection regime and category of the prospective protected natural area; Research and work on the conservation of biodiversity and geodiversity as a basis for the conservation and improved status of endangered and rare plant and animal species and geological heritage sites; Expert supervision which includes monitoring of the state of protected area and taking measures for its active and passive protection, the provision of professional assistance and cooperation with stake holders; Issuing the requirements for work in protected areas and determining the conditions of nature protection in the process of preparation of project documentation, spatial and urban plans, different bases (forestry, hunting, fishing, water management, etc.), programs and strategies in all activities affecting nature; Publishing scientific and professional papers in the field of geodiversity and biodiversity, monographs, brochures, manuals and other information materials on nature protection, protected areas and plant and animal species, production of printed, audio and video materials on natural values of Serbia; Education, presentations and communication in order to present a wealth of natural heritage in Serbia to general public, raising public awareness of the necessity and importance of nature conservation and methodological assistance in education in the field of environmental protection; International cooperation through networking and exchange of data and experience with various institutions in the world dealing with the protection of environment and nature, participation in international organizations, involvement in the implementation of international conventions in the field of nature protection and participation in the implementation of certain international programs and projects.

FURTHER IS PRESENTED THE ORGANIZATIONAL STRUCTURE OF THE INSTITUTE FOR NATURE PROTECTION (

Figure 4.2-8).

FIGURE 4.2-8: ORGANIZATIONAL STRUCTURE OF THE INSTITUTE FOR NATURE CONSERVATION



Source: *Information Booklet*, May 2015, p. 9. http://www.zzps.rs/novo/index.php?jezik=_la&strana=informator (20/5/2015).