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**STRATEGY ON IMPLEMENTATION
OF THE FRAMEWORK AGREEMENT
ON THE SAVA RIVER BASIN**

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1. Introduction

In order to ensure an effective implementation of the *Framework Agreement on the Sava River Basin (FASRB)* [1], the International Sava River Basin Commission (ISRBC) started developing a strategy on implementation of the *FASRB* as early as in fall 2005, soon after the establishment of the Commission.

Based on the existing framework [1,2,3], the first *Strategy on Implementation of the FASRB* [4] was finalized and formally adopted by the ISRBC in 2008, as a result of the process involving a number of experts and stakeholders from the Sava River Basin.

However, a steady progress in the *FASRB* implementation during the last years, as well as a continuously changing “environment” of the implementation process in the same time period, have made an updating of the actual *Strategy* not only reasonable, but also necessary.

Namely, the strength and functionality of a system of the *FASRB* implementation have been further improved [5]. Some important achievements have been made [6-16] and a majority of the actions, foreseen in the actual *Strategy*, have been launched or already performed. Challenges and obstacles to the *FASRB* implementation have been identified, as well.

Cooperation with numerous organizations and institutions has been established and a remarkable experience, from other river basins in Europe and elsewhere, has been gained, drawing the attention to emerging issues, to be dealt with in future, as well.

Preparation and implementation of the projects, relevant for the *FASRB* implementation, has gradually become a back-bone of the whole process. Financing of several crucial projects has been secured, and the future priority projects have been identified and agreed upon by the countries. Several of the projects have been well recognized by the European Commission and introduced into the *Action Plan* of the *EU Strategy for the Danube Region* [17], which will certainly present a relevant framework for implementation of the *FASRB*-related projects in future.

Finally, a number of processes and events, and their outcomes, not only within the Sava River Basin [18-21], but also on the Danube level [22-24] and European level [17,25,26], have caused the thinking of a future implementation of the *FASRB* to be reconsidered and updated.

Keeping the above mentioned facts in mind, the updated *Strategy* has been developed with the primary intention to make a full use of the efforts and achievements made so far, to synchronize the experiences and the new knowledge gained during the past years, to respond to, and to get involved into, the relevant ongoing processes on the Danube and European levels, and thus to further strengthen the basis for full implementation of the *FASRB*.

The structure of the updated *Strategy* is simple and straightforward. The framework for transboundary cooperation in the Sava River Basin is depicted in Chapter 2. This chapter provides a basic information on the basin, as well as the legal and institutional framework for the cooperation, represented by the *FASRB* and the ISRBC, respectively. The current status of the *FASRB* implementation, including the main accomplishments and challenges experienced so far, is illustrated in Chapter 3. The objectives of the *FASRB* implementation and the measures for their achievement, given in Chapter 4, are elaborated with regard to individual priority areas, each of them corresponding to a specific objective of the *FASRB*. The Chapters 5 and 6 deal with the issues of public participation and stakeholder involvement in the *FASRB* implementation, and the monitoring of the *FASRB* implementation, respectively. The Annexes (Chapters 7 and 8) provide a supplementary information, including the list of abbreviations and acronyms, as well as the list of references.

2. Framework for transboundary cooperation in the Sava River Basin

2.1. Natural basis for cooperation

The Sava River Basin¹ is a major drainage basin of the South-Eastern Europe covering the total area of approximately 97.713 km² [6], which is 12% of the Danube Basin area. The Sava Basin is shared by six countries (Table 1) and hosts the population of roughly 8,5 million.

The Sava River is the third longest tributary of the Danube River. The length of the Sava River from its main source in western Slovenian mountains to its mouth to the Danube in Belgrade (Serbia) is 945 km [6]. With its average discharge at the confluence being about 1.700 m³/s, the Sava River represents the richest-in-water Danube tributary, contributing with almost 25% to the Danube's total discharge.

Table 1. Main figures on the Sava River Basin [6].

Country	Share (km ²)	Share (%)
Slovenia	11.734,8	12,0
Croatia	25.373,5	26,0
Bosnia and Herzegovina	38.349,1	39,2
Serbia	15.147,0	15,5
Montenegro	6.929,8	7,1
Albania	179,0	0,2
Total	97.713,2	100,0

The Sava River Basin is widely known for its high environmental and social values, originating not only from a natural beauty, an outstanding biological and landscape diversity and large retention areas along the river, but also from a high potential for development activities, such as the waterway transport of cargo and passengers, or tourism and recreation.

The Sava River Basin hosts the largest complex of alluvial wetlands in the Danube Basin and large lowland forest complexes, being an unique example of a river basin with some of the floodplains still intact, thus supporting the flood alleviation and biodiversity. There are six Ramsar sites, as well as numerous important bird and plant areas, protected areas at the national level, and Natura 2000 sites.

The Sava River contributes to the Danube inland waterway transport network with 594 km of the waterway, from Belgrade to Sisak (Croatia), and provides numerous sites and opportunities for different kinds of tourism and recreation along the whole watercourse.

2.2. Legal framework for cooperation

After the political changes in the region in the early 1990-ies, the Sava River, which was the biggest national river in the former country, has become an international river of a recognized importance.

The establishment of the Stability Pact for South-Eastern Europe in 1999 provided a solid basis for triggering the cooperation of stakeholders in the region and, gradually, the creation of a new approach to the water resources management in the Sava River Basin.

¹ A detailed information on the basin can be found in the *Sava River Basin Analysis Report* [6].

On these grounds, the four countries of the Sava River Basin – Bosnia and Herzegovina, Federal Republic of Yugoslavia (later on Serbia & Montenegro, and then Republic of Serbia), Republic of Croatia and Republic of Slovenia, entered into a process of negotiations, with the primary aim to establish an appropriate framework for transboundary cooperation, in order to ensure a sustainable use, protection and management of water resources in the Sava River Basin, and thus enable better life conditions and raising the standard of population in the region.

As a key milestone of the process, the *Framework Agreement on the Sava River Basin (FASRB)* has been developed, as a unique international agreement integrating all aspects of the water resources management and establishing the International Sava River Basin Commission (ISRBC) for implementation of the *FASRB*, with the legal status of an international organization.

After signing the *FASRB* on December 3, 2002, at Kranjska Gora (Slovenia), the Interim Sava Commission was formed to prepare all steps necessary for establishment of the permanent Commission upon entry of the *FASRB* into force.

Following the ratification of the *FASRB* by all Parties, and its entry into force on December 29, 2004, the 1st Constitutional Session of the ISRBC was held on June 27, 2005, and subsequently, the permanent Secretariat of the ISRBC started to work in January 2006, with the seat in Zagreb (Croatia). Since then, the ISRBC has been an “engine” of cooperation of the Parties toward the implementation of the *FASRB*, the status of which is summarized in Chapter 3.

The *FASRB* [1] is an international agreement that integrates all components of the water management – different kinds of water use, the water and aquatic ecosystem protection, as well as the protection against harmful effects of water due to floods, droughts, ice and accidents involving the water pollution.

The *FASRB* emphasizes the importance of transboundary cooperation of governments, institutions and individuals, defining the key objective and the three main goals of the cooperation, as shown in Box 1.

Box 1. The key objective and goals of the *FASRB*.

<p>Key objective</p> <p>Transboundary cooperation for sustainable development of the region corresponding to the Sava River Basin</p>
<p>Goals:</p> <ul style="list-style-type: none"> • Establishment of an international regime of navigation on the Sava River and its navigable tributaries; • Establishment of a sustainable water management in the Sava River Basin, and • Prevention/limitation of hazards in the basin (i.e. floods, droughts, ice, accidents) and elimination/reduction of related consequences.

The basic **principles** stipulated by the *FASRB* include:

- cooperation based on sovereign equality, territorial integrity, mutual benefit and good faith in order to achieve the goals of the *FASRB*, as well as based on regular exchange of information within the Basin, cooperation with international organizations, and being in accordance with the Directive 2000/60/EC (*Water Framework Directive*) and the Directive 2007/60/EC (*Directive on the Assessment and Management of Flood Risks*, hereinafter the *Flood Directive*), and
- reasonable and equitable use of the water resources, applying measures aimed at securing the integrity of the water regime in the Basin and reduction of transboundary impacts caused by economic and other activities of the Parties, and respecting the “no harm rule”.

The *FASRB* implementation is being undertaken by the national institutions, officially nominated by the Parties (the list is given in Annex 1), and is coordinated by the ISRBC.

The *FASRB* presents the first development-oriented multilateral agreement in the post-conflict period, concluded in the region of the former Yugoslavia after the *Dayton Peace Agreement* and the *Agreement on Succession*. By involving the whole water resources management and addressing both development and sustainability issues, and thus linking the navigation development and the environmental protection, the *FASRB* provides to the ISRBC the broadest scope of work among European basin organizations.

2.3. Mechanism of cooperation

The International Sava River Basin Commission (ISRBC) is the joint institution established as an international organization with the international legal capacity necessary for exercising its functions, with the Permanent Secretariat as its executive body.

The **mandate and responsibilities** of the ISRBC, given in the Annex I of the *FASRB – Statute of the Sava Commission*, reflect the ambitious approach of the Parties to establish a joint institutional system, which will result in full implementation of the *FASRB*.

In order to achieve the main goals of the *FASRB*, the following **activities** are coordinated by the ISRBC:

- creation and realization of joint plans of the Sava River Basin (e.g. river basin management plan, flood risk management plan);
- preparation of development programs of the Sava River Basin;
- rehabilitation and development of navigation in the Basin;
- establishment of integrated systems for the Sava River Basin (GIS, RIS, flood forecasting and warning system, etc.);
- harmonization of national regulation with the EU regulation, and
- development of protocols for regulating specific aspects of the *FASRB* implementation.

In accordance with the mandate and responsibilities, the ISRBC is a central point in identification and implementation of projects of regional importance, aiming to strengthen the cooperation of the Sava countries and facilitate the fulfilment of the *FASRB* objectives.

The ISRBC is given the capacity for making decisions in the field of navigation and providing recommendations on all other issues.

The ISRBC is **composed** of two representatives of each Party to the *FASRB*, one member and one deputy member of each Party, having one vote in the Commission. The list of the current ISRBC representatives is given in Annex 2. The Commission has a Chairman who represents the ISRBC.

The Secretariat is an administrative and executive body of the ISRBC. It consists of officials and support staff. The officials are Secretary, the Deputies and Advisors (Figure 1). They are nationals of the Parties, represented on an equal basis, and appointed by the ISRBC. The support staff includes two technical administrators and a book-keeper, of which one technical administrator only is appointed at the moment.

In order to foster cooperation and ensure synergy in achieving its goals, the ISRBC has established permanent and *ad-hoc* expert groups, composed of delegated experts from each Party.

There are four permanent expert groups (PEGs), covering the key issues in the Sava River Basin – river basin management, accident prevention and control, flood prevention, and navigation, as well as five *ad-hoc* expert groups, dealing with specific issues and tasks – legal issues, financial issues, hydro-meteorological issues, GIS and RIS.

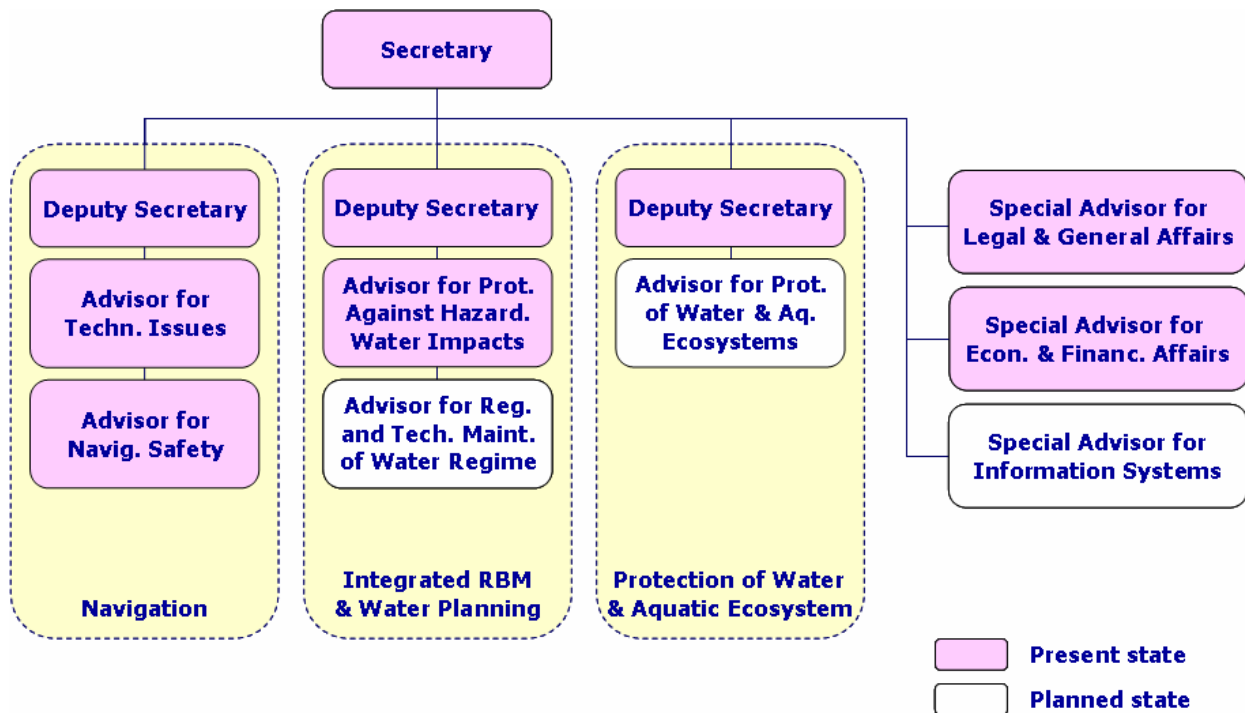


Figure 1. Structure of the ISRBC Secretariat (officials only).

The expert groups are chaired by the officials of the Secretariat. In principle, all materials for consideration by the groups are prepared by the Secretariat.

A principle scheme of **decision-making process** with its legal basis is given in Figure 2. In general, the ISRBC, on its sessions, raises specific issues to be investigated by the Secretariat and/or the expert group(s). After a solution is found, the Secretariat presents it to the ISRBC with recommendation on next steps. According to the recommendations of the Secretariat, the ISRBC, on its regular or special sessions, adopts decisions and recommendations to the Parties. Decisions adopted by the ISRBC in the field of navigation, aiming to provide conditions for safe navigation and referring to financing of construction and maintenance works on the navigable waterways, have the binding character for all the Parties. In the field of water management, the ISRBC adopts only recommendations. Both, the decisions and recommendations are passed unanimously. Additionally, the ISRBC provides recommendations to the Meeting of the Parties, which makes decisions relating to strategic issues of the *FASRB* implementation and performs a general monitoring of the implementation process.

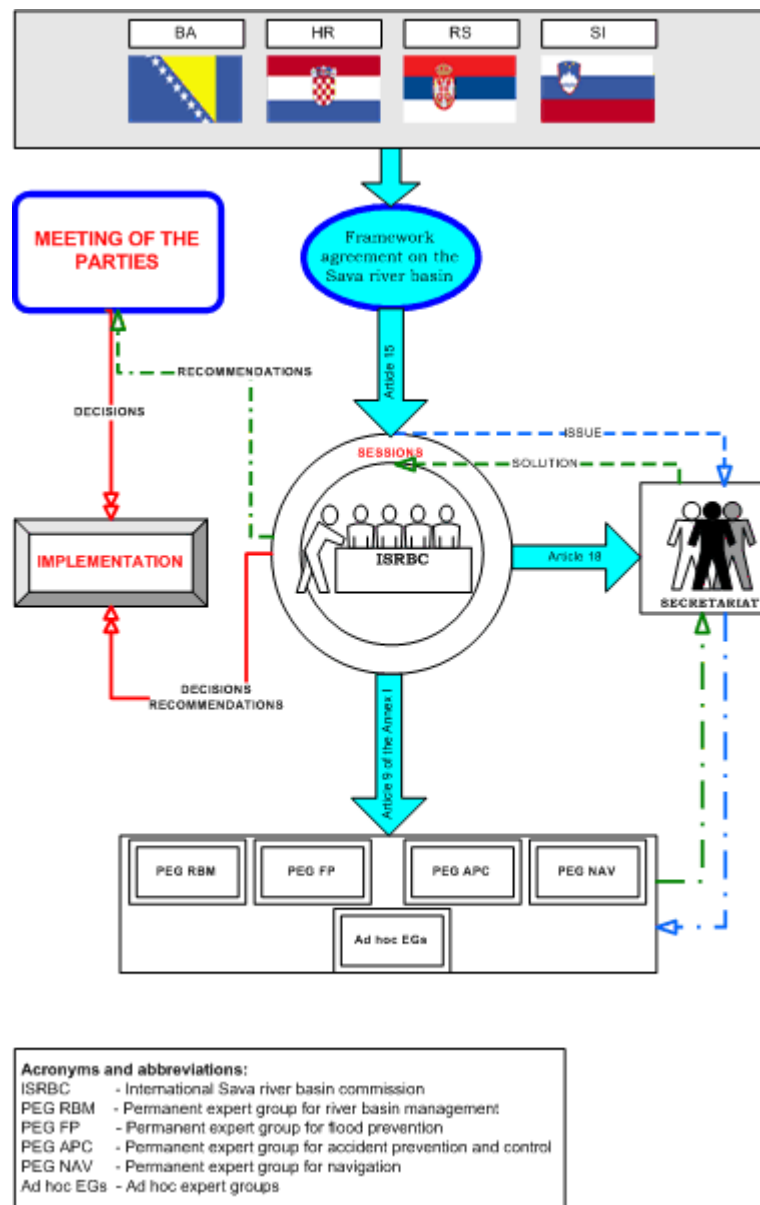


Figure 2. Decision-making process in the implementation of the *FASRB*.

3. Current status of the *FASRB* implementation

3.1. Navigation

The break-up of the Socialist Federal Republic of Yugoslavia and the economic decline in the 80-ies and 90-ies of the last century have caused a sharp decrease of transport and navigation on the Sava River.

Since then, the Sava River has been hardly used for river transport, for a number of reasons, including a lack of maintenance and investments, resulting in a poor quality of infrastructure, poor intermodal road and railway connections, as well as damaged ports and river infrastructure and presence of unexploded ordnances endangering safe navigation.

The navigation conditions have been unfavourable due to a limited draft during long periods, a limited width of the fairway and height under bridges, and insufficient marking.

On the other hand, in other parts of Europe, the inland waterway transport has proven to be a competitive transport mode, being environmentally friendly and reducing congestion on densely used roads.

Given such an initial situation, efforts have been invested within the implementation of the *FASRB*, as well as the *Protocol on the Navigation Regime of the FASRB* [2], to provide conditions necessary for the Sava River to become an important, environment-friendly and navigation-safe lifeline for inland transport. The undertaken activities resulted in a number of achievements [8].

The **administrative and legal framework** has been strengthened by development of a set of rules and other documents related to technical issues and safety of navigation [9], harmonized with the corresponding EU and UNECE regulations. For illustration, some specific requirements from the *Navigation Rules in the Sava River Basin* have been introduced into the new text of *European Code for Inland Waterways (CEVNI)*. Or, the *Rules for Transport of Dangerous Goods in the Sava River Basin* have introduced a direct application of the corresponding European regulation, the *European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)*.

Among other achievements, preparation of the *Indicator of River Kilometers for the Sava River* (renewed after 50 years), as well as the development of the first ever *Album of Bridges for the Sava River*, should be mentioned.

Significant advances have been made in the **rehabilitation and development of the Sava River waterway infrastructure**. The preliminary documentation has been developed, including the pre-feasibility and the feasibility study for rehabilitation and development of the waterway [10,11]. The classes of the future waterway, to be used as a basis for detailed design, financing of works, and navigation upstream Sisak up to Slovenia, as well as an “action plan” and timeframe for development of the waterway, have been agreed upon by the Parties.

For the upstream section of the waterway, Račinovci (km 211) – Sisak (km 594), the EIA study has been finalized, and the detailed design of the waterway is expected to start soon. For the downstream section, Belgrade (km 0) – Račinovci (km 211), funding for the final phase of the planning process (i.e. development of the EIA studies and the detailed design) has been secured.

The waterway marking system has been fully restored after 20 years. Unexploded ordnances have been removed from the river banks, and emergency maintenance works have been performed on critical stretches, shared by HR and BA. The *Marking Plan for the Sava River and its Navigable Tributaries* is developed annually. The initial phase of development of RIS on the Sava River (i.e. the detailed design and prototype installation) has been done, in accordance with the EU *RIS Directive*.

The intention to ensure **environmental sustainability of the navigation development** process is reflected, not only in the above mentioned rules related to technical issues and safety of navigation, but also in the following activities and results:

- consideration of integrating the water protection and the navigation development in the process of preparation of the first *Sava River Basin Management Plan*;
- development of the *Protocol on Prevention of Water Pollution caused by Navigation to the FASRB* [12], currently undergoing the ratification process;
- active involvement of the ISRBC in the processes on Danube and European levels, such as the development and implementation of the *Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin* [24], jointly with the ICPDR and the Danube Commission, and the preparation of the *Manual on Good Practices in Sustainable Waterway Planning* [25], within the EU FP7 PLATINA project.

Additionally, activities on the **development of nautical tourism** on the Sava River have been launched. In this regard, the first *Nautical and Tourism Guide of the Sava River* has been developed in cooperation with regional chambers of commerce of the Parties.

The above mentioned accomplishments provide a firm basis for further implementation of the *FASRB* toward the establishment of the international regime of navigation on the Sava River and its navigable tributaries. There are already several indicators of development in traffic and opening of new cargo flows on the Sava River, such as opening of transport of oil products from Brod/Bosanski Brod, new developments in Serbian ports (i.e. the contract on cooperation between the ports of Sremska Mitrovica and Rijeka, and development plans for the port of Šabac), as well as the first passenger cruise along the whole Sava River waterway after 150 years.

3.2. Water management

During the Socialist Federal Republic of Yugoslavia, certain efforts have been invested to consider the water management in the Sava River Basin in an integrated manner [27]. However, a lack of coordinated management during the 90-ies of the last century, has become a threat to waters and aquatic eco-system in the Sava River Basin.

Since the beginning of the *FASRB* implementation, a wide range of activities in the field of water management have been undertaken or launched.

The key activity in the field of **river basin management** has been the preparation of the first *Sava RBM Plan* in accordance with the EU *WFD*.

An important step in this regard was the development of the *Sava River Basin Analysis Report* [6]. The *Report* is characterized by a comprehensive nature, as it includes the findings of two separate reports (on hydrology and hydromorphology) and deals, not only with the water quality issues, but also with the issues of water quantity. To ensure an integrated approach from the very beginning of the *RBM Plan* preparation process, the Sava River Basin Analysis also included consideration of the flood management and navigation development issues. The *Report* provided the first overview and thematic GIS maps of the Basin, as well.

Further preparation of the first *Sava RBM Plan* is going on, with the technical assistance financially supported by the European Commission. One of the main features of the future *RBM Plan* is the integration of the environmental protection and other issues (different kinds of water use and flood management) and the use of findings of relevant ongoing projects, such as the one dealing with climate change impacts in the Sava River Basin and the corresponding climate adaptation plan (i.e. *WATCAP* project).

So far, the significant water management issues in the Basin have been agreed upon, a stakeholder analysis has started, and a draft of the *RBM Plan* is under development.

In addition to these activities, the *Protocol on Sediment Management to the FASRB*, aiming to regulate the sediment management issues in accordance with the *RBM Plan*, has been drafted and entered the process of harmonization by the Parties, while drafting the *Protocol on transboundary impact to the FASRB* is under development on the ISRBC level.

In the field of **flood management**, the *Flood Action Plan* for the Sava River Basin [13] has been prepared in accordance with the *Flood Action Programme for the Danube River Basin* of the ICPDR, providing the first program of measures for each Party to achieve the defined targets for flood management in its part of the Sava River Basin until 2015.

The *Protocol on Flood Protection to the FASRB* [14], which aims to provide the legal basis for cooperation of the Parties in line with the EU *Flood Directive*, including the preparation of the *Flood Risk Management Plan* for the Sava River Basin, has been developed and signed, and is currently under ratification.

An assessment of current flood management practices in the Parties has been done, a database on the existing flood protection facilities has been developed, and a GIS map, showing the data on indicative flood extent for the whole Sava River, has been prepared.

The hydrological model of the Sava River Basin and the hydraulic model of the Sava River, which have a potential for further upgrade and could be a good basis for numerous activities planned in the Basin, have been developed.

A project, aiming to assist linking the flood risk management planning and the climate change assessment in the Basin, has been launched.

For the purpose of an efficient **accident prevention and control** in the Sava River Basin, participation in testing of the existing Accident Emergency Warning System of the ICPDR is continuously being done, and efforts are being made to improve the work of PIAC's in the Parties to the *FASRB*.

The *Protocol on Emergency Situations to the FASRB*, aiming to regulate the issues associated with emergency situations in the Sava River Basin, has been drafted and entered the process of harmonization by the Parties.

Finally, a number of proposals for the projects aiming to facilitate further implementation of the *FASRB* in the field of water management (e.g. sediment balance for the Sava River, preparation of the water contingency management plan), have been prepared.

The achievements illustrated above provide a good benchmark for a continued implementation of the *FASRB* toward the establishment of the sustainable water management, as well as the management of hazards such as floods and accidents, in the Sava River Basin.

3.3. Other activities of importance for the *FASRB* implementation

In the field of **information management**, the *Sava GIS Strategy* [15] has been developed taking into account the *INSPIRE Directive* (2007/2/EC) and the Water Information System for Europe (WISE). Subsequently, the implementing documents for the Sava GIS establishment have been prepared, the funding for the initial phase of the GIS establishment secured, and the initial phase launched.

As for the **hydrological and meteorological issues**, advances in the exchange of hydro-meteorological information and data within the Basin have been made, including a revival of the *Hydrological Yearbook of the Sava River Basin* [16] after more than 20 years. Preliminary agreements have been made upon the basic elements of a system for the exchange of hydrological and meteorological information and data within the Basin. Preparatory activities have been undertaken toward the implementation of two important projects, namely a new *Hydrological Study for the Sava River Basin*, and the development and upgrade of the hydro-meteorological information and flood forecasting and warning system for the Basin.

Cooperation of the ISRBC with a large number of international organizations and institutions has been established and maintained, with a special emphasis on those specified in Article 5 of the *FASRB*. The basis for cooperation with the ICPDR and Danube Commission has been strengthened by signing memoranda of understanding on cooperation with each of the two commissions. The support of the European Commission to the *FASRB*-related projects is becoming steady and their recognition of several priority projects of the ISRBC in the context of the *EU Strategy for the Danube Region* indicates a good will for a continued support. A good cooperation with the UNECE and their support to the projects of the ISRBC should be mentioned, as well.

Cooperation with the institutions of the Parties responsible for the *FASRB* implementation (listed in Annex 1) has been established and maintained, as well as with other national institutions, such as agencies, offices, services, institutes and universities.

In order to ensure **public participation and stakeholder involvement** in major activities related to the *FASRB* implementation, cooperation with NGOs and other institutions and local actors from the Sava River Basin has been established, a network of observers to the ISRBC has been created, and a number of mechanisms for information and consultation of stakeholders and/or wide public have been established, including the official web-site, the *Sava NewsFlash* bulletin, publications and promotion material of the ISRBC, celebration of the Sava Day, press releases, press conferences and media briefings, organization of consultation workshops, public presentations and other meetings with stakeholders by the ISRBC, or participation in ceremonies, conferences and other events, and contributions to bulletins and web-sites of other organizations/institutions.

A good example of stakeholder involvement is the process of development and implementation of the *Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin*, led jointly by the ICPDR, Danube Commission and the ISRBC, where the issue is continuously discussed by a variety of stakeholders from navigation and environmental sector.

Finally, the international and bilateral agreements relevant for the *FASRB* implementation have been reviewed, as well.

3.4. Lessons learnt

Generally, the *FASRB* has proven to be a good platform for intensified contacts and an improved cooperation among the Parties, providing opportunities for exchange of experiences and an additional training of the representatives involved in the work of the expert groups of the ISRBC. It also provides for an improved inter-sectoral cooperation, especially among the competent authorities, within the Parties.

The progress, achieved so far, largely corresponds to the plans specified by the former *Strategy*. Keeping in mind the present status of the *FASRB* implementation, the future efforts should be oriented to:

- efficient completion of the planning process and, subsequently, launching the works for rehabilitation and development of navigation on the Sava River, as well as further promotion and improvement of the image of inland navigation in all Parties, in accordance with *NAIADES*;
- support to further development of strategic plans (*RBM Plan*, *Flood Risk Management Plan*) and integrated systems (GIS, RIS and the monitoring, forecasting and early warning systems related to accidents and floods) for the Sava River Basin;
- consideration of other development activities in the Basin (e.g. hydropower generation, water supply, agriculture, recreation, tourism), accompanied with careful analysis of their environmental sustainability, taking also possible impacts of climate change into account;

- further improvement of the information exchange within the Basin (e.g. hydrological and meteorological data);
- harmonization of national methodologies (e.g. related to analysis of hydro-meteorological data);
- further involvement of stakeholders in the *FASRB* implementation and, especially, broadening the multi-stakeholder platform to include the academic and business sectors, as well;
- accession of the Parties to the roof multilateral agreements of importance for further improvement of cooperation in the Sava River Basin.

Major obstacles and difficulties in the *FASRB* implementation are associated with a lack of human and financial resources of the Parties and securing funds for implementation of the priority projects. The additional challenge is a limited access to basic data (topographic, hydrologic, etc.), needed for preparation of studies of common interest under the umbrella of the ISRBC, especially when the data are owned by national institutions not officially nominated as responsible for implementation of the *FASRB*.

Some challenges are associated with specific fields of the *FASRB* implementation. For example, on national level, the inland navigation is, although being the most efficient and environmentally-friendly mode of transport, generally underestimated in comparison with other modes of transport. Or, progress in the field of water management, where requirements toward the Parties are based on recommendations and conclusions of the ISRBC (unlike the ISRBC decisions in the field of navigation), is partly affected by a different perception of the requirements by the competent authorities of the Parties.

In some Parties, additional obstacles include lack of appropriate institutional arrangements and lack of harmonization of the legislation with the EU *acquis*. There is also a space for improvement of bilateral cooperation, where the ISRBC is perceived as a possible mediator.

Accordingly, the main prerequisites for an effective further implementation of the *FASRB* include:

- further raising of awareness of benefits and the importance of the existing cooperation of the Parties in the framework of the *FASRB* implementation, not only in the institutions responsible for the implementation, but also in other national institutions;
- securing adequate human and financial resources in the Parties to follow up the activities coordinated by the ISRBC;
- providing adequate financial instruments for realization of the respective activities and projects, especially those to be performed under the umbrella of the ISRBC;
- facilitating a free access to basic data needed for preparation of the studies coordinated by the ISRBC, with the special focus on the data owned by national institutions not officially nominated as responsible for implementation of the *FASRB*;
- developing the legal background and institutional arrangements (e.g. to incorporate PIACs into the civil/environmental protection system in BA and RS).

Further strengthening of the capacity within the ISRBC framework, through a stronger support of the Parties to the members of the ISRBC expert groups in performing their obligations, as well as through a further strengthening of the capacity of the ISRBC Secretariat, would certainly be of an additional benefit for implementation of the *FASRB* in future.

4. Specific objectives of the *FASRB* implementation and measures for their achievement

Based on the principal goals of the *FASRB* (Box 1, Subchapter 2.2), this chapter elaborates, in a greater detail, the specific objectives in each priority area of the *FASRB* implementation, as well as the measures for the achievement of these objectives.

The specific objectives and measures, referring to the “establishment of the international regime of navigation on the Sava River and its navigable tributaries” (Art. 2 Para. 1.a, and Art. 10 of the *FASRB*), are listed under the priority area “Navigation” (Subchapter 4.1).

The objectives and measures aiming to “establish the sustainable water management in the basin” and “undertake measures to prevent or limit hazards, and reduce and eliminate adverse consequences, including those from floods, ice hazards, droughts and incidents involving substances hazardous to water” (Art. 2 Paras. 1.b and 1.c, and Art. 11 of the *FASRB*) are outlined under the priority areas “River basin management”, “Flood management” and “Accident prevention and control” (Subchapters 4.2 – 4.4).

The objectives and measures presented under the “Cross-cutting issues” (Subchapter 4.5) have the primary aim to facilitate the *FASRB* implementation in the fields of navigation and integrated water management.

4.1. Navigation

The following **specific objectives** stem from the overall goal to establish the international regime of navigation on the Sava River and its navigable tributaries.

- **Further unification and upgrading of the administrative and legal framework with the aim to increase the navigation safety and to remove administrative obstacles for navigation** (Art. 5 and 10 Paras. 1 and 3 of the *FASRB*; Art. 2, 3, 4 and 8 of the *Protocol on the Navigation Regime to the FASRB*)

Taking into account that the Sava River, after entering into force of the *FASRB*, is an international waterway, strengthening of the administrative and legal framework in the field of navigation is a necessary precondition for development of transport in the Sava River Basin.

Using the legal capacity given by Article 16(1a) of the *FASRB*, the ISRBC has passed several decisions regarding the navigation rules, rules for the boatmasters and crew, transport of dangerous goods and RIS. All these decisions represent a basic set of regulations for the establishment of an unified system of navigation in the Sava River Basin.

At the same time, several initiatives for full harmonization of the rules in IWT in Europe are in progress and it is obvious that further upgrading and harmonization of the basic rules and development of new regulations in the Sava River Basin in accordance with the EU and other river commissions (especially, a mutual recognition of the boatmaster certificates, custom and police procedures) is extremely important for development of a reliable transport system.

This is a long-term and permanent objective of the ISRBC, as it is clear that the development in the technology of the river transport has to be followed by appropriate improvement of the administrative and legal framework.

In order to achieve the objective, it is necessary to:

- permanently monitor, through meetings and workshops with the port master offices, the competent authorities and users of the waterway, the implementation of the existing regulation, with the aim to improve and harmonize it with the existing practice;

- further develop all other necessary rules (i.e. technical rules for vessels and rules on prevention of air pollution caused by exhaust gases from vessels);
- cooperate with the EU, UNECE and other river commissions, with the aim to establish a Europe-wide legal and administrative framework for inland navigation (it is extremely important to reach consensus on unique European rules for navigation and boatmaster licenses);
- to develop a system of education for the crew members;
- to develop and upgrade the navigation maps and the publication related to navigation (i.e. *Manual for Navigation, Indicator of River Kilometers, Album of Bridges, List of Winter Ports and Winter Shelters*). The establishment and operation of a system for regular updating of the maps will be one of the main challenges in this regard.

In that regard, the main tasks of the ISRBC will be the development and adoption of new decisions, as well as upgrade of the already existing decisions, while the main task of the Parties will be the implementation of the adopted decisions.

- **Rehabilitation, development and proper maintenance of the Sava River waterway with the aim to increase commercial traffic and improve navigation safety** (Art. 10, Para. 4 of the *FASRB*; Art. 9 of the *Protocol on the Navigation Regime to the FASRB*; Art. 4 of the Annex I of the *FASRB – Statute of the Sava Commission*)

Transport on the Sava River is limited to certain stretches of the River and is at a very low level, while before 1990, the transport level was about 15 million tons of goods annually. During the past years, characterized by a lack of maintenance, the width and depth of the Sava River waterway have decreased and navigation has become unsafe due to the limited dimensions. This has resulted in smaller navigation periods during the year and a very limited interest in transport.

Based on the existing and/or planned construction of the traffic infrastructure that links the Sava River with several ports on the Adriatic, the existence of port infrastructure along the Sava River and the connection with the Danube, the Sava River provides advantages for intensifying further development of the river transport and it is obvious that rehabilitation of the waterway transport on the Sava River is extremely important, as it is an environmental friendly and sustainable type of transport with an extraordinary potential. This is specifically enhanced after the signing and ratification of the *FASRB* and the adoption of the *Protocol on the Navigation Regime to the FASRB*, according to which the navigation is free for all flags.

Taking into account all above mentioned, it is necessary to provide an appropriate economic and organizational framework for restoring trade and navigation (cargo and passengers) on the Sava River, with an aim to:

- improve the waterway infrastructure up to class IV and Va, through training and other works;
- ensure proper and coordinated maintenance and marking of the waterway;
- implement RIS, and
- improve public and private investments into transport on the Sava River, in accordance with adequate economic and financial analysis.

In the field of navigation, it is obvious that the main and central priority of the ISRBC is the rehabilitation and development of navigation on the international part of the waterway, which includes the soonest possible waterway rehabilitation in accordance with the agreed navigability class, followed by a proper and regular maintenance and marking of the waterway. On a long run, continuation of the activities on upgrading of the navigability class of the international part of the waterway, as well as an extension of navigability of the Sava River upstream of Sisak, toward Slovenia, will be considered, depending on the transport needs and the environmental protection requirements.

In order to achieve the above mentioned objective, it is necessary to:

- develop a detailed design and other necessary documentation for rehabilitation and development of the waterway;
- put forward a decision of the ISRBC regarding coordination of the implementation of rehabilitation and development of navigation;
- put forward a decision of the ISRBC regarding the cost distribution for the rehabilitation works among the countries;
- secure financing for dredging and training works;
- implement the dredging and training works;
- properly and regularly maintain and mark the waterway;
- install and operate RIS;
- continue with planning for upgrading of the navigability class;
- investigate the possibility for extension of navigability upstream of Sisak toward Slovenia (development of studies and designs);
- develop the sector and modernize IWT (e.g. development of the shipping industries through a set of economic measures, fleet modernization, introduction of modern techniques and technologies and container transport, investment in human resources).

For fulfilment of this objective, development of the remaining documentation, provision of necessary funds and implementation of the works on rehabilitation and development of the Sava River waterway will mostly be responsibilities of the Parties, while the ISRBC will be responsible for coordination between the Parties themselves and between the Parties and the international community, as well as for adoption of relevant decisions.

• **Establishment of an efficient system for the vessel waste management with the aim to protect the water against pollution from vessels** (Art. 10, Para. 4 and Art. 11 of the *FASRB*)

The currently not used capacity potential that the Sava offers for future transport solutions is a great challenge for inland navigation, in particular as it is considered at present the most environmentally friendly transport mode. On the Sava River, compared to 2008, the transport volume for inland navigation is expected to significantly increase until 2015.

As a result of these challenges, inland navigation will face the need for the prevention of environmental risks related to the increase of traffic and specifically to the ship waste. As vessel waste management in practice shows partly significant differences in the Sava riparian countries, a sustainable solution requires to solve existing lacks of adequate vessel waste management in transnational cooperation along the Sava River. Such development and implementation of preventive and transnationally coordinated measures to protect the multifaceted river ecosystem is in the focus of this objective, which comprises the following:

- prevention of water pollution by implementation of measures defined in transnationally coordinated vessel waste management concepts;
- development of transnational financing structures in form of a financing model for oily and greasy vessel waste in order to avoid illegal discharge into the river as a mean of cost-cutting as well as to reduce risks of water pollution and environmental damage;
- establishment of the system of stations for collection, treatment and disposal of hazardous and other vessel waste on the Sava River,
- possible integration into the Danube system (WANDA).

Preparatory activities toward the achievement of this objective will mostly be done by the ISRBC, while the final establishment of the system of stations for collection, treatment and disposal of hazardous and other vessel waste on the Sava River will be done by the Parties.

- **Creation of a positive image of the inland navigation in general and promotion of the Sava River as an important regional transport corridor** (Art. 10, Para. 1 and 4 of the *FASRB*)

General knowledge about possibilities of the river transport and about the Sava River, as an important regional transport corridor in this region and in Europe, is mostly very limited. Creation of a positive image of the inland navigation as a reliable, safe and environmentally friendly way of transport and promotion of possibilities of the Sava River is important because of attracting of the potential investors and stronger involvement of the business sector.

To make a full use of the Sava River transport potential, it is necessary to:

- act on dissemination of information and organization of workshops and seminars with the aim to promote possibilities and advantages of waterway transport in general, and on the Sava, in particular;
- organize regular meetings with potential users of the waterway;
- to develop a sustainable and modern marketing campaign, to attract private investments and to increase the demand for and use of IWT.

Creation of a positive image of inland navigation, in general, and promotion of the Sava River as an important regional transport corridor, in particular, will be an important task, mostly for the ISRBC. However, an adequate support of the competent authorities from the Parties will be a necessary precondition for successful achievement of the objective.

- **Development of nautical tourism / Creation of a framework for nautical tourism** (Art. 10, Para. 4 of the *FASRB*)

Recreational water use is becoming more and more important in Europe. More than 1 million motorized pleasure craft sail the inland waterways of the Member States of the EU. The growth in just the water sport sector is estimated at 2-3 percent per year and recreation and living along the shores of rivers and lakes represents an increasing asset and opportunity to give a boost to the economic performance of regions and towns bordering these inland waterways.

At the same time, the Sava River, as a part of the European waterway network, presents outstanding potentials in terms of cultural and social heritage, protected areas, including natural parks and cities of significant relevance. To date, the full accessibility of the Sava River waterways, in the framework of the nautical tourism, is limited by a lack of infrastructures (such as full navigability, embarkation ports) and an absence of an integrated management of the nautical tourism.

Taking into account that the development of the nautical tourism will enable additional employment of the local population and further development of the supporting activities (such as eco-food production, catering industry), it is obvious that the nautical tourism can significantly contribute to the overall economic development of the Sava River Basin and the above mentioned project will serve as a basis for full utilization of the tourist potential of the Sava River Basin.

The actions, necessary to be undertaken, include:

- preparation of the *Master Plan for Development of Nautical Tourism*;
- regularly updating of the *Sava Nautical and Tourism Guide*;
- development of legal framework for development of nautical tourism on the regional and national level;
- establishment of network of marinas, landing places for passengers and other infrastructure for nautical tourism along the Sava River;
- promotion of possibilities for nautical tourism on the Sava River in the international tourist organizations.

Preparation of a framework for development and promotion of nautical tourism will

mostly be a responsibility of the ISRBC, while the establishment of the infrastructure will be a task of the Parties.

Regarding the above mentioned objectives and actions, it is important to point out the following:

- It is extremely important to secure funds in time for finishing necessary documentation and implementation of the works for rehabilitation and development of the Sava River waterway. In a later phase, it is necessary to secure funds for proper maintenance of the waterway.
- Taking into account the volume and complexity of the activities on rehabilitation and development of the navigation on the Sava River, it is necessary to establish a mechanism for coordination of the activities among the Parties. The same mechanism can be used for later coordination of the maintenance of the waterway.
- Implementation of this *Strategy* requires strengthening of the administrative capacities in the authorities responsible for navigation in the Parties.
- It is obvious that the highest priority is to ensure as quickly as possible the restoration of commercial transport on the Sava River, but developing the Sava River infrastructure without simultaneously stimulating the restoration of a modern and competitive river transport sector increases the risks to substantially undershoot the development goals pursued with the upgrading of the Sava River navigability.

4.2. River basin management

The *FASRB* emphasizes the establishment of sustainable water management as one of the three main goals of the cooperation process in the Sava River Basin. It is focused to the cooperation on management of the Sava River Basin water resources in a sustainable way and includes the integrated water management of surface and ground water.

In that sense, the **specific objective** in the river basin management is to undertake further common steps towards achieving the environmental objectives of the EU *WFD* which are “good status or good potential for all waters” in the Sava River Basin.

This will be addressed continuously, starting by preparation of the first *Sava River Basin Management Plan (Sava RBM Plan)* and the *Programme of Measures (PoM)* at the basin-wide level, for achieving the environmental objectives of the EU *WFD* in the most cost-effective way, as well as by jointly agreed supplemental actions in the second and subsequent cycles of RBM planning in the Sava River Basin.

- **Development of the Sava River Basin Management Plan(s)** (Art. 12 and Art. 3 of the *FASRB*)

The overall objective of the whole *Sava RBM Plan* preparation is to facilitate the approximation to the EU environmental acquis, especially in the field of water management, through the identification of priority objectives common to the ISRBC and beneficiary countries and by encouraging a more strategic focus towards achieving the *WFD* objectives and ensuring coordinated action between all planning instruments operating in the region, in particular as regards integrated river basin management according to the *WFD* (also including navigation, hydropower, flood prevention, water and water eco-system protection, etc.).

The *Plan* is a detailed account of how the environmental objectives are to be reached. Based on the Sava River Basin characteristics (evaluated in the *Sava River Basin Analysis Report* [6]), further steps towards the achievement of good ecological status of surface waters and good chemical status of groundwater will be addressed and the *Programme of Measures (PoM)* at the basin-wide level for achieving the environmental objectives of the EU *WFD* in the most cost-effective way will be evaluated.

It is assumed that the *Sava RBM Plan* will be adopted by the Parties in the first half of 2012, upon proposal of the ISRBC. It is a prerequisite for implementation of the agreed measures.

It actually means that, in the Sava River Basin case, all processes related to the *WFD* implementation **are shifted** for at least three years as compared to the corresponding activities at the Danube and European level (2009). Taking into account specific circumstances, associated with a different level of obligations of the countries in the Basin to fulfil the *WFD* requirements, it is obvious even now that, in the first *Plan*, significant gaps can be expected and some important issues will remain unelaborated sufficiently. That actually means that the second and subsequent cycles of the RBM planning will remain a high priority for cooperation among the Sava countries. Since Slovenia, as an EU member state, is legally bound to the EU legislation, and all other Parties are committed to the integration processes, it can be anticipated that their efforts in the field will be accelerated in the forthcoming years.

Taking into account that the activities in RBM at the Sava River Basin level started almost six years after the EU *WFD* entered into force, **additional efforts should be undertaken by the Parties and the ISRBC itself to match the Sava RBM activities with the *WFD* 6-year cycles, starting from the third cycle.**

In order to achieve this optimistic goal, the timeframe for several activities anticipated by the *WFD* for the period 2009-2015 is to be shortened, and/or these activities are to be merged with other actions.

- **Implementation of the *Programme of Measures***

Article 11(7) of the WFD establishes that measures have to be made operational by December 2012. Article 15(3) states that, within three years of the publication of each river basin management plan, an interim report shall be reported to the European Commission, describing progress in the implementation of the planned programme of measures. It should provide information which measures are being implemented, how, when and by whom.

Based on the above requirements, the deadline for finalization and submission of the interim report on implementation of the *WFD RBM Plans* is December 2012. Taking into account that the first *Sava RBM Plan* shall be adopted in 2012, the measures are to be operational in 2015.

Having in mind that the 2nd *Plan* is proposed to be prepared in 2015, it is planned to **prepare a report on implementation of the measures in 2014**, as a separate chapter of the 2nd *Sava River Basin Analysis Report* [6]. It is anticipated it will be possible to meet the reporting obligations timeframe starting with the third RBM cycle.

The implementation of the *PoM*, to be agreed upon by the first and subsequent *RBM Plans*, should be solely a responsibility of the Parties. The implementation can be financed by the Parties themselves and/or through different forms of financing by the EU (e.g. IPA- for non-EU member states, cohesion and structure fund for the member states), as well as other international financial institutions (e.g. World Bank).

- **Coordination of integration of water policy with other policies (e.g. navigation, hydropower generation, flood risk management), as well as climate change issues**

Climate change issues

Although the 1st *Sava RBM Plan* includes a chapter dealing with the climate change issue, due to inadequate knowledge, it is not in the focus of this planning cycle.

Nevertheless, some important activities related to climate change are currently in progress in the Sava River Basin. The two projects, currently in implementation, could have possible major impacts on the RBM planning in the following years.

The first project, financed and implemented by the World Bank, is undertaking a study to fill the knowledge gap on the impact of climate change on the water sector in South-Eastern Europe and to show how to increase the climate resilience of critical water management infrastructure investments and of integrated water resource management in the region. This objective will be met through the development and dissemination of *Water and Climate Adaptation Plans (WATCAPs)* for selected river basins in the region where existing or planned water infrastructure investments supported by the World Bank and national governments are located. The Sava River Basin is the first of these basins in South-Eastern Europe selected for this work. The Sava River Basin is of a high priority since regional climate modelling suggests an overall reduction of around 15% to 30% in mean annual runoff by the middle of this century, which could be challenging for all investments undertaken in this basin. The Sava River Basin *WATCAP* will include a basin characterization through the development of a hydrologic model, an impact assessment for a number of climate change scenarios with that model, and appraisals of alternatives for **adaptive management** actions in water management sub-sectors, including: (i) navigation, (ii) hydropower, (iii) agricultural water use, (iv) flood protection, and (v) an economic analysis of the projects that the water management sub-sector studies are based on.

The second project, financed by the UNECE, aims to address, through expanded and strengthened collaboration among the countries in the Sava River Basin, issues of transboundary management of floods, taking also into account the impacts of climate change under different scenarios and the perspective adaptation measures envisaged. The immediate objective is to prepare a basis for the preparation of the first *Flood Risk Management Plan for the Sava River Basin*, based on the concept of Integrated Flood Management and including strong elaboration of possible climate change impacts on flood management in the Basin and adaptive measures to be undertaken to cope with it.

As a good basis for further activities in the Sava River Basin is cooperation in preparation of the climate change adaptation strategy for the Danube River Basin, which is planned to be finished by the end of 2012.

All above activities shall form a good basis for better elaboration of climate change and related adaptive measures in the 2nd and subsequent Sava RBM cycles.

Inter-linkages of River Basin Management and Flood Risk Management (Art. 9 of the EU *WFD*)

According to Paragraphs 1, 2 and 3 of Article 9, this applies in particular to:

- development of the first flood hazard maps and flood risk maps and their subsequent reviews; they shall be coordinated with and may be integrated into the reviews of the *WFD* Article 5 Basin Analyses;
- development of the first flood risk management plans and their subsequent reviews; they shall be carried out in coordination with and may be integrated into the reviews of the *River Basin Management Plans*;
- active involvement of all interested parties.

The EU *Flood Directive* sets out clear deadlines for each of its requirements, which are in need for coordination with related tasks according to the *WFD*. This applies particularly to producing flood hazard and flood risk maps which may be integrated into next river basin characterization reports. Furthermore, flood risk management plans should be coordinated with the RBM plans and may be integrated into their reviews. In the case of the Sava River Basin, it is anticipated that, through joint work on the *Program for Development of the Flood Risk Management Plan*, the level of this inter-linkage will also be agreed upon.

Further dialogue with the key sectoral stakeholders (e.g. hydropower)

A good experience in the joint work of the ICPDR, Danube Commission and the ISRBC on the development and implementation of the *Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin* [24] could serve as an example for further actions in improving dialogue with other development-oriented sectors in the Sava River Basin. This effort will focus on initiating dialogue on integration of environmental aspects in those developments in line with the requirements of the *WFD*.

- **Additional elaboration of the issues not designated as SWMIs in the first cycle of the Sava RBM Plan, but potentially important in future (water demand, sediment, groundwater quantity, etc.)**

Further work on the issues of relevance, but not designated as the SWMIs in the first RBM cycle is to be further elaborated in subsequent years. One of the most important issues, which was not elaborated only due to insufficient information in the previous period, is sediment. Additionally, the groundwater management issues will be granted attention, including the relevant ongoing activities, such as the project *Protection and Sustainable Use of the Dinaric Karst Transboundary Aquifer System (DIKTAS)*.

Initial steps towards the establishment of sustainable sediment management (Art. 8, Art. 10 and Art. 11 of the FASRB)

Until now, the sediment management has not been addressed sufficiently. The ISRBC has prepared the draft *Protocol on Sediment Management to the FASRB*, which considers the sediment as an essential, integral and dynamic part of the river basin with a great environmental value. The *Protocol* regulates the cooperation among the Parties in this regard, and ensures sustainable sediment management in the Sava River Basin, by addressing both quality and quantity issues of sediment. As the sediment management is an important element of the river basin management, the *Protocol* represents a step towards the establishment of sustainable water management in the basin. To initiate the activities toward a sustainable sediment management, signing and ratification of the *Protocol* is essential. According to the *Protocol*, the Parties will be obliged to exchange the information on planned dredging regularly, and to develop a *Sava River Basin Sediment Management Plan* no later than six years after the *Protocol* enters into force.

To achieve the main *FASRB* objectives regarding the development and implementation of the *Sava RBM Plan* with the *PoM*, it is necessary to:

- complete the *Sava RBM Plan* including the *PoM*;
- provide the public consultation process;
- monitor the implementation of *PoM*;
- prepare an interim report on implementation of the *PoM*, three years after publication of the first *RBM Plan*;
- implement the activities relevant for the next cycle of the *Sava RBM Plan* (e.g. assessment of biodiversity and environmental status of sediment, water and biota, assessment of climate change and elaboration of adaptation measures, revision of the Significant Water Management Issues – SWMIs).
- publish, possibly for consultation, an interim overview of the significant water management issues for the 2nd *RBM Plan*;
- prepare the 2nd *Sava RBM Plan*.

To achieve the main *FASRB* objectives regarding the sediment management, it is necessary to:

- prepare the programme for development of the *Sediment Management Plan for the Sava River Basin*;
- establish a data exchange system on sediment quality (e.g. preparation of dredging programmes and establishment of a coordinated system of sediment monitoring).

The preparation of the background documents for development of the next cycle of the *RBM Plan* should begin after finishing the first *Sava RBM Plan*. It will be provided on the basis of gap analysis. The implementation of the documents depends on the funding possibilities within different transboundary cooperation programmes (e.g. SEE TCP) which opens periodically.

4.3. Flood management

The legal basis for cooperation in flood management is, in a wider context, set by Art. 13 Para.1 of the *FASRB*, by which *the Parties aim to establish a coordinated or joint system of measures, activities, warnings and alarms in the Sava River Basin for extraordinary impacts on the water regime, caused by flood (natural or artificially induced), ice, drought or water shortage.*

Since the establishment of the ISRBC, the flood management has been one of the main fields of cooperation of the Sava countries. In order to strengthen the cooperation even more, the Parties to the *FASRB*, through the work in respective expert groups of the ISRBC, developed the *Protocol on flood protection to the FASRB* [14]. The *Protocol* was signed by the Parties in June 2010.

By this *Protocol*, the riparian countries agree on cooperation in:

- preparing the *Program for Development of the Flood Risk Management Plan (FRM Plan) in the Sava River Basin*;
- undertaking of the *Preliminary Flood Risk Assessment*;
- preparing the *Flood Hazard and Flood Risk Maps*;
- developing the *Flood Risk Management Plan in the Sava River Basin*;
- establishing a *Flood Forecasting, Warning and Alarm System in the Sava River Basin*,
- exchanging information of interest for sustainable flood protection.

By its entering into force, after ratification in national parliaments of the Parties, it will represent a strong supplement to the *FASRB*, aimed at creating the conditions for sustainable flood protection and implementation of jointly agreed actions of the Parties. Specifically, the *Protocol* provides a ground for a step-by-step development of a common **Flood Risk Management Plan**, in accordance with the EU *Flood Directive* (2007/60/EU) and in line with the *UNECE Water Convention*.

Since the cooperation of the Parties in this particular field, through commonly agreed activities under the umbrella of the ISRBC, can be characterized as reach in its nature, the Parties agreed, at their second meeting (2009), to support already started activities on the improvement of flood protection in the Sava River Basin and encourage further cooperation of the Parties in undertaking of Preliminary Flood Risk Assessment, preparation of flood maps and development of the *FRM Plan* for the Sava River Basin and to support the ongoing activities on identification (and preparation) of closely related projects of mutual interest, such as a new hydrological study for the Sava River Basin and flood mapping study for the Sava River [18].

In line with the above strong commitment, the ISRBC is continuing already started activities aimed to **strengthen the flood protection in the Sava River Basin**, by coordination of the agreed actions.

The following specific joint actions are planned in order to strengthen the flood protection in the Basin.

- **Development of a common Sava *Flood Risk Management Plan***

Following the adoption of the *Guidance on Water and Adaptation to Climate Change* at the fifth session of the Meeting of the Parties to the *Convention on the Protection and Use of Transboundary Watercourses and International Lakes* (i.e. the *Water Convention*) (Geneva, 10-12 November 2009), the Parties decided to foster implementation of the *Guidance* through a programme of pilot projects and a platform for exchanging experience with adaptation to climate change in the transboundary context. The Sava River Basin has been chosen as one of the pilot basins for this specific testing. Through this ongoing project, it is planned to perform certain tasks which will lead to establishment of common objectives of the Sava countries for the management of flood risks in the Sava River Basin, by:

- preparation of a detailed *Program for Development of the FRM Plan in the Sava River Basin* including consultation and discussion with the Parties to the *FASRB* in order to reach common understanding on goals, structure and content of the *FRM Plan* for the Sava River Basin;
- preparation of an overview of already completed or ongoing activities and their findings regarding flood risk management planning in the Sava River Basin, and related Danube River Basin initiatives with possible impact on the Sava River;
- identification and assessment of existing legislation, strategies and plans related to FRM planning and climate change adaptation (transboundary and national) drawing also on similar inventories already carried out in other projects;
- assessment of data and information needs for preparation of a joint *FRM Plan* for the Sava River Basin (hydrological data, socio-economic data, environmental data, state of infrastructure, etc.), identification of data sources on national and international level, finding data gaps and defining strategy how to obtain missing data.

The *Program*, with other supporting activities, will be finished by mid 2012. One of the objectives of development of the *Program* is to agree upon timeframe for the *FRM Plan* preparation. Taking into account different levels of preparedness of the Parties towards implementation of the *Flood Directive*, one of the challenges ahead will be a decision whether the parties are ready to follow the deadlines set up by the *Flood Directive* in the first cycle of planning, which will finish in 2015.

- **Common activities in preliminary flood risk assessment and in production of the flood hazard and flood risk maps**

Certain activities aiming to support this specific action have already started. Through the work of the ISRBC PEG FP, an information exchange on the activities on national level are continuously taking place. In the following years, this will be further intensified.

Other actions, planned in this regard on the Sava River Basin level, will be:

- initial flood vulnerability assessment in the Sava River Basin and identification of the most vulnerable areas;
- coordination of information exchange in production of the flood hazard and flood risk maps for the Sava River Basin;
- harmonization of national methodologies in preparation of flood maps, if feasible, or at least agreement on methods how to interpret the information on flood hazard and risks on common flood inundation areas.

- **Adaptation of flood management to climate change**

The 2nd Meeting of the Parties to the *FASRB* (2009) recalled that climate change is likely to affect the water management activities in the Sava River Basin, and supported further investigation of its possible impacts, and development of integrated approach, that involves

mitigation and adaptation actions, as well as closely related projects [18]. Moreover, this emerging issue is also emphasized in the preamble of the *Protocol on flood protection to the FASRB* [14]. These facts placed a strong direction for the ISRBC actions in flood management. Several important projects, currently ongoing in the region (e.g. *WATCAP*), are also dealing with the climate change impacts on flood management. Through the above mentioned UNECE project, it is planned to prepare an overview of regional climate change modelling, specifically related to climate change impact on flood vulnerability. Moreover, preliminary identification and description of possible adaptation measures (costs, effectiveness, side effects, vulnerability reduction, feasibility of implementation, alternatives etc.), selection of a package of measures (long-term, medium term and short-term measures, prevention, preparedness, resilience, response and recovery measures) will also be provided, by the end of 2012.

This will represent a strong basis for further joint actions in implementation of adaptive measures, to be coordinated with assistance of the ISRBC.

- **Further upgrade of the Sava hydrologic and hydraulic models**

The activities on the setup of hydrologic and hydraulic models of the Sava River Basin, jointly performed with the United States Corps of Engineers (USACE), lead to preparation of the models at the end of 2010. The models, which are based on various data collected from the Parties, **have a cross-cutting character** as they can potentially be used in many priority actions at the Sava River Basin, such as:

- establishment of a flood forecasting and warning system for the Sava River Basin,
- preparation of flood hazard and flood risk maps,
- high and low flow analysis,
- determination of navigable levels, etc.

A continuous upgrade the models is needed, to be able to meet the above needs.

In this regard, the models, whose central repository will be the ISRBC Secretariat, will be upgraded by national institutions of the Parties immediately after new data are available, and those upgrades submitted to the Secretariat of the ISRBC.

4.4. Accident prevention and control

There are the following two **specific objectives** relevant for the overall implementation of the *FASRB* in the field of accident prevention and control.

- **Establishment of sustainable and efficient transnational management system of the possible events of transboundary impacts on water, water regime and aquatic ecosystem on the entire Sava River Basin (Art. 13, Para. 1 of the *FASRB*)**

The Parties have already been connected through the Accident Emergency Warning System (AEWS), the pollution propagation modeling tool (DBAM) and alarming/alerting mechanism connecting the civil protection institutions (principal alert centers - PIAC). This structure has been developed in the framework of the ICPDR. But accidental spills, which have occurred in reality, have shown that the system of emergency response does not work in the most efficient way to solve the problem adequately to prevent the consequences of the accidents to the environment. The time difference between receiving the first information about the spill and the adequate and efficient responses of different institutions responsible for accident prevention and control are too long in most cases. The protection measures are not efficient enough because of a lack of communication between different organizations and a poor decision making system in the countries of the Sava River Basin. The PIAC centers work permanently (24/7) in SI and HR only, while in BA and RS such a system is still under development.

To achieve this objective, the ISRBC should permanently monitor and promote development of the transnational management system through regular contacts with the relevant institutions from the Parties, while the main efforts of the Parties should be focused on the establishment of the system itself.

- **Permanent training of the existing structures responsible for the accident prevention and control**

The training of the existing structures is performed by regular testing of the staff in the PIACs. The main goals of such test are to control the preparedness and response of the PIAC's staff in the Parties to the emergency situations which is causing or is threatening to cause adverse impact to water and aquatic eco-system. The results of such test will be evaluated within the framework of the ISRBC and its expert groups, especially within the PEG APC.

To fulfil the main objectives of the effective accident prevention and control, the following actions are foreseen:

- regular testing of the existing system by execution of announced and unannounced tests;
- implementation of the *Protocol on Emergency Situations to the FASRB* to enhance prevention, preparedness, response and mutual assistance of the Parties in case of emergency situations;
- development of a water pollution contingency management plan for the Sava River Basin.

For fulfilment of the main objectives, it will be important that all national institutions and organizations responsible for the accident prevention and control cooperate based on provisions of the *Protocol on Emergency Situations to the FASRB*, once it is in force. Upon ratification, it will become a legal basis for sustainable and coordinated actions in case of accidental pollution. The Parties to the *FASRB*, especially BA and RS, should establish an effective structure of APC to respond to emergency situations by development of national legislation in first place. This process is a responsibility of the Party/ies concerned. The ISRBC could promote such actions by presenting the main objectives and connect new institutional arrangements in those Parties to the existing AEWS system.

On the ISRBC level, it is foreseen to implement the project *Water Pollution Contingency Management Plan for the Sava River Basin*, aiming to provide a permanent link among the institutions involved in water management and those involved in the emergency preparedness and response management, for an efficient provision of measures in the case of accidental spills of substances which might affect the use of water for different purposes (drinking water, breeding waters, irrigation, industry, navigation etc.), as well as the quality of rivers and aquatic eco-system, especially the areas of special importance. For the purpose of efficient and effective management, the modelling and information exchange platform is needed by which all responsible national authorities and institutions will be alerted on the eventual spill of harmful substances, follow the development of the situation and co-ordinate a concerted response to it. The implementation of the project depends on funding possibilities within different transboundary cooperation programmes (e.g. SEE TCP) which open periodically.

For achievement of this objective, the ISRBC is expected to take a leading role in monitoring results of the regular testing and organizing the trainings for the staff to increase the operational capacities of the PIACs. Prior to signing and ratification of the *Protocol on Emergency Situations to the FASRB*, all necessary steps should be taken by the ISRBC and the Parties for implementation of the projects dealing with enhancement of the decision support system in case of emergency situations, involving harmful effects on the water regime and aquatic eco-system.

4.5. Cross-cutting issues

The **specific objectives**, outlined in the following text, refer to the information management, hydrological and meteorological issues, as well as the statistical issues relevant for the *FASRB* implementation.

- **Establishment of an integrated information system for the Sava River Basin** (Art. 4 of the *FASRB*, Art. 4 of the Annex I of the *FASRB – Statute of the Sava Commission*)

Establishment of the Sava GIS, as a part of an integrated information system for the Sava River Basin, is a needful step that will play an important role in facilitating of data handling and providing information flow among the ISRBC and the Parties to the *FASRB*. The system will also become a valuable tool for informing wide public on relevant facts on the Sava River Basin and common actions and processes, by visualisation of the information provided, through the Sava GeoPortal.

The main objectives of the action are:

- establishment of seamless, platform-independent, timely, and open access to integrated data, products, information, services and tools system, with sufficient accuracy and precision in order to address important water management issues in the Sava River Basin;
- providing a good communication channels for the ISRBC community for sharing and disseminating knowledge about water resources, an effective and efficient river basin management in the Sava River Basin;
- creation of a technical context and establishment of environment in which the ISRBC Parties will be able to work according to open and interoperable principles and criteria.

In the period since the establishment of the ISRBC Secretariat, due to arising needs for GIS data and products, certain efforts have been made by the Secretariat to meet the requirements for such information, on an ad-hoc basis. The most significant effort in collecting, analyzing, editing of the GIS data and preparation of various maps had been undertaken for the purpose of preparation of the *Sava River Basin Analysis Report* [6]. Although the results of that effort were acknowledged, it could not be recognized as an systematic approach to the Sava GIS development. The real basis for an GIS system establishment was preparation of strategic and implementing documentation for the Sava GIS development, with agreed vision and principles.

To setup a fully functional Sava GIS, the following actions are foreseen:

- establishing the Sava GeoPortal with its core functionalities which include all required information and communication infrastructure *in the first phase*;
- development and implementation of the advanced tools, mapping and reporting services as well as basic application and/or basic decision support system *in the second phase*;
- extension of common data model and establishment of the most advanced service component such as dynamic reporting and mapping, on-line monitoring and observing and advance decision support systems *in the third phase*.

The first phase of the Sava GIS establishment has started, with the financial support of the European Commission. The project “*Support to the ISRBC in the preparation and implementation of the Sava RBM Plan*” will be finished by the end of 2011. The result will be the established Sava GeoPortal with its core functionalities, which include all required information and communication infrastructure. At the same time, core data sets will be prepared through the ongoing activities on preparation of the first *Sava RBM Plan*.

To establish the SavaGIS, it is necessary to secure the following:

- an active involvement of the national institutions and their experts which include following of proposed principles related to the interoperability objectives and securing of harmonized data regularly updated;

- strengthening capacity of the ISRBC Secretariat to run and manage the Sava GeoPortal;
- significant financial resources,

The key of the Sava GIS implementation success lies in the ISRBC ability to engage the additional capacity and resources to create and handle more information, as well as to process it more rapidly.

The establishment of Sava GIS, as a service-based distributed system, will be dependent upon:

- an ISRBC commitment to run implementing project;
- a full co-operation of the ISRBC Parties and their willingness to be actively involved;
- securing sufficient resources being available within the planning timeframe;
- willingness to follow proposed principles related to the interoperability objectives and integration of the *INSPIRE* hydrography and other theme specifications into the existing GISs of the Parties;
- securing consistent, conform, quality and harmonized data, as well as keeping them updated on a regular basis.

- **Strengthening the platform for exchange and use of hydrological and meteorological information** (Art. 4 of the *FASRB*)

Adequate hydrologic and meteorological information, as well as a flood forecasting and warning system, are needed for an integrated water resources management and flood risk management in the Sava River Basin. Furthermore, a strong cooperation in sharing data and information among relevant institutions in the Parties to the *FASRB* presents a key factor for establishment and implementation of effective flood forecasting and flood protection system. The break up of the integral hydro-meteorological data exchange and information management system in last decades has had a significant impact to the data exchange between national hydro-meteorological services in the Sava River Basin and restricted their capability to produce, manage and provide timely, accurate, high-level hydrological information and forecasting services to authorities, main stakeholders and general public, as well.

The hydrological and meteorological information exchange platform will consist of:

- **system for exchange of the hydrological and meteorological data and information**, which will provide a permanent overview of the status of the water regime in the Basin, based on the links established between the national hydro-meteorological services of the Parties and the ISRBC;
- *Hydrological Yearbook*, providing the annual summary information on the water regime at the measurement stations, agreed as relevant on the basin level;
- *Hydrological Study for the Sava River Basin*, which will address all meteorological and hydrological elements relevant for the integrated water management in the Sava River Basin, and directly used in all key activities in the framework of the *FASRB* implementation (e.g. navigation development, preparation of the *RBM Plan*, *FRM Plan*, water pollution contingency plan), and
- **hydro-meteorological information and flood forecasting and warning system**, aiming at improvement of information management, hydrological forecasting and flood warning capabilities of relevant national authorities.

A significant support to the efficient exchange of the hydrological and meteorological data and information can be provided by a **data policy agreement**, which should be established by the Parties under the coordination of the ISRBC.

The platform will provide a reliable and measurable basis for all decisions and recommendations related to sustainable water resources management in the Sava River Basin.

The establishment of the platform is a demanding task, which strongly depends on available funding. The fund-raising will primarily target different transboundary cooperation programmes (e.g. SEE TCP, IPA), however a significant contribution of the Parties is needed in all above mentioned activities, in terms of their human and financial resources.

The establishment of the platform should be the main responsibility of the ISRBC, while the national institutions are expected to contribute to an efficient functioning and further upgrade of the platform through provision of the data on a regular basis.

- **Facilitating the *FASRB* implementation related to navigation and other relevant economic issues by using statistical methods and techniques as tools**

Collection, processing, analysis and interpretation of data in accordance with well defined methods and techniques can certainly contribute to better understanding of a process under consideration, thus providing a basis for establishing relationships, defining trends, better planning of activities and a proper decision making. To this end, it is necessary to use modern and adequate statistical methods and techniques, not only in the field of navigation, but also for analyzing general socio-economic characteristics of the region, with the aim to foster the regional development.

At this moment, an organized and uniform collection and processing of relevant statistical data (especially relevant to the fleet, waterway transport, ports) on the Sava Basin level, does not exist. The collection and processing are performed on a national level and, in most cases, not specifically for the Sava River Basin.

It is obvious that at this moment, when the development of the waterway transport, ports and other commercial activities is expected, it would be beneficial to establish an effective system for collection and processing of the statistical data.

Possible actions in this regard include:

- Fostering of a regular use of the best statistical principles, methods and practices for the quality improvement;
- Development of a system for the data collection, processing and analysis in line with EU STAT;
- Regular data collection and processing;
- Dissemination of the data to relevant stakeholders.

5. Public participation and stakeholder involvement in the *FASRB* implementation

Public participation is a core principle in sustainable water management as required by the EU *Water Framework Directive* (Article 14) and the *Framework Agreement on Sava River Basin* (Article 21).

The main objectives of the public participation and stakeholder involvement are:

- to ensure public participation in implementation of the *FASRB* and the EU *WFD*, to make the decision process transparent and to gain the support for the implementation of the *FASRB* and EU *WFD*;
- to raise awareness about the issues concerning the water management, water and aquatic eco-system protection, and navigation;
- to facilitate the establishment of effective structures and mechanisms for public participation;
- to inform the wider public and mobilize key stakeholders to participate in activities and structures on the Sava River Basin level;
- to mobilize the public and key stakeholders to assist in carrying out and achieving goals of the *Agreement* with success.

To ensure successful preparation and implementation of the *Sava RBM Plan*, as well as the overall implementation of the *FASRB*, a considerable attention is being paid to the issue of public participation and stakeholder involvement. International experience has demonstrated that a basic prerequisite for sustainable water resources management in general and for successful development and implementation of the RBM plans, more specifically, is the effective involvement of various stakeholders from the riparian countries, at all appropriate levels. The latter is also one of the basic provisions of the EU *WFD* and the *FASRB*.

In the case of the Sava River Basin, evidently, the cooperation process has come to a point, that the benefits of stakeholder involvement can be grasped. For that to happen, the process for their engagement has to be structured. In addition, it is most likely – in accordance with the international experience – that, while the implementation of the *FASRB* is advancing, either stakeholders will “demand” their involvement since they will be asked to implement decisions pursuant to the *FASRB*, or it will become necessary to be involved in order for the decisions pursuant to the *FASRB* to be “implementable”.

The engagement of water users and key stakeholders in the Sava River Basin management through an established mechanism can add value to the on-going efforts, and assist to effectively move ahead with an efficient implementation of the *FASRB* in compliance also with the EU *WFD*. Such a bottom-up approach would work in a complementary way to the official cooperation process, followed by the Parties. It would be guided and supervised by the ISRBC at the transboundary level and the competent authorities of the Parties at the national level.

Keeping in mind the above stated, the main objectives of the public participation and stakeholder involvement process in the implementation of the *FASRB* (and EU *WFD*) are, generally, planned to be achieved on two levels.

The first level aims at completion and strengthening of the public participation process for the purposes of preparation and implementation of the *Sava RBM Plan*. This level includes:

- preparation of a stakeholder analysis, which will provide necessary information for designing steps and structures that will create the conditions for meaningful public participation and stakeholder involvement;
- preparation of a public participation plan, which will (i) facilitate the stakeholder involvement, (ii) create the conditions to increase transparency of the decision making

process, (iii) facilitate raising of awareness among stakeholders about the issues concerning the river basin management, hence their mobilization to participate in activities and structures at the Sava River Basin level, (iv) facilitate the establishment of effective structures and mechanisms for stakeholder involvement, and (v) assist in mobilizing the public and the key stakeholders to be involved in carrying out and achieving goals of the *FASRB*.

The primary target group of these activities, which are already being implemented within the EC grant to the ISRBC for preparation and implementation of the first *Sava RBM Plan*, are key stakeholders, i.e. the main water users, in the Sava River Basin.

The second level of the public participation and stakeholder involvement process aims at further improvement and broadening of stakeholder involvement in the *FASRB* implementation process, and seeking a synergy of a top-down and a bottom-up approach. In this regard, a special attention will be dedicated to exploring possibilities and elaborating options for the establishment of a multi-stakeholder platform that would aim to provide the following two benefits:

- to facilitate effective coordination of stakeholder involvement in the ISRBC activities and assist in reaching the *FASRB* objectives;
- to enable a two-way interaction, including the information provision to, and consultation of, a wide variety of stakeholders in the Basin.

So far, mainly the stakeholders from the governmental and non-governmental sectors have been involved in the *FASRB* implementation. The main purpose of the multi-stakeholder platform would be to facilitate, or further strengthen, the involvement of the civil, academic and business sectors, as well

As an illustration, a project on fostering contribution of the SME (small and medium enterprises) sector to sustainable development of the Sava River Basin, involving both academic and business sectors, will be launched and implemented in the framework of these activities.

The implementation of the actions foreseen to ensure active involvement of a wide range of stakeholders in the implementation of the *FASRB* will depend on available funds on the national, basin-wide and international levels (e.g. UNESCO).

In the field of public participation and stakeholder involvement, the main responsibility of the ISRBC is the establishment of the public participation process by development of the stakeholder analysis and the public participation plan. On the other hand, provision of conditions for implementation of the public participation plan depends mostly on the involvement of relevant structures in the Parties, which should promote the necessity of public participation and active involvement of the main stakeholders in the implementation of the *FASRB* and the *Sava RBM Plan* through all means of communication.

6. Monitoring of the *FASRB* implementation

In accordance with Art. 21 of the *FASRB*, a methodology of permanent monitoring of implementation of the *Agreement* has been developed and adopted at the 1st Meeting of the Parties to the *FASRB* (Zagreb, 1 June 2007), with the primary aim to ensure timely provision of information on the *FASRB* implementation to stakeholders and the general public.

The methodology basically introduces the regular reporting mechanism by the Parties, as well as the ISRBC responsibilities, to contribute to transparency of the *FASRB* implementation process.

According to the methodology, the Parties are supposed to provide the ISRBC, in advance of each Meeting of the Parties, with a comprehensive report on the *FASRB* implementation in the country concerned, and to ensure that the reports are also made available by the authorities responsible for implementation of the *FASRB* to stakeholders and general public. The country reports, as well as the overall report on the *FASRB* implementation, which is prepared by the ISRBC based on the national reports, are posted on the web-site of the ISRBC.

Additionally, a number of mechanisms have been established in the framework of the ISRBC to provide permanent information on the *FASRB* implementation to the stakeholders and wider public, including the official web-site of the ISRBC, the *Sava NewsFlash* bulletin, publications, press-releases, press-conferences and media briefings, consultation workshops, public presentations (e.g. of projects), and other meetings with stakeholders. An important activity in this regard is the celebration of the Sava Day, on 1 June, which includes organization of a number of events each year, in order to promote high ecological values and economic potential of the Sava River Basin, and to inform stakeholders and public on achievements in implementing the *FASRB*.

An important contribution to monitoring of the *FASRB* implementation is provided by the governmental and non-governmental organizations having an observer status at the ISRBC, as well as the institutions/organizations on the Danube and wider level, that the ISRBC is cooperating with (i.e. ICPDR, Danube Commission, UNECE, institutions of the European Commission, and many others).

The monitoring of the *FASRB* implementation is becoming an increasingly demanding process, as the framework is being continuously extended by the protocols to the *Agreement*. Therefore, a regular review of the monitoring methodology by the Parties and the ISRBC, as well as an improved contribution of the Parties to the process, appear to be crucial for a successful monitoring of the implementation, and hence beneficial for a successful implementation of the *FASRB* itself.

7. Annexes

ANNEX 1: LIST OF THE AUTHORITIES RESPONSIBLE FOR THE *FASRB* IMPLEMENTATION

ANNEX 2: LIST OF THE REPRESENTATIVES OF THE *ISRBC*

ANNEX 3: LIST OF ABBREVIATIONS AND ACRONYMS

Annex 1: List of the authorities responsible for the *FASRB* implementation

Country	Competent national authorities	Address
Bosnia and Herzegovina	Ministry of communications and transport of BA	Trg Bosne i Hercegovine 1, 71 000 Sarajevo
	Ministry of foreign trade and economic relations of BA	Musala 9, 71 000 Sarajevo
	Ministry of agriculture, forestry and water management of the Republic of Srpska	Trg Republike Srpske 1, 78 000 Banjaluka
	Federal ministry of agriculture, forestry and water management	Maršala Tita 15, 71 000 Sarajevo
	Ministry of traffic and communications of the Republic of Srpska	Trg Republike Srpske 1, 78 000 Banjaluka
	Federal ministry of traffic and communications	Braće Fejića, 88 000 Mostar
	Ministry of spatial planning, civil engineering and ecology of the Republic of Srpska	Trg Republike Srpske 1, 78 000 Banjaluka
	Federal ministry of environment and tourism	Alipašina 41, 71 000 Sarajevo
	Government of the District Brčko	Bulevar mira 1, 76 100 Brčko
Republic of Croatia	Ministry of sea, transport and infrastructure	Prisavlje 14, 10 000 Zagreb
	Ministry of regional development, forestry and water management	Babonićeva 121, 10 000 Zagreb
Republic of Serbia	Ministry of agriculture, trade, forestry and water management	Bulevar umetnosti 2a, 11070 Novi Beograd
	Ministry of environment, mining and spatial planning	Omladinskih brigada 1, 11070 Novi Beograd
	Ministry for infrastructure and energy	Nemanjina 22-26, 11000 Beograd
	Ministry of foreign affairs	Kneza Miloša 24-26, 11000 Beograd
	Republic hydrometeorological service of Serbia	Kneza Višeslava 66, 11000 Beograd
	Republic geodetic authority	Bulevar vojvode Mišića 39, 11000 Beograd
Republic of Slovenia	Ministry of foreign affairs	Prešernova cesta 25, 1001 Ljubljana, P.P. 481
	Ministry of environment and spatial planning	Dunajska cesta 48, 1000 Ljubljana
	Ministry of economy	Kotnikova 5, 1000 Ljubljana
	Ministry of transport	Langusova ulica 4, 1535 Ljubljana
	Government office for local self-government and regional policy	Kotnikova 28, 1000 Ljubljana
	Government office for development	Gregorčičeva 25, 1000 Ljubljana

Annex 2: List of the representatives of the ISRBC

INTERNATIONAL SAVA RIVER BASIN COMMISSION				
Seat: Vladimira Nazora 61, Zagreb, Croatia; E-mail: isrbc@savacommission.org				
Country	Name	Function	Contact	
			Phone	E-mail
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	Ružica Drmić	Deputy member	+ 385 1 6307 353	ruzica.drmic@voda.hr
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	Miladin Avramov	Deputy member	+ 381 11 3131 357	miladin.avramov@ekoplan.gov.rs
Republic of Slovenia	Mitja Bricelj	Member	+ 386 1 478 7464	mitja.bricelj@gov.si
	Aleksander Čičerov	Deputy member	+ 386 1 478 2036	Aleksander.Cicerov@gov.si
SECRETARIAT OF THE ISRBC				
	Dejan Komatina	Secretary	+385 1 4886 960	dkomatina@savacommission.org

ANNEX 3: LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation/ Acronym	Description
<i>ADN</i>	<i>The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</i>
BA	Bosnia and Herzegovina
EG	Expert Group
EIA	Environmental Impact Assessment
ENC	Electronic Navigation Chart
EU	European Union
EU FP7	7 th Framework Programme of the European Union
<i>FASRB</i>	<i>Framework Agreement on the Sava River Basin</i>
FRM	Flood Risk Management
GIS	Geographic Information System
HR	Republic of Croatia
ICPDR	International Commission for the Protection of the Danube River
IFI	International Financial Institution
ISRBC	International Sava River Basin Commission (Sava Commission)
IWT	Inland Waterway Transport
<i>NAIADES</i>	<i>Navigation and Inland Waterway Action and Development in Europe</i>
NGO	Non-governmental organization
PEG RBM	Permanent Expert Group for River Basin Management
PEG NAV	Permanent Expert Group for Navigation
PEG FP	Permanent Expert Group for Flood Prevention
PEG APC	Permanent Expert Group for Accident Prevention and Control
PIAC	Principal International Alert Centre
RBM	River Basin Management
RIS	River Information Services
RS	Republic of Serbia
SI	Republic of Slovenia
SWMI	Significant Water Management Issue
UNECE	Economic Commission for Europe of the United Nations
<i>WFD</i>	<i>Water Framework Directive</i>
WISE	Water Information System for Europe

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