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**Patrick Konopatzki & Karl Stracke**

Manual for the Management of Small  
and Medium River Basins in the  
Republic of Moldova

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Manual for the Management of Small and Medium River Basins  
in the Republic of Moldova

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## Preface

*This paper* summarizes a manual for the management of small and medium rivers basins in the Republic of Moldova, which originally was developed and published in Rumanian and Russian language within the project "[Capacity building for the water management in the Republic of Moldova on a local level](#)" conducted by UfU. The manual supports local public authorities in the management of small and medium river basins in the Republic of Moldova.

*This paper* follows the structure of the manual and outlines its most important information for an English speaking audience.

The Rumanian/Russian title of the manual can be translated with: „*Guide (Methodological Manual) for the management of small and medium river basins*”.

The manual is divided into four sections: Its first section is predominantly theoretical. The concept of "small and middle rivers", the characteristics of their hydrological cycle and the impact of pollutants as well as other anthropogenic influences (straightening, regulation, stuning, etc.) on the quality of small and medium rivers are explained.

The second section is explaining the basic principles of creating "River Basin Councils" for small and medium river basins. Recommendations for practical measures how to install such a River Basin Council are given. Moreover, guidelines and recommendations on how to develop a management plan for a small and medium river basin within such committees are presented.

The third section gives local public authorities an overview what needs to be considered in the management of small river entities.

The fourth section finally offers some best practices for the local water resource management with a focus on low budget actions to restore the natural characteristics of the watercourses.

The translated table of contents can be found at the end of this paper for a detailed overview.

# 1 THE BASIC MANAGEMENT OF WATER RESOURCES IN WATER CATCHMENT AREAS

This section provides an overview of the main principles regarding the management of water resources and their application in the Republic of Moldova.

The principles of water management developed by the international community have firmly entered the practice of many countries.

Their underlying concept is called "Integrated Water Resources Management" (IWRM). In the following, we will present the essence of the hydrographic river basin concept and its water cycle. This enables us to show the relation between surface and underground waters, precipitation and their catchment area.

## 1.1 River basin and the hydrological cycle

In river hydrography, the stream of water flowing in the natural course is fed from the surface and underground flow of the river basin. This includes precipitation that does immediately enter the river as well as temporary streams such as ice and snow melt.

In the beginning, these flows form streams, small rivers and finally the rivers. The sum of all rivers flowing through the main river into the sea or the lake is called a river network. Shape and density of the river network are significantly influenced by climatic and geological conditions and relief development. The source and catchment areas of streams and smaller rivers are always part of a larger catchment area - namely, of the waters into which they flow.

In the EU Water Framework Directive, the catchment area is used as a criterion for dividing watercourses and the related management responsibilities.

The local hydrological cycle within the water catchment area is part of the global water circulation on a planetary scale.

## 1.2 Characteristics of small rivers and their catchment area in the Republic of Moldova

Objective criteria for defining the term "small river" do not exist. However, often it is assumed that a "small" river should not exceed a certain length. Based on this principle, the following categories of rivers were adopted in the Republic of Moldova.<sup>1</sup>

**Table 1: Categories of rivers**

Category of Rivers	Length of bed, km	Examples of rivers in Moldova
Large rivers	over 200	Dniester, Prut, Raut, Cogalnic
Medium rivers	from 100 to 200	Botna, Bac, Ialpuș, Cubolta, Ciuhur
Small rivers and rivers	from 10 to 100	Larga, Racovat, Vilia, Larga, Delia, Narnova, Lapusna, Sarata, Cula
Springs	until 10	Culisoara, Bagu

It is important to note that "small rivers" are not "less important" than bigger rivers. Rather, as tributaries for the bigger rivers they are the basis for building Moldova's water resources: The biggest part of the river system in Moldova consists of small rivers. Hence, their condition largely define the state of the medium and large watercourses.

Small and medium-sized rivers are closely linked to the natural units they run through, such as riverbeds, floodplains and coastal areas. As a result, their status affects many interrelated functions of water and water-related biocenoses. Correspondingly, securing and improving their status contributes significantly to the reproduction of the biotic potential of the region and its environmental services. Anthropogenic changes have led to the reduction of water production capacity and the degradation of freshwater ecosystems. Almost in the whole territory of the Republic of Moldova the depletion of water resources, significant deterioration of water quality and often irreversible degradation has been reported. Moreover, excessive vegetation and uncontrolled sedimentation of ponds and reservoirs, deterioration of aquatic biotics and the loss of forest cover have taken place. The effects of the global climate change will further aggravate this situation. All this determines the relevance of the protection and ecological improvement of the river basins in general. However, small and medium-sized rivers are once more especially vulnerable for anthropogenic interferences for the following reasons:

- Any human intervention, even seemingly insignificant, in the water cycle of a small river affects its downstream over the entire length, but also its entire catchment area. For example, by laying artificial canals, irrespective of the water demand downstream or through a channel used

<sup>1</sup> Law on water protection zones and strips, no. 440, 27.04.1995 (Article 5): Rivers and streams are all water streams that flow more than six months of the year in the bed they have formed from the source to the delta except the springs on slopes. The water basins category includes lakes, reservoirs and ponds.



for intensive drainage, the ecological value of the small river can be compromised.

- There is a multitude of discharge into rivers, sometimes even exceeding the volume flow of the small river in its extent.
- The rivers and their floodplains themselves are often subject to economic activities since floodplains are e.g. used for grazing and foraging. Moreover, the natural vegetation has often been deprived and transformed into agricultural fields.
- The self-cleaning capacity of small rivers is low since a relatively small amount of water is passed through the riverbed.
- In addition, the proportion of groundwater is significantly lower in small rivers, especially during the low water period.



Figure 1: Bâc River (near Calfa Village) a typical medium river, Source: Dr. Ilya Trombitki, Eco Tiras



Figure 2: Baltata River, A typical small river for Moldova, Source: Dr. Ilya Trombitki, Eco Tiras

Currently, the state of the small rivers and their adjacent catchment areas in Moldova is not very good: With small exceptions, all small and medium-sized

rivers in Moldova are classified as heavily modified water bodies and it will be difficult to bring them into a good condition. Large parts of the small and medium-sized rivers today are channels that are only suitable for the flow of floods. It is difficult to find small and medium-sized rivers where meanders, sidewalks, swamps, old whites, windowsills and ponds were preserved.

To sum it up, the main causes of the deterioration of small and medium-sized rivers in the Republic of Moldova are:

- the intensive use of water resources for various commercial purposes
- the flow control (deepening and straightening of river beds)
- the wastewater discharges (with volumetric spikes partially exceeding natural flow) and
- the economic use of river basins and urbanization

Without securing the good statuses of small rivers and other local water resources, it is not possible to achieve prosperity for the major Moldovan water basins.

### 1.3 The management principles according to IWRM

According to the principles of the integrated water resource management (IWRM), all water resources, national and local, surface and underground, large and small rivers need to be managed.

At the level of the river basins, the instrument of the "management plan" is used to coordinate the management of water, soil/land and related resources within the river basin to optimize the long-term welfare of the generated social and economic benefits as well as to ensure healthy ecosystems.<sup>2</sup>

The IWRM approach is the basis for the water management in the Republic of Moldova as well. It promotes stakeholder participation in decision-making and the effective use of water, land and other natural resources for the sustainable conservation of nature within a society.

The IWRM approach is based on a set of principles, which can be summarized as follows:

- Water resources are managed within river basins, according to the morphology of the concrete basin of the river.
- The management involves all types of water resources (surface water, groundwater, etc.), considering the climatic characteristics of the specific region.
- The management ensures the close coordination of all types of water

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<sup>2</sup> Global Water Partnership. Guide to Integrated Water Resources Management in Pools. [http://www.gwp.org/Global/ToolBox/References/A%20Handbook%20for%20Integrated%20Water%20Resources%20Management%20in%20Basins%20\(INBO,%20GWP,%202009\)%20RUS-SIAN.pdf](http://www.gwp.org/Global/ToolBox/References/A%20Handbook%20for%20Integrated%20Water%20Resources%20Management%20in%20Basins%20(INBO,%20GWP,%202009)%20RUS-SIAN.pdf)

use across sectors and between all different levels of the water management hierarchy (basin, sub-basin, irrigation system, agriculture).

- The public takes part not only in the management, but also in financing, planning, maintaining and in the development of water management infrastructure.
- A priority for management is given to ecosystem requirements in the water bodies.
- Water management organizations and water users are focused on water conservation and combating non-productive water losses.
- Openness and transparency of the water management system is crucial

Strategy development, planning and management of water resources serve as a series of consecutive steps in river basin management.

The first step is to formulate general political objectives (answering the question - Where do we want to go?). During the next steps, it is necessary to determine the problems related to the management of the water resources to be solved (problem identification) and to develop a list of possible strategies (How can we achieve it?).

Choosing a strategy or a combination of strategies is important as well as the consecutive assessment of scientific data that have been collected before and that can be suitable for the water management.

The same steps also apply to the IWRM at the local level for small rivers. However, for these plans the following principles need to be recognized as well:

- The general objectives of the small river basin management must be in line with the objectives of managing a larger hydrological unit – a large river or river basin district.
- The specific objectives for the smaller river basin must be in line with the objectives of the District Water Management Plan.
- The river basin management of the small river is determined by the local public administration authorities, the water users and the public - not by the central state authorities.
- The identification of actions for small river basins derives from local knowledge, previous experience and understanding of the local and specific context of each sub-basin. Local experiences are very important, as well as the identification of local problems and identification of priorities, taking into account the local economic and social environment, and the natural features of the river basin.
- Local strategies and plans to improve the status of local water resources are always based on socio-economic conditions in the river basin of one or more small rivers. The development of local strategies also depends significantly on available resources, including local financial resources.

## 2 RECOMMENDATIONS FOR THE MANAGEMENT OF SMALL AND MEDIUM RIVER BASINS

The course of a river is shaped by the hydrographic situation of its catchment area, irrespective of administrative boundaries.

Accordingly, the task of uniting the efforts of local authorities operating in the river basin becomes fundamental. Only together with neighbouring territorial units (district, municipality etc.), issues related to the quality and quantity of available water resources can really be solved.

A new mechanism for such cooperation has recently been enacted in the Republic of Moldova: River Basin Committees. The Moldovan Water Law defines the government's duty to form two consultative committees for the two existing basin districts of Moldova. Local governmental authorities are legally entitled to form committees for their sub-basins, i.e. small and medium-sized rivers too.

Since this task is new for the local public authorities and since the law does not provide for specific rules on the formation and operation of these Sub-Committees, this section gives further recommendations on how to set up these Sub-Committees.

### 2.1 River Basins, Sub-Basins and their Committees in the Republic of Moldova

There are three hydrographic river basins in the Republic of Moldova: The "Nistru Basin", the "Danube-Prut Basin" and the "Black Sea Basin". To optimize their management, they were bonded into two management districts: The "Nistru Basin" and the "Danube-Prut-Black Sea Basin".

Each management district has a defined number of sub-basins of small and medium rivers. In total, the Republic of Moldova is divided into 39 sub-basins.

For each of these sub-basins a River Basin Committee has to be installed.

The following maps give an overview on the River Basin structure in the Republic of Moldova:

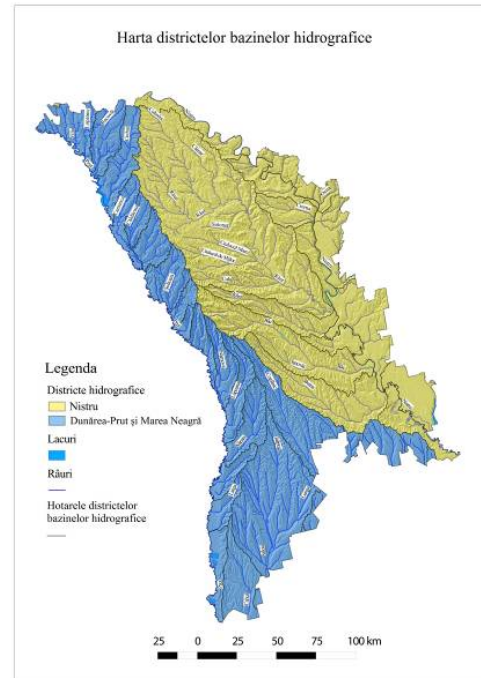
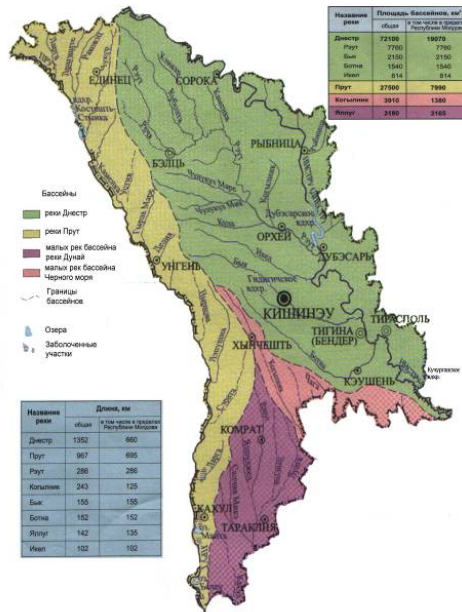


Figure 3: The three hydrological river basins in Moldova, Source: Geographic Atlas of Moldova, Apele Moldova

Figure 4: The two basin districts in Moldova, Source: HG №775, 4.10.2013

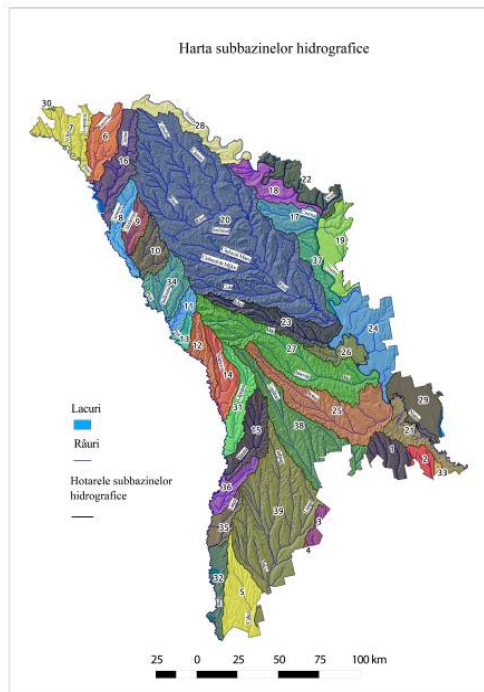


Figure 5: The 39 sub-basins in the Republic of Moldova, Source: HG №775, 4.10.2013.

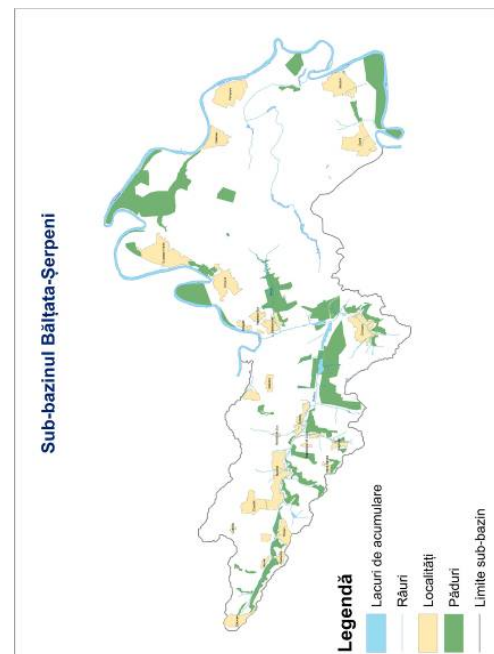


Figure 6: Map of the sub-basin of the small river Bălțața-Șerpeni, Source: Apele Moldovei.



## 2.2 River basin committees

### 2.2.1 River basin district committees

The Water Law defines the "River Basin District Committee" as a consultative and coordinating body for the entire territory of a river basin in country frames (for transboundary rivers). They have an advisory status and aim to develop and adopt recommendations for the optimal water management based on the IWRM principles. Their tasks are the following:

- Consultancy in elaborating, modifying and approving the management plan for the basin district
- Participation in the identification, delimitation and classification of the water bodies based on the following questions: Which water bodies are subject to environmental quality requirements and need protection? Which water bodies may be affected by pollution from various sources (including the agriculture and processing industries? Which parts of the water body are especially vulnerable?
- Elaboration of the measures that should be included in the management plan for the basin district to achieve the management plans objective
- Participation in cross-border cooperation on shared basins.

The committees for the "Nistru Basin" and the "Danube-Prut-Black Sea Basin" have already been installed. Now, the local public authorities have the duty to set up sub-basin committees for the small and medium rivers. These small and medium-sized river basin committees have the same status, rights and functions as those of the river basin district committees.

### 2.2.2 Committees for small and medium-sized rivers

For the establishment of river basin committees for small and medium-sized rivers the Water Resources Act (Art. 10) and the position paper regarding the "Regulation on the establishment and functioning of the river basin district committee" <sup>3</sup> only describe the instalment process in general terms, but does not go into detail.

### 2.2.3 Foundation of a committee

The regulation of the Committee and the decision on its legal status ought to be decided by the committee itself. The committee can be founded as a non-profit organization or as non-registered public authority. It can also act as a registered public association.

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<sup>3</sup> GD no.867, 01.11.2013 regarding the approval of the "Regulation on the establishment and functioning of the river basin district committee"

We recommend choosing a formalized legal structure as only this status offers the possibility to open a bank account, to raise funds for the implementation of its projects, etc.

Moreover, we recommend that the following issues always be addressed in the founding regulation of each committee:

- the purpose, objectives and principal directions of the activity,
- the legal status of the committee and the legal basis for the activities within the established structure,
- the composition of the organization and the procedure for its formation,
- the rights and obligations of its boards and members of the organization,
- the procedure of organizing and ensuring the committees activities and
- the reorganization and winding-up proceedings.

Since 2009 eleven river basin committees for small and medium-sized rivers have been founded in the Republic of Moldova:

- Tributaries of River Nistru: River Bâc in 2011; River Ichel in 2015, River Răut in 2016, River Bălțata in 2017
- Tributaries of River Prut: River Camenca in 2015; River Tigheci in 2015; River Larga in 2015; River Ciugur in 2016
- Tributaries of River Raut: River Cubolta in 2009, River Cogâlnic in 2016

Regretfully, the information on the activities of most of these basin committees is very limited. Technical secretariats, in many cases, are practically non-trained and need both financial and organizational support. However, it can be summarized that the main tasks of these committee usually include:

- joint discussion on the best use and protection of water resources in the river basin,
- identification of contaminated areas and the planning and actions to improve the situation,
- elaboration of proposals for the plans, programs for economic and social development,
- preparation of options and project proposals for financing planned measures for the management and protection of the basin area,
- involvement of the public in addressing concrete water issues,
- ensuring the exchange of information between government agencies, water users and the public;

This list of tasks may be larger and it depends on the specificity of each small and medium-sized river basin.

#### 2.2.4 Composition of a committee

There are no specific legal requirements for the composition of the sub-basin committee. Therefore, each sub-basin committee can decide on its own specific composition. According to the IWRM principles were recommended that

the Committee represents the following actors:

- Local public authorities (regions, municipalities),
- Representatives of the competent regional/national authorities in the territory (regional/territorial directorates of Ministries and Environmental departments; "Apele Moldovei"; sanitary-epidemiological surveillance; Urban Planning and Territorial Development; Agriculture);
- Representatives of local water users/industry;
- Representatives of local NGOs;
- Other interested parties.

It is recommended that the respective public authority is represented in the committee directly by its district leaders or their deputies and mayors. Only this will create the necessary environment for decision-making and will contribute to the authority and credibility of the committee in general. As a guideline, representatives of public authorities should make up at least 50% of the members in the sub-basin committee. Moreover, district representatives of the regional/national authorities are to be represented to contribute with the necessary technical expertise and to create an important balance of professional knowledge and public opinion. The Water Law stipulates the mandatory participation of water users in the management of water resources. Since water users are economic actors and their interests in water resources are focused on economic activity, this group ought not to exceed a recommended quota of around 10% in the sub-basin committee. Ideally, water users are united in an association delegating a representative to the committee; this can be particularly important when using agricultural water (e.g. Irrigation Water Users Association) or facing other water intensive enterprises. Besides, the participation of NGOs is stipulated in the Water Law. These may be environmental organizations, but also public associations representing other interests and rights, such as women and youth, farmers and so on. Additionally, there is a need to include other organizations, such as research institutions and scholars, national scale public associations, mass media or active citizens, in the sub-basin committee.

#### *2.2.4.1 The numerical composition*

The law does not restrict the number of members of the committee. In general, 10-15 persons are recommended the formation of a committee, for larger sub-basins up to 20-25, to allow a representative coverage of the entire range of stakeholders in the basin of a small or medium-sized river. It is important that members of the committee represent the complete geographical area of the river so that an individual management and classification for each affected area of the river basin can be developed. To prevent the case of inappropriate representation of interest groups the draft regulation on the sub basin committee and its nominee composition should always be sent for examination to the relevant river basin district committee. Even if this district committee is not entitled to stop the activities of any sub basin-committee, it may recommend a review of an improper representation.



#### 2.2.4.2 *Stakeholders not represented in the committee*

Stakeholders who, due to the limited number of members, cannot be part of the committee, should not be excluded from the process of discussing and developing water resource management solutions at the sub-basin level. It has always to be ensured that a representative of their interest groups protects their interests as a member of the sub-basin committee. Moreover, sub-basin committee meetings must be transparent and open to the public.

The meetings must be open to every person interested in water resource issues within the sub-basin. The Rules of Procedure of the sub-basin committee should specifically provide for this, including the right to speak and to make proposals (without the right to vote). Finally, the committee should establish the possibility that everyone may send a written request and public access to all documents and decisions of the Committee. In general, it is very important that the competence, the organization and conduct of meetings, the procedure for discussing problems and taking decisions on the sub-basin committee are clearly regulated and understandable for the public. Ideally, the sub-basin committee has its own website or area on one of the websites of the public authorities or public organizations represented in the committee. With the establishment of a mailing list, the invitations for the meetings, agendas, collection of opinions and proposals as well as information about the decisions taken can easily be shared among all interested stakeholders.

#### 2.2.4.3 *Terms in Office for committee members*

The law does not regulate the term of the members of the committee for small and medium-sized rivers. Until now there is only a legal regulation for members of the river basin district committees which is six years. We recommend that the mandate of members of the committee for small and medium-sized rivers should be six years, too. Moreover, it is recommended that after this period the membership of the committee should at least include one third of the members of the previous mandate. This will ensure the continuity of the committee's work, and new members will be able to gain experience and knowledge from other members. If the status of a person changes, as in the case of elected positions (e.g. mayors) or delegated representatives (e.g. water users), the respective position in the committee may be taken over by another person entitled to this position as the winner of the selection procedure. The assignment or transfer of the mandate should not be possible here. The committee's regulation needs to provide for exact rules regarding the changes of its members.

#### 2.2.5 **The organizational structure of a committee**

The participants determine the organizational structure of the committee, as the current legislation defines only the structure of the basin district committees. However, it is recommended that the organizational structure is composed of a chairman, his or her deputy, the secretary and the members of further equal members of the committee. The chairman, the vice-chairman and the secretary

shall be elected by all members of the committee at the first meeting. The committee secretary is an important element. This person is responsible for all actions related to the preparation and organization of the meetings. Therefore, it should be someone experienced – e.g. a specialist of the "Apele Moldovei" Agency, a specialist of the district environmental service, a representative of the water users association or a member of a public association. Another organizational element can be the formation of ad hoc working groups made up of the committee's members and invited experts, scholars and public figures. Such working groups can be created temporarily to work on specific issues. They can e.g. be mandated to prepare a report for meetings or obtain additional information. Such working groups can also organize spring flood training or concretely address issues related to drought response actions.

### 2.2.6 Frequency of committee meetings

Depending on the special circumstances of each basin, the periods and numbers of meetings will be very different. The role of the committee will be very important during the preparation of actions during spring floods. At this point, the committee should be a platform for planning flood protection measures, for dialogue with water users and for coordinating all activities at the district and inter-municipal level. The same is true for the preparation of the summer drought.

Therefore, committee meetings ought to take place at least twice a year.

### 2.2.7 Practical steps for setting up the committee

To build up a committee, a series of activities need to be carried out. The following section provides an overview on the necessary steps:

#### 2.2.7.1 *Formation of the initiative group and campaigning for it*

The process to initiate the committee founding must be started by local public authorities at the district or community level (Art. 11 of the Water Law). Any district with territorial responsibility for a certain river basin can initiate the foundation. For efficiency reasons it is recommended that the initiative group is not too large (3-5 persons). It should quickly inform all potential stakeholders and the "Basin District Committee" of the initiative to create a committee by placing an advertisement in the press and / or on the information boards. In a second step, it is important to establish direct contacts with potential future members of the committee. It is recommended to do this via mail and to add at least the following information:

- the start of the preparatory work;
- the legal basis and the objectives of setting up a river basin sub-basin committee;
- an invitation to take part in the preparatory work;
- the request to identify a responsible person who will participate in the

preparatory work for the establishment of the committee;

- the explanation of the importance and value of the addressed participant in the work of the committee.

After this step, a draft of the regulation for the functioning of the committee has to be prepared. It is useful to involve a lawyer at this stage.

In the next phase, the initiative group should determine a preliminary timeframe and the agenda of the first meeting of the committee.

Additionally, the initiative group should prepare for a draft annual plan for the committees work for 2-3 years: The possible activities can be worked out via joint meetings of the members of the initiative group, consultations and discussions with representatives of the basin district committee, environmental protection and water management bodies, water sector experts, NGOs, etc. Depending on the availability of funding in the preparatory phase, the initiative group may also carry out an information campaign on issues related to the constitution and future activities of the Small River Committee. An information campaign can be organized in the form of seminars, roundtables and in-house meetings of the initiative group members. The main purpose of these activities is to familiarize stakeholders with the planned objectives and tasks of the committee and the opportunities and benefits of participation in this activity. To make the information campaign, leaflets and flyers have to be developed.

#### 2.2.7.2 *Preparations for the first meeting*

For the first meeting, a letter of invitation is required, which should contain the following elements:

- a summary of the main results of the preparatory work carried out by the initiative group;
- the notification of the date and venue and the main issues on the agenda of the first meeting of the committee;
- the draft regulation and the draft working plan of the committee;
- repeated requests to confirm the participation in the committee, if not previously received.

The letter shall be signed by the head of the local public authority under the auspices of the initiative group. It is desirable that the invitation to participate in the first meeting of the committee is sent to the "basin district committee", the central environmental-, water resources authorities, and similar committees in other river basins. The invitation must be sent at least one month before the scheduled date of the first meeting to enable the examination of all proposals and drafts.

#### 2.2.7.3 *The sequence of the first meeting*

The head of the public administration opens the first committee meeting. He or she announces the agenda. After the approval of the agenda and the elec-

tion of the chair of the meeting follows a substantive debate on the issues proposed on the agenda. The initiative group presents the proposals and drafts. It follows the election of the members of the committee and their functions (chairperson, vice-chairman, secretary, etc.,) the discussion and approval of the founding regulation and the working plan. All decisions need to be reflected in a protocol.

## 2.3 The River Basin Management Plan

After the implementation and foundation of the Committee, one of its major tasks is the development of a "River Basin Management Plan."

### 2.3.1 The hierarchy of management plans in the Republic of Moldova

For each river basin district, the Central Environmental Protection Agency, in coordination with the Basin District Committee, develops the River Basin District Management Plan, which is afterwards approved by the government. The management plan will include measures and activities for each individual water body over the next six years. It provides the basis for more optimized plans for each sub-basin. The sub-basin management plan covers all activities that are planned locally with regard to the content and management of subordinate surface water bodies, water protection areas and streams.

#### 2.3.1.1 *The management plan for a river basin district*

Government Resolution No 866 of 01.11.2013 "On the approval of the Regulation on the procedure for the elaboration and review of the river basin district management plan" defines purposes, objectives and contents of a river basin district management plan: The main purpose is to ensure the efficient management, protection and use of water resources and the gradual achievement of environmental objectives. Therefore, the plan defines the environmental objectives on the state of surface water resources, groundwater and protected areas of the river basin. It includes targets for the protection, improvement and restoration of the water bodies as well as measurements on how to prevent deterioration and the timeframes to achieve these objectives.

#### 2.3.1.2 *The management plan for small and medium rivers*

The Water Law does not provide for the development of formal management plans for river basins of small and medium rivers, since the main key activities for each water body need to be already included in the river basin district management plan. However, environmental issues for the local level are described directly in the basin district management plan, which has the status of a national normative act. Therefore, this River Basin District Management Plan needs to be respected as governing law when the Management Plan for small and medium rivers is developed.

The committees for small and medium rivers has to introduce in their local

plans further detailed measures that are important for the management, protection and improvement of local water resources. The local committee can choose any form of legal or non-legal document for its plan and should clearly define local actions and verify for each action the compliance with the River Basin District Management Plan. The responsibility for implementing the Management Plan for small and medium river basins lies with the local public authorities, local water users and other stakeholders. The Management Plan must be sent to the river basin district committee, which organizes joint consultations with the relevant governmental institutions. After adjusting and clarifying the planning document, the local committee can approve it.

### 2.3.2 Model for a management plan for small and medium rivers

As a recommendation, a simplified structure of a planning document for a management plan for the small and medium-sized river sub-basin is presented in the following table:

**Table 2: Simplified structure of a management plan for small and medium-sized river basins**

The section Management Plan	Recommended volume (pages)	The content
Introduction	1-2	Description of objectives and tasks of the plan, its relation to the River Basin District Management Plan, terms of application of the document
The river basin and its natural conditions	3-5	Indicate the area of the basin; the length of the river and its tributaries; boundaries of water bodies delimitation; the quantity and quality of surface and groundwater (if data are available); the amount of forests, pastures and agricultural land; climate; localities and number of inhabitants; the main use of water; the economic activity; environmental protection items, etc.
Use of water and water infrastructure	3-5	Provide data on: <ul style="list-style-type: none"> <li>• ponds, accumulation lakes and the use of surface water</li> <li>• Artesian fountains (wells), wells and groundwater use</li> <li>• waste water spill</li> <li>• dams, dikes, canals</li> <li>• Water users, including the list of water use permissions (authorizations), ownership and infrastructure responsibility.</li> </ul>
Anthropogenic burden on water bodies	5-7	Provide information on each water body on: <ul style="list-style-type: none"> <li>• Locations and volumes of water capture areas</li> <li>• locations and leakage volumes</li> <li>• Areas, volumes of landfills and state of landfills (domestic and toxic)</li> <li>• Grazing on pastures and farmland in the meadows</li> <li>• fish</li> <li>• hydromorphological use (dykes, straits, depths of the bed, bank dredging, etc.).</li> </ul>
Analyze problems and prioritize them locally	5-7	Briefly describe the local problems of water resources, including: <ul style="list-style-type: none"> <li>• depletion of groundwater and surface water resources due to water evacuation and over-exploitation</li> <li>• deterioration of surface and underground water quality</li> <li>• Insufficient quality of drinking water (water supply systems, wells)</li> <li>• over-grazing on Mondays</li> </ul>

The section Management Plan	Recommended volume (pages)	The content
		<ul style="list-style-type: none"> <li>• impact of agricultural activity</li> <li>• the state of water protection strips, water fund land and other environmental protection objects</li> <li>• sources of pollution and pollutants</li> </ul> <p>An inventory of identified problems should be made, highlighting those that require urgent protection measures (hot spots)</p>
Risks of extreme water status	3-5	Description of risks and consequences for water use, water resource protection and population security in extreme weather conditions - droughts, torrential rains, floods. If possible, locate the most problematic areas and objects.
Results of the previous management plan (if existent)	3-5	Provide information on: <ul style="list-style-type: none"> <li>• activities carried out under the previous plan</li> <li>• added projects</li> <li>• the successes, difficulties and challenges of implementing the previous sub-basin management plan</li> </ul>
The measures provided by the River Basin District Management Plan	1	Information on environmental objectives, measures and activities related to local water bodies and included in the River Basin District Management Plan.
Measures and activities planned at the local level	3-5	List the measures and activities that are planned for the 6-year period, primarily to address priority issues at the local level. There should be a brief justification for such measures, the timing of their implementation and the estimated financial costs. In addition, measures and activities to prevent or reduce the effects of droughts, heavy rainfall and floods should be described. Provide a plan to monitor the implementation of each activity
Maps	1-5	It is recommended to prepare simplified baseline maps, indicating: <ul style="list-style-type: none"> <li>• the general river basin map - the river network, water bodies, localities, protected objects, etc.</li> <li>• water use areas</li> <li>• location of identified priority issues and planned activities</li> </ul>

### 3 SUMMARY OF LEGAL RESPONSIBILITIES

This section is intended to provide the reader with summary information on the responsibilities of local government authorities and on the legal content of the protection of water resources, water protection strips and water basins as well as the entire catchment area in the Republic of Moldova. The reader will find references to laws in which these obligations are stated.

Moreover, the responsibility of state agencies and local public authorities in the context of water resources are mentioned. Local authorities have legally delegated powers and responsibilities for the management of water resources and catchment areas. These responsibilities are defined in various laws. Therefore, to navigate more easily through these regulations, the legal provisions currently governing the rights and responsibilities of local authorities are summarized below.

**Table 3: Summary of legal responsibilities**

Law / Judgment	The article in the law, which stipulates the attributions of the local public authorities:
Law on local public administration, no.436 of 28.12.2006	<p><b>(Art. 14) on the competences of local councils:</b></p> <ul style="list-style-type: none"> <li>• manages the assets of the public and private domains of the village (commune), city (municipality);</li> <li>• decides the assignment and proposes to change the destination of the property land of the village (commune), city (municipality);</li> <li>• decides on the design, construction, maintenance and modernization of roads, bridges, housing in compliance with the Housing Act, as well as the entire economic, social and leisure infrastructure of local interest;</li> <li>• decides, under the legislation in force, on the cutting, deforestation of trees and shrubs from the green spaces, public property of the administrative-territorial unit and / or on their displacement;</li> <li>• decides on the establishment of public institutions of local interest, organizes public services of communal household, determines the financial support in the case of budget expenditures, decides on the rules for cleaning the settlement in the locality;</li> <li>• decides, in accordance with the law, the association with other authorities of the local public administration, including from abroad, for the realization of works and services of public interest, for promoting and protecting the interests of the local public administration authorities, as well as the collaboration with economic agents and public associations from country and abroad for the purpose of carrying out actions or works of common interest;</li> <li>• approves the local budget, how to use the reserve fund as well as special funds, approves the loans and the closure account of the budget exercise; operates changes in the local budget;</li> <li>• approves, according to the law, the urban plans of the localities within the respective territorial-administrative unit, as well as the landscaping plans;</li> <li>• approves studies, prognoses and social-economic and other development programs;</li> </ul>

	<ul style="list-style-type: none"> <li>• approves the permissible limits for the use of natural resources of local interest;</li> <li>• Provides public consultation, in accordance with the law, of draft decisions on issues of local interest that may have an economic, environmental and social impact (on the way of life and human rights, on culture, on health and social protection, on local communities, public services) as well as other issues that concern the population or a part of the population of the administrative-territorial unit.</li> </ul> <p><b>(Article 32) Acts of the mayor:</b></p> <ul style="list-style-type: none"> <li>• Issues normative and individual provisions on issues of local interest that may have economic, environmental, social (human and social, cultural, health and social, local, public service) impacts;</li> <li>• consults publicly;</li> </ul>
Water Law, no. 272 of 23.12.2011	<p><b>(Article 11) Local public administration authorities</b></p> <ul style="list-style-type: none"> <li>• maintain and manage bodies of surface water, areas and water protection strips in management;</li> <li>• delegates its representatives to the river basin district committee;</li> <li>• inform civil society and stakeholders about certain water issues, including restrictions and prohibitions on water use;</li> <li>• creates, in collaboration with public associations, sub-basin committees of small and medium-sized rivers;</li> <li>• performs other tasks provided by law.</li> </ul> <p><b>(Article 50)</b></p> <ul style="list-style-type: none"> <li>• Maintenance of surface water bodies, areas and protection strips as a mandatory public service, including: <ul style="list-style-type: none"> <li>- consolidation of rivers, water bodies; Ensuring the discharge capacity of river beds and removing surplus alluviums;</li> <li>- removing excess vegetation from the minor bed;</li> </ul> </li> <li>• waterway maintenance; <ul style="list-style-type: none"> <li>- removing objects and waste from the surface of water from the ground water; other necessary work.</li> </ul> </li> <li>• Maintenance of hydrotechnical bodies in management.</li> </ul>
Law on water protection areas and basins, no. 440, 27.04.1995	<p><b>(Article 18)</b></p> <ul style="list-style-type: none"> <li>• Operational control on the establishment and creation of water protection zones and strips, the formation of forest curtains in the areas of protection of rivers and water basins, as well as the observance of the economic activity regime in them.</li> </ul> <p><b>(Article 19)</b></p> <ul style="list-style-type: none"> <li>• Settlement of disputes between land users and bodies exercising control over observance of the economic activity regime in rivers and water basins protection rivers and strips.</li> </ul>
Land Code, No, 828, 25.12.1991	<p><b>(Article 88)</b></p> <ul style="list-style-type: none"> <li>• State control over the use and protection of the land of the water fund, stipulated in art. 63.</li> </ul>
Law on Natural Resources, No. 1102, February 6, 1997	<p><b>(Article 12)</b></p> <ul style="list-style-type: none"> <li>• local public administration authorities are empowered to manage natural resources</li> </ul> <p><b>(Article 29)</b></p> <ul style="list-style-type: none"> <li>• Presenting the public with reliable and accessible information about the activity of using natural resources and protecting the environment.</li> </ul>
Law on Natural Resources, No. 1102, February 6, 1997	<p><b>(Article 12) the competence of the local public administration authorities of the first level</b></p> <ul style="list-style-type: none"> <li>• Coordination of the assignment of the public property land of the administrative-territorial unit for geological research and exploitation of the deposits of useful mineral substances;</li> </ul>



	<ul style="list-style-type: none"> <li>• Participation in the elaboration of programs for the extension and rational use of the mineral raw materials base at the local level and taking measures for their realization;</li> <li>• Control over adherence to the marketing rules for useful solid mineral substances outside the extraction areas.</li> </ul> <p><b>(Art. 12) Competence of the second level local public administration authorities:</b></p> <ul style="list-style-type: none"> <li>• developing programs for the rational extension and rational use of the mineral raw materials base and ensuring their realization;</li> <li>• Participation in solving the problems related to respecting the socio-economic and ecological interests of the population in the territory in the case of assigning the basement into use;</li> <li>• Participation in the elaboration of state geological research programs of the subsoil and the extension of the mineral raw material base.</li> <li>• (Article 44)</li> <li>• geological survey of the basement is carried out based on the programs of the local public administration authorities on the account of the local budgets.</li> </ul>
<p><b>Government Decision on the approval of the Regulation on the Urbanism Certificate and authorizing construction or dismantling of buildings and facilities, no. 360, April 18, 1997</b></p>	<ul style="list-style-type: none"> <li>• Issuance of the Urbanism Certificate - a document that makes the applicant aware of the elements that characterize the juridical, economic, technical, and architectural-architectural regime of a real estate (land).</li> <li>• Issuance of the Building / Disposal Permit - a document authorizing the execution of the constructions and facilities or their dismantling under and in compliance with the town planning certificate and the project documentation elaborated, verified and approved in the established manner.</li> </ul>
<p><b>Government Decision on the Approval of the Program for the Development of Water Management and Hydro-Melioration in the Republic of Moldova for 2011-2020, no.751, 05.10.2011</b></p>	<ul style="list-style-type: none"> <li>• Creating and implementing (together with the line ministries) the water resource management basin system and adjusting the normative framework;</li> <li>• co-operation on the gradual financing of rehabilitation and construction of irrigation systems.</li> </ul>
<p><b>Government Decision approving the Regulation on the use of water from water accumulations for community needs, irrigation and fish farming, no. 807, 16.10.2013</b></p>	<ul style="list-style-type: none"> <li>• Establishment and maintenance of the field sectors for the needs of the community (for all water bodies, regardless of the form of the property)</li> <li>• Coordination of land areas allocated to community needs in agreement with the owner or holders of the environmental permit for the special use of water</li> <li>• Coordination of the land sectors allocated for the needs of the community with the Civil Protection and Emergency Situations Service, the Public Health Service</li> <li>• Sharing information on land areas allocated to community needs on the public panel</li> <li>• Coordination of sports and recreational fishing activities in waters where fish breeding is practiced under the conditions established by the holder of an environmental permit for the special use of water for fish farming.</li> </ul>
<p><b>Government Decision on Approval of the Type Regulation</b></p>	<ul style="list-style-type: none"> <li>• Each year, until the beginning of the floods, (together with the central public authorities), it organizes a flood control committee, which:</li> <li>• develops a program of measures regarding the transit of the flood;</li> </ul>

<b>for the exploitation of accumulation lakes / ponds, no. 977, 16.08.2016</b>	<ul style="list-style-type: none"><li>• determines the order of filling and emptying of the reservoir lake according to the hydrological forecast;</li><li>• verifies the state of the upstream slopes of the dam, water drainage, canals, dikes and riverine basin lagoon / pond</li></ul>
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## 4 EXAMPLE OF GOOD PRACTICE – The Committee of River Cubolta

From 2007-2014, the NGO “Ormax” has carried out ecological activities with a comprehensive strategy program on the rehabilitation and protection of the River Cubolta.

This successful rehabilitation campaign for a river basin can serve as an example for other stakeholders that intend to initiate such a programme. For the village of Mândic, a local Environmental Action Plan for rehabilitation activities of the River Cubolta was elaborated.

Various actions have been carried out already in the process of elaborating this document, such as: informing the population about the planning process, identifying River Cubolta pollution sources, identifying polluted areas, public hearings and debates, bringing together of environmental expertise and monitoring knowledge, drinking water testing, etc.

As a priority to initiate the River Cubolta sanitation and rehabilitation campaign, Ormax provided evidence of expertise that reflected poor drinking water quality, solid waste management issues and the lack of adequate management of the river Cubolta basin management. Heaps of solid and stack waste located in the Cubolta River meadows in Mândic served as evidence that the situation regarding the quality of natural and aquatic resources has worsened considerably.

In 2008, the village of Mândic started with the rehabilitation campaign of the Cubolta River according to the Local Environmental Action Plan. In total, six unauthorized landfills from the River Cubolta meadow were shut down and cleaned. Parallel to the sanitation activities, information and ecological education campaigns have also been carried out for the population of the villages.

Local public authorities, school pupils and the native population living near the Cubolta River participated in the sanitation activities. As a result of these sanitation activities, ribbon strips were planted on the banks of the Cubolta River for its protection. Sanitation activities have considerably reduced the negative impact of landfills and have generated various positive results in the River Cubolta basin.

As a result, many solid waste disposals have disappeared from the River Cubolta meadow. The case study showed that to avoid the pollution of water resources, an adequate management of solid waste must be initiated and promoted. Local public authorities and the ecological inspectorates must act on this matter. Problems will only be solved if the public authorities are active in this regard and want to change the situation in the locality for the better. But a common strategy for river rehabilitation activities between public authorities, NGOs and the general public will show the best results.

## Information on the original manual

### The original manual:

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### Table of content of the original manual:

Table 4 translates the table of contents of the original manual:

Table 4: Translated table of contents

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