BIGDATA 4RIVERS
Interreg Europe

Improving the European Rivers Water Quality through Smart Water Management Policies

ACTION PLAN

NURE

INDEX

FIGURE INDEX

LIST OF ABBREVIATIONS

ABBREVIATIONS	
B	
BIGDATA 4RIVERS	Improving the European Rivers Water Quality through Smart Water Management Policies
C	
CAB	County Administrative Boards
L	
LIOP	Large Infrastructure Operational Programme
T	
TEN-T	Trans-European Transport Network
N	
NURE	National Union of Romanian Employers
R	
ROP	Regional Operational Programe
W	
WATERLAG	Local Advisory Group

1. PREFACE

BIGDATA 4RIVERS is a European project, co-financed by the Interreg Europe Program, started in 2019 and scheduled to last until mid-2023.

The overall objective of the BIGDATA 4RIVERS project is to exchange experiences & good practices between partners in the field of the efficiency of the water systems, to adapt those good practices & apply the lessons learnt to each partner reality through the development of individual action plans & to promote their application through the partners' policy instruments.

During all this time that the first phase of this project has lasted, we have been learning from others, detecting our weaknesses, and looking for solutions to transform them into opportunities, and with time strengths.

Water is one of the 29 fields have been identified by integrating different inputs at the exploration and discovery process, after the Data analytics proposed clustering (June 2013) this issue is incorporated as "Optimizing the use of conventional and non-conventional water resources" making part of the KET related priorities as a "A3. Energy and environment".

Among all the good practices and lessons learned throughout this project, we have selected 2 that we will take as a basis for the action included in this Action Plan presented for the Romanian region. For the elaboration of this Action Plan, we have had the close collaboration of the Management Authority that manages our Policy Instrument where our initiatives are framed and related to the improvement of infrastructures and water quality in Romania, among others, POIM (Large Infrastructure Operational Program) and that in a chapter below we will summarize.

We have also had the help of local stakeholders' groups and especially the Ministry of the Environment and its management body dedicated to managing the waters in our region, "Romanian Water".

2. EXECUTIVE SUMMARY

2.1. Introduction

Once the main objective of the ROP in the field of the water and wastewater management is to accomplish with the European Water Framework goals and Romania actually presents a lower accomplishment with its indicators, actions and projects proposed under the priority axis 3 and 4 are mainly related to the construction of the water system sector infrastructures.

By introducing the possibility of financing – as part of those projects or as a new typology of projects to be supported - the development/implementation of ICT tools to support the management of those infrastructures, to share information between all the infrastructures of the sector, introducing the principles of smart water management in the water sector planning (policies and strategies design), management and monitoring

The new project should aim the generation of continuous data and information to be used by the Romanian water sector stakeholders (including the infrastructures managers) to achieve a more sustainable and efficient management of national water resources (especially rivers and rivers basins).

During 1950-1990, Romania's soil and water were heavily damaged by industrial and agricultural pollution, salinization, acidification, erosion, desertification, and landslides that today pose a major risk to human health and to the environment.

Despite the efforts and investments made in the last years, the extension and modernization of the water and wastewater infrastructure continue to be one of the most important priorities in improving Romanian living standards.

The frequency and severity of drought in close relation to climate change are projected to increase significantly. In southern and eastern Romania, a reduction of 20% in water resource has been estimated. Regions that are currently dry are expected to become drier and could be affected by desertification in the future making mandatory the implementation of a smart sustainable water management (that assure a continuous monitoring of the results and effectiveness of the policies, actions and networks and enabling a timely corrective intervention, when needed).

According to the River Basin Management Plans, the costs for basic and additional measures related to the implementation of the Water Framework Directive are around 21 billion Euros. Most of these measures are related to drinking water quality and wastewater collection and treatment - 17.16 billion Euros during the period 2007-2027.

In this context, the adoption of the EU directives continues to be a complex and difficult task. Consequently, the extension and modernisation of the water and wastewater infrastructure continues to be one of the most important priorities of Romania.

As regards the quality of drinking water, the main obligation is to meet the quality standards of drinking water provided by centralised systems. Underground waters have an important role as supply sources for drinking water, and diffuse pollution of aquifers (with fertilisers and other pollutants) is a problem, especially in rural areas. The drinking water provided by small systems in rural areas is insufficiently monitored and individual water sources are monitored only sporadically. Outdated and insufficient laboratory equipment for monitoring drinking water quality at the regional and county level is the main impediment to an adequate water management.

All Romanian territory has been declared as sensitive area and the accomplishment with the directives should be made gradually and have a special focus in rural areas and in the primary sector activities.

2.2. The Policy Instrument

The **Large Infrastructure Operational Programme (LIOP)** aims at promoting sustainable economic growth as well as safe and efficient use of natural resources. It addresses the development challenges identified at national level in terms of transport infrastructure, sustainable urban transport, **environment**, energy and risk prevention. This PI was elaborated to meet Romania's needs for development identified in the 2014-2020 Partnership Agreement and in full compliance with the Common Strategic Framework and the Position Document of the European Commission's services. The POIM (in Romanian language) strategy is oriented towards the objectives of the Europe 2020 Strategy, strongly correlated with the National Programme for Reformation and the Specific Country Recommendations, focusing on sustainable growth. The funding resources available are

The Large Infrastructure Operational is strong focus lies on measures to increase energy efficiency and protect natural resources. It also invests in environment infrastructure and risk prevention. The Programme will focus on eight priorities:

- Improving mobility through the development of the TEN-T and the metro network
- The development of a multimodal, high-quality, sustainable and efficient transport system
- **The development of environmental infrastructure based on an efficient management of resources**
- **Environmental protection by taking measures to preserve biodiversity, air quality monitoring and de-contamination of historically contaminated sites**
- **Promoting adaptation to climate change, risk prevention and management**
- Clean energy and energy efficiency in order to support a low carbon economy
- Increased energy efficiency in centralised heating systems in selected cities
- Intelligent and sustainable transport systems for electricity and natural gas

Under the **priority axis 3 (Development of environment infrastructure under conditions of efficient resource management)** is expected to support investments in the water and wastewater sector to meet the EU environmental acquis requirements through the further development of integrated project on water and wastewater and achieve a more sustainable management of the water resources. Assigned amount for this axis is 2,892,443,785.00 Euro.

The **priority axis 4 (Environmental protection by biodiversity conservation measures, air quality monitoring and decontamination of historically polluted sites)** is focused on protecting biodiversity, both by promoting European priorities and by decontaminating polluted sites and reproducing their initial state. Assigned amount for this axis is 425,531,915.00 Euro

Both priorities aim to extend public access to **water and wastewater services**, in the context of the Water Framework Directive and its River Basin Management Plans in order to ensure better water resource management alongside wastewater management measures.

In Romania, in the water supply system has been implemented by a series of externally funded programs that allowed the development of institutional capacity and the expansion of water supply networks or the replacement thereof, especially in urban areas with the subsequent expansion of networks in rural areas.

Most non-compliant agglomerations larger than 10,000 PE were included in the financing applications from non-reimbursable European funds, under the Environment Sectoral Operational Programme 2007- 2013, continued by the Large Infrastructure Operational Programme 2014-2020.

Human agglomerations with a population between 2,000 and 10,000 PE and for which a lower level of

compliance has been achieved, are included in the EU financial framework related operational programmes for the 2021-2027 timeframe.

2.3. Methodology

At the end of the 1st phase of the BIGDATA 4RIVERS project, the different partners present their action plans. These documents contain strategies for use in the respective regions based on the experiences at the workshops, the knowledge gained through the cooperation and the examples of good practice. The action plans contain specific information on the planned measures, the players, and the implementation deadlines. In this way, the action plans not only reflect the knowledge gained for the respective partner region from the cooperation and international exchange, but also show a way of applying them directly.

We have been analysing all the good practices proposed by our project partners and, from the beginning, we have focused our attention on two of the proposals related to make changes in the way of governing the instrument to provide it with a greater degree of transparency, collaboration and effectiveness between the instrument and its final beneficiaries. That is why we have selected the good practice number 17, **"LOVA & Water Council"** proposed by the PP4 and the number 20, proposed by PP6 and entitled **"Regional cooperation (public research centres, private bodies, public entities) to promote new and innovative projects for better management of water resources".** Also, we have been inspired from the GP 15 **"Local Action Plans - River Tinnerbäcken"** (PP4). These three good practices are the most suitable to inspire us for our action purpose.

The action plan specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs, funding sources, and desired results.

Figure 1. NURE Methodology

2.4. Vision and Goals

Some opportunities and needs for improvement in the policy instruments addressed by us, and some important issues related to better water resources management that can be pushed via our proposal are the following ones:

- maintaining the social and ecological parameters of water and aquatic resources, which are defining but sensitive elements for the whole society, both in terms of maintaining living conditions and for economic development.
- supporting a water management long-term approach as an integral part of the system of key- areas for sustainable development.
- adopting a sustainable management to ensure the maintenance of biological diversity and ecological balances.

The main purpose of our action is to **facilitate the local cooperation and collaboration between different types of organizations on water managemen**t to provide greater effectiveness, higher efficiency, and better transparency to the decision-making process into the governance of the PI.

2.5. Lessons learned

The process of modernizing governance becomes key, and even more so today, living in a BANI environment. That is why, with new technological tools such as digitization and BIGDATA, it is possible to significantly promote actions to improve efficiency and transparency in the management of water resources, whether at the local, regional or cross-border level.

Given that BIGDATA 4RIVERS is a project that has as its objective, among others, the exchange of experiences and the exchange of knowledge, it is of great importance to present the good practices that exist in different territories. NURE has focused from the beginning on those best practices available in terms of government and technology, as well as those with a more innovative character and in very particular contexts, subject to replication and adaptation in other territories, conditions and challenges.

UNPR works closely with the most important institutions and has reciprocal collaboration agreements, especially with the public authorities, that help influence the creation and maintenance of effective and efficient policies for the improvement of water quality management.

2.6. List of actions

Throughout this time of work in the first phase of BIGDATA 4 RIVERS from NURE we have identified an action as possible to implement in the time available in our country. We think that the following action will make possible a change in the form of government of the policy instrument POIM.

The action that is part of this action plan is: The Constitution of the Local Advisory Group for a smarter water management (WATERLAG)

2.7. The monitoring process

The importance of private organizations in decision-making in policy instruments is an option that adds value and leads to an improvement in their transparency. In this sense, **the participation of NURE in the monitoring process** for decision-making is very timely, in this way the Management Authority in charge of managing the PI will have continuous and systematic information for decision-making.

In order to monitor the grade of compliance with the objectives proposed in this Action Plan, we are going to design realistic and measurable indicators.

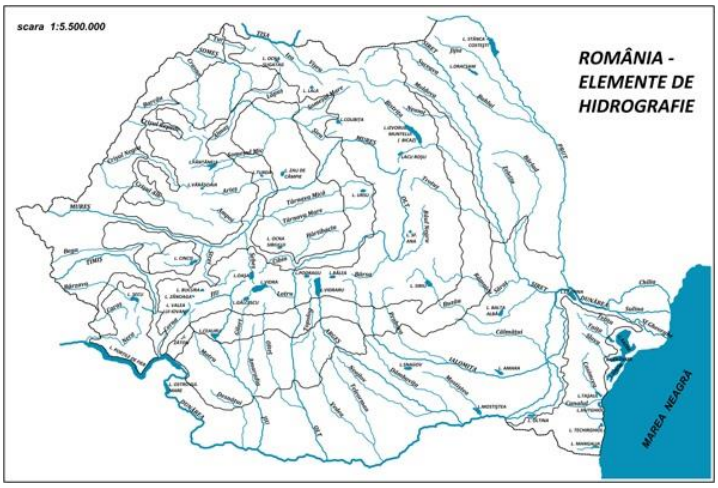
2.8. Conclusions and recommendations

The actions like ours, that lead consultation and debate make it possible for those affected to give their opinion make suggestions and alternatives and open a phase of dialogue between the administration and citizens. Therefore, through information and consultation we can make it possible to reach consensus proposals that, in the long run, will be more effective and useful than those made without participation.

The results expected in regard with **the intervention of actions promotes under this PI for 2023** are the follows:

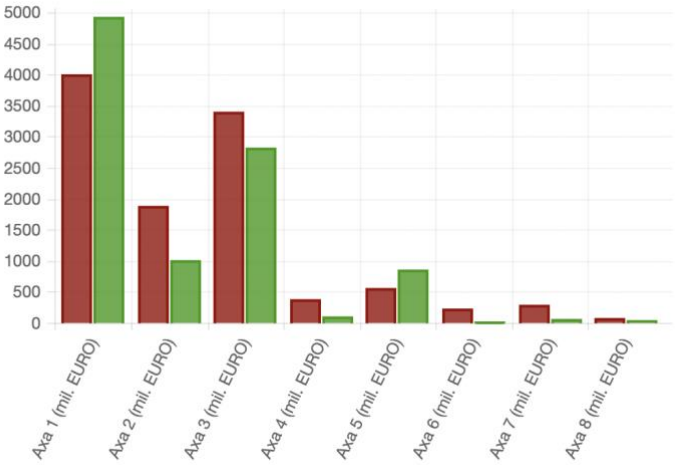
- The level of population covered by public drinking water system **will increase to 99,5%**
- **Restore 10%** of the degraded ecosystems
- The annual average economic damage caused by adverse hydrological events **will decrease to 383,16 M Eur/year**

Figure 2. Romanian Hydrography



Source: Apele Romane (Romanian Waters)

Figure 3. Allocation and contracting status at POIM level (year 2022)



Source: https://www.fonduri-ue.ro/poim-2014

3. ACTION PLAN (MAIN PART)

3.1. General Information

Project	BIGDATA 4RIVERS - Improving the European Rivers Water Quality through Smart Water Management Policies
Partner organisation	The National Union of Romanian Entrepreneurs
Other partners / players involved (if relevant)	• AM POIM • Romanian Waters
Country	Romania
NUTS2 region	
Contact person	Cristóbal Toro
Email address	cristobal.toro@unpr.ro
Phone number	+34643121462

3.2. Policy Context

The Action Plan aims to impact:	□	Investment for Growth and Jobs programme
	□	European Territorial Cooperation programme
	X	Other regional development policy instrument
Name of the policy instrument addressed:	Large Infrastructure Operational Program (LIOP)	

3.3. Details of the actions envisaged

Action 1: The Constitution of the Local Advisory Group for a smarter water management (WATERLAG)

a) ***The Background*** *(please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)*

We are convinced that local experience provides important knowledge to those who must make decisions. WATERLAG is a non-binding advisory working group that aims, from a global and local perspective, to recommend the best options to implement in certain territories in the field of smart water management. This group is integrated by representatives of local authorities, academic-scientists, businesses, and civil society representatives.

This action has been inspired by two good practices already implemented in Sweden and another implemented in France.

In the case of **CAB Östergötland** (County Administrative Boards), "Water councils" are the regional and local forums where stakeholders can meet and discuss common solutions to water issues. Participation in a water council is voluntarily for the different stakeholders in the sub-river basin areas. This is our main inspiration for our action plan.

The stakeholders of the sub-river basins can form a water council. Members can influence the focus of the water management work, so for each sub-catchment area there are water councils, organizations that gather communities surrounding the catchment area such as municipalities, NGO's, local inhabitants and landowners as well as other interested parties in the area. No decision-making power but can contribute with valuable local knowledge and act as consultation bodies for municipalities and authorities. At the same time, Water Councils can impel the work with management plans, measures and apply for financial grant for measures or monitoring and serve as a valuable source of local knowledge about the conditions in the sub catchment areas. The local knowledge in the water councils contribute to bring about the right action in the right place. Perform measures to improve water status.

Continuing with CAB Östergötland, Tinnerbäcken river does not reach its environmental quality standards (EQS) and before the local action plan was developed the ecological status was bad (currently poor). The municipality is responsible for improving the status of the river and ensure no deterioration occurs while areas are developed. As opposed to producing examples of possible measures for each individual area planned to be developed in proximity to the river, a holistic approach was chosen. The plan targeted necessary measures during and after development/urbanization of agricultural lands as well as measures necessary to improve the status of the river, this is an important part in reaching the objectives set by the water framework directive. Also, the policy instrument regional objectives of Östergötland benefit from this type of plans as the water related objectives are closely connected to the management and improvement of water body status. Once completed the plan have and will be used in the planning of development in the surrounding areas of the river. The main stakeholders were the municipality, inhabitants of the city, companies and activities using the river.

We have taken **the local action plans as a reference** and we have concluded that they are part of our proposal because the local action plans, which are prepared with the collaboration of the main local actors in water matters, allow us to study and conclude with the design of local solutions, according to the needs and problems identified since they bring together, precisely, the representatives of the different local interests, both economic and environmental. In our case, we

could also provide solutions that integrate the real local needs for investment in water infrastructure, environmental problems (EQS water quality objectives) and technologies, which are undoubtedly necessary so that the resulting local plans be SMART.

In regards with the good practice proposed by **DREAM** and entitled "Regional cooperation (public research centres, private bodies, public entities) to promote new and innovative projects for better management of water resources". It tries to improve cooperation relations of cooperation in projects between entities and organizations with the intention of promoting new and innovative projects for better management of water resources. In this experience, the identification of competences in the territory is of vital importance so that innovative projects that achieve the objective of improving the management of water resources can really be promoted. This encourages the creation of regional networks. We have learnt from this GP, how each actor (from different profiles) involved in water management at different levels is very important. The local sphere is the one that usually has the least representation and, precisely, it is the one that we want to promote with our action, we believe that the people of the region are the main experts on the problems and can also propose solutions. On the other hand, the possibility of having a water technician in each WATERLAG can add a lot of value to this local advisory group.

The capital importance of cooperation between the different regional actors, whether they are Research Centres, private entities and other public entities, or municipalities and local management centres to promote new and innovative projects for better management of water resources. Another issue that helped us and illuminated this good practice was related to the identification of competencies in the territory to promote innovative projects for better management of water resources and thus encourage the implementation of a regional network.

The objective of the **Local Advisory Group (WATERLAG)** is to discuss efforts, incorporate local knowledge and, in the end, obtain consensus on the measures that should be taken to select and promote new and innovative projects for a better management of water resources.

What we intend at the end of the second phase of our BIGDATA 4 RIVERS Project is **to have a WATERLAG implemented for each of the development regions and a local action plan for each WATERLAG.** In this way, this form of organization and operation is included in the manner of governance in this Policy Instrument that we want to address.

Considering the new community support framework (2021-2027), funding issues are also highlighted, distinguishing between rural and urban areas. These two areas have different characteristics, which imply an allocation of different costs, different practices, and instruments, and it is expected that there will be a need to support the implementation of water management and monitoring practices and adaptation to new technologies.

Combining advanced analytics with information management, technology services, and business consulting capabilities, strategic water management solutions can help governments, water utilities, and companies to monitor and manage water operations more effectively.

There is an important civic commitment on water issues, but we think that it is not enough, which is why we propose this participation mainly through the local water councils. These independently organized forums, each formed around an area, are made up of community members committed to keeping their local waters healthy along with the involvement of relevant authorities.

At the same time, we believe that adopting strong commitments to undertake strategies that involve locals will make it possible for sustainability to become one of the fundamental axes in high-level decision-making.

In this way, we intend to implement at the end of these 12 months of work, 5 advisory groups, one for each of the **5 development regions in Romania**: Centre, South, North, East and West local regions, and every advisory group will produce a local action plan for its region.

NURE, as partner members of this project, will take on the role of facilitator, as well as monitors of

the follow-up of the implementations.

b) ***Action*** *(please list and describe the actions to be implemented)*

The actions to be implemented are the follows:

1. Elaborate the documentation needed for the **internal regulation of a WATERLAG**

2. Participate in the **representative members selection process** of every WATERLAG (online action)

3. Preparation of what is needed for the **kick-off meeting of every WATERLAG**

4. Preparing and supporting the **training sessions** that will be organize about the meeting and works procedures for working on a WATERLAG. (Online training sessions)

5. **Validation of the local Advisory Group** (WATERLAG) by POIM Management Authority.

6. **Integration of the local Advisory Group** (WATERLAG) in the POIM framework.

7. **Elaborate the Local action plan** (every WATERLAG)

c) ***Players involved*** *(please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)*

Each one of WATERLAG advisory group will include the following 6 representatives from every development region of Romania:

- 1 Representative of the Regional Councils (water)
- 1 Representative of Local Development Agencies
- 1 Representative of Local NGOs
- 1 Expert on SMART solutions for water management
- 1 Business representative
- 1 University or research centre

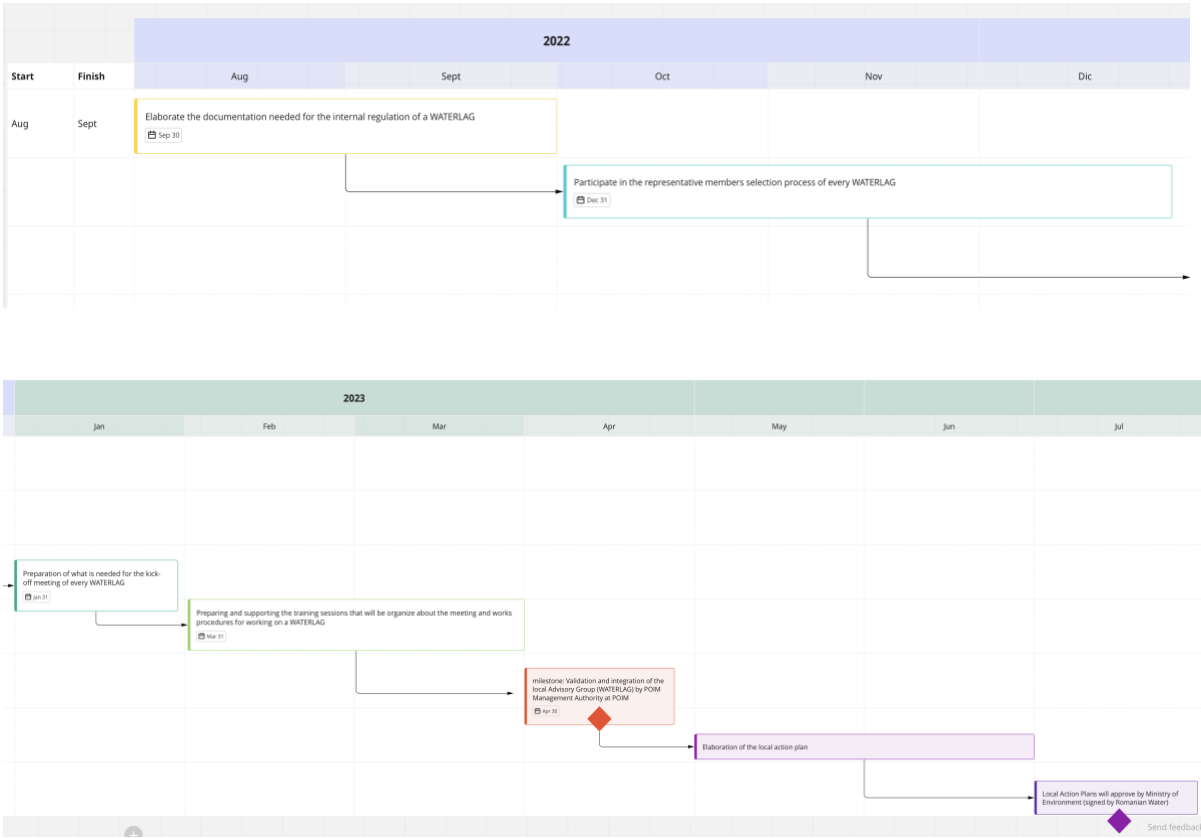
Management Authority for Large Infrastructure Operational Program is the key player and, in the implementation of this action will be responsible to validate and approve each WATERLAG, in order to be integrated in the PI.

Romanian Waters (Ministry of Environment) It is the beneficiary body of the funds managed by POIM so, it would be the role for approving the different Local Action Plans that will come out of every WATERLAG. After that Romanian Water would request the necessary financing to implement the action.

d) ***Timeframe***

ID	TASK	TIMEFRAME
1	Elaborate the documentation needed for the internal regulation of a WATERLAG	Ago 2022 – Sept 2023
2	Participate in the representative members selection process of every WATERLAG	Oct 2022-Dec 2023
3	Preparation of what is needed for the kick-off meeting of every WATERLAG	Jan 2023-Feb 2023
4	Preparing and supporting the training sessions that will be organize about the meeting and works procedures for working on a WATERLAG	Feb 2023-Mar 2023
5	Validation and integration of the local Advisory Group (WATERLAG) by POIM Management Authority at POIM	Mar 2023-April 2023
6	Elaboration of the local action plan	April 2023-June 2023
7	Local Action Plans will approve by Ministry of Environment (signed by Romanian Water)	July 2023

Figure 4. Gantt action



e) ***Costs*** *(if relevant)*

ID	TASK	COST
1	Elaborate the documentation needed for the internal regulation of a WATERLAG (1 person (50%) x 2 months)	4000 Euro
2	Participate in the representative members selection process of every WATERLAG (1 person (50%) x 1 month)	2000 Euro
3	Preparation of what is needed for the kick-off meeting of every WATERLAG (1 person (50%) x 1 month and 250 Euro (office for kick-off meeting of every WATERLAG)	3250 Euro
4	Preparing and supporting the training sessions that will be organize about the meeting and works procedures for working on a WATERLAG (1 person (100%) x 1 month)	2000 Euro
5	Validation and integration of the local Advisory Group (WATERLAG) by POIM Management Authority	Internal costs supported by AM POIM
6	Elaboration of the local action plan (1 person (50%) x 3 months) *	6000 Euro
7	Local Action Plans will approve by Ministry of Environment	Internal costs supported by Ministry of Environment
	TOTAL	**17250 Euro**

*NOTE: The costs that could arise from the execution of activity 6 and others, such as meeting rooms, meals, travel and others for WATERLAG members, will be support by POIM, which is the party interested in implementing these advisory groups.

f) ***Funding sources*** *(if relevant)*

- POIM
- Ministry of Environment
- Romania Government

g) ***Impact expected***

- 5 WATERLAG launches (5 Romanian Development Regions involves)
- 30 WATERLAG members actives

Date:
Signature:
Stamp of the organisation (if available):