



# **Regional analysis on Green and Blue Infrastructure in South Muntenia Region, Romania**



## **Pipeline for regional projects Report**

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Description **This Final Pipeline for regional projects Report presents the main findings during Task 3 (1) and the outcomes from the second stakeholders' workshop.**

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## **List of Acronyms**

BGI	= Blue-Green Infrastructure
CAP	= Common Agricultural Policy
EBRD	= European Bank for Reconstruction and Development
EC	= European Commission
EU	= European Union
LED	= Light Emmiting Diode
PMUD	= Sustainable Urban Mobility Plans
PNRR	= National Plan for Recover and Resilience
RDA	= Regional Development Agency
RDP	= Regional Development Plan
ROP	= Regional Operational Programme
SIDU	= Integrated Sustainable Development Strategies
SM	= South-Muntenia
SMRDA	= South-Muntenia Regional Development Agency
TOR	= Terms of Reference

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# 1 INTRODUCTION

## 1.1 Context of the assignment

Considered the heart of the analysis, the Pipeline for regional projects outlines the types of investments, policy and strategic actions the South Muntenia Region and main cities could undertake to address environmental challenges. Starting with the data collected during the Inception phase (Task 1) and continuing with the activities developed during Task 2 - High-level environmental challenge Report, Ramboll identified the key regional environmental challenges affecting human health, ecosystems, natural resources, or the global environment.

The previous tasks combined expert assessments based on the data and information collected, through the development of maps and supporting overlay analyses, together with outreach activities with key stakeholders through 2 online workshops, a 3-day field visits and a close communication with SMRDA and EBRD.

## 1.2 Objectives of the pipeline for regional projects

The objective of the pipeline for regional projects is to outline the **types** of investments, policy and strategic actions the cities from South Muntenia Region could take into consideration in order to address environmental challenges.

## 1.3 Approach to the pipeline for regional projects

Because of both the complexity of the subject matter and the level knowledge/data available in the region, a three-tier approach was taken.

The first tier is the development of a list of potential BGI typologies that can be applied in local projects and that corresponds to specific objectives of the program.

The second tier is an assessment from a regional perspective of the local project proposals that were submitted to the consultant by regional stakeholders.

The third tier is the development of several project types on a regional scale with a corresponding assessment method based on various criteria.

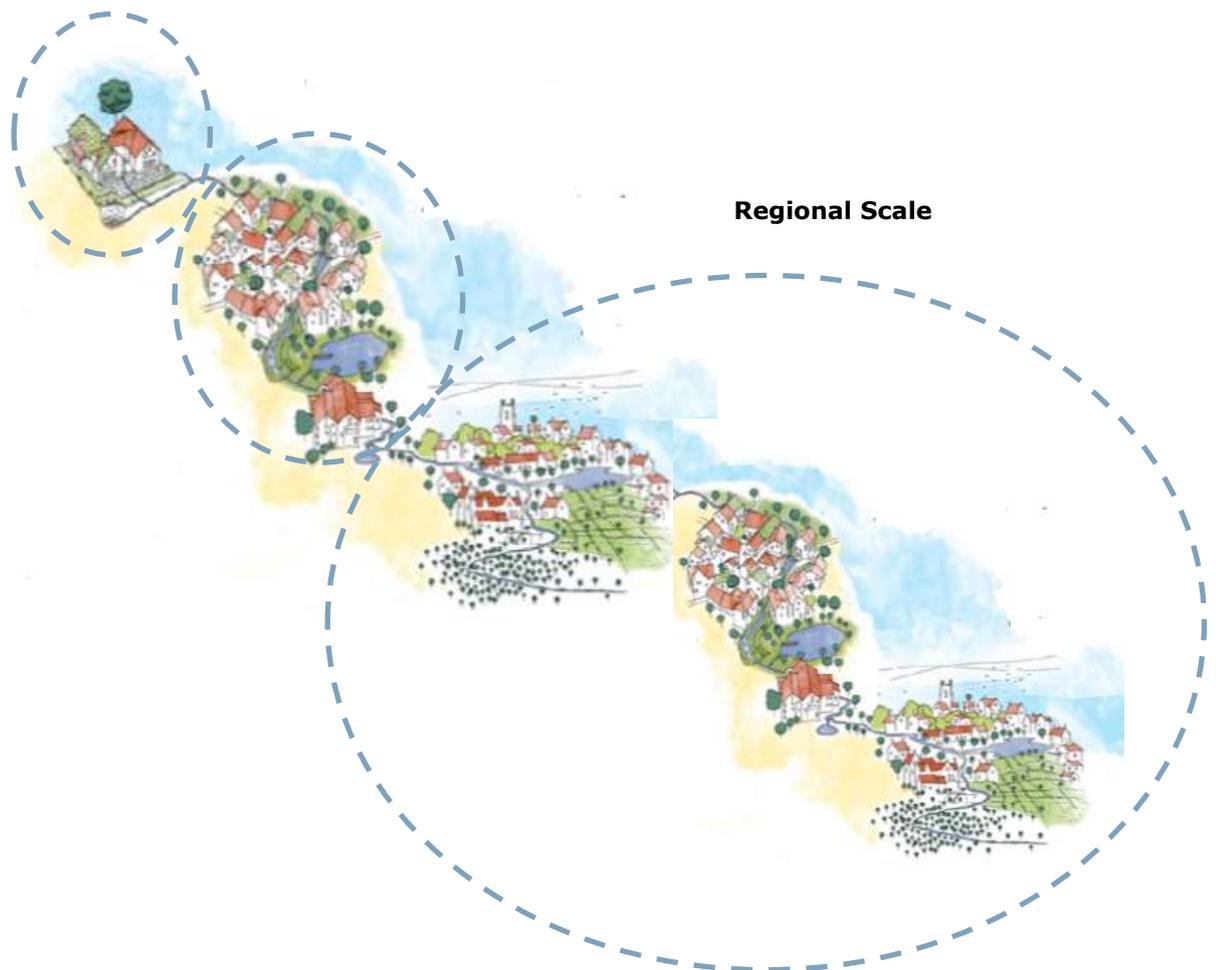
## 2 PIPELINE FOR REGIONAL PROJECTS

### 2.1 Introduction

A green urban landscape and a sustainable water cycle are essential for the development of a city. Green-blue infrastructure planning aims to ensure that cities provide a good quality of living, prosperity and resilience.

Successful planning of blue green infrastructure requires the integration of different local/territorial planning strategies, development strategies, action plans and local/regional policies.

Blue – green infrastructure planning can be done for a small area of a city, an entire urban area or river basin, but must take into account possible regional interventions as well as their cumulative impact of these interventions. Depending on the scale of application, the types of blue-green infrastructure that can be applied may be different (see **Figure 2-1**).



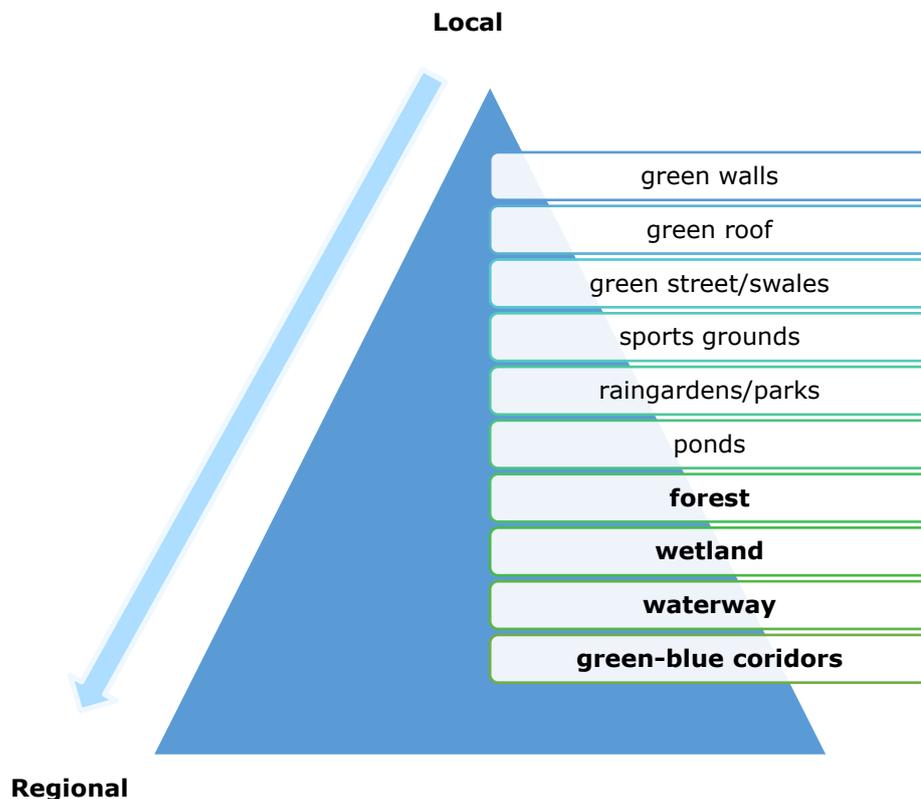
**Figure 2-1 Interlinked green-blue infrastructure systems across scale**

*Source: Planning a Green-Blue City, Department of Environment, Land, Water and Planning, State Victoria February 2017*

The types of measures range from watershed-scale to site-scale:

- watershed management features (forests, rivers and riparian vegetation and agricultural features)
- wetlands (constructed and natural)
- urban green space
- engineered stormwater devices (including bioretention systems, bioswales, green roofs, retention and detention ponds)

When we refer to small areas of a city, we can have local interventions that allow for example the transformation of existing building /streets into green ones, the construction of rain gardens / parks or forest curtains around the city. But when we refer to a region, we must take into account much larger areas of coverage that allow, for example, the creation of blue-green corridors that encompass the integration of watercourses and their protection areas in the urban environment and which can have large areas ensuring, natural flood areas, waterways (see **Figure 2-2**).



**Figure 2-2 Green-blue infrastructure elements applicability to scale**

The blue-green corridors can be implemented along any watercourse within urban or rural areas. These corridors can have the role of reducing the risks of floods, the erosion of the banks by restoring / improving the riparian vegetation and lowering the temperature at the water level by creating the shading effect given the development of vegetation. Along these corridors hiking trails, running or bike paths, rest area can be arranged.

Blue-green corridors can also be implemented along any watercourse between urban or rural areas, creating connections between neighbouring localities in the same county and can even connections between localities in different counties.

Regardless of the scale of application, the areas where blue-green infrastructure systems will be proposed must have the following common characteristics:

- Surfaces covered with vegetation, offering comfort and habitat.
- Open land surfaces allow the extension of green spaces or the creation of forest curtains or the existence of degraded lands that can be ameliorated by afforestation.
- The existence of watercourses that allow the creation of corridors between neighbouring areas of the same locality or areas in different counties.
- Access routes that allow the connection of the urban area with watercourses and other areas that can be extended as green spaces.
- The need to adapt to climate change (reducing the risks of natural hazards caused by climate change)
- The need to apply measures to improve air quality / to maintain air quality and reduce greenhouse gas emissions.
- Protection of water resources (e.g., rainwater collection and use or supply of recycled water with a frequency and quantity sufficient to support vegetation and soil quality; water treatment capacity, using natural processes to filter local water sources and to reduce pollutants that may reach surface water bodies; water storage capacity, land availability for stormwater collection systems and rainwater retention)

## 2.2 Potential BGI typologies

Blue-Green Infrastructure (BGI) refers to engineered solutions that mimic nature, connecting urban hydrological functions (**blue**) or permeable **green** spaces, with wider urban design and planning benefits, generating social and environmental value for targeted areas, while addressing the challenges of urban growth and climate change.

**Investments** in BGI\* generally target works, services and facilities to address flooding risk, pollution and mitigate climate change impacts, but also to provide additional ecosystem services, water quality improvement, air quality improvement, carbon sequestration, recreational activities, urban cooling, noise pollution reduction, biodiversity increase and added recreational values.

As such, **potential eligible BGI measures under the SM Regional Operational Programme 2021-2027**, *Specific Objective b(vii) - Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution, include:* (\*Note these systems can either replace, reduce or work in combination with traditional grey infrastructure):

- Creation of public parks and gardens including 'pocket parks'; urban forests; botanical gardens; existing green areas (e.g. zoos) that could be refurbished as BGI, including significant green and blue components, as well as biodiversity features (over 50% permeable green spaces)
- All forms of sustainable urban drainage systems (SUDS), including but not limited to permeable paving, green roofs and walls; swales, retention ponds, constructed wetlands
- Rain water harvesting and other forms of off- or on-line storage - i.e. retention methods for flood and drought management
- Water quality improvements with floating islands/floating wetlands/floating gardens in existing rivers/streams

- Urban natural and semi-natural green spaces - arrangement of poorly used or abandoned lands, forests, bushes, meadows, wetlands (swamps), lakes and rivers / streams, rocky areas, etc.
- Reclaim / convert redundant transport corridors such as old railway lines to shared, permeable access paths / bike lanes, combined with wildlife refuges
- Afforestation and re-afforestation of areas exposed to landslides
- Green and blue corridors - rivers and canals, including their banks; river restoration/river re-naturalization (converting culverted streams to their natural state and river reprofiling), measures could also include upstream sediment management, retention/removal of large plastic items, natural embankments for flood management and protection, managed retreat that create new amenity spaces ranging from i) active water front development for pedestrians, cyclists, educational activities, etc. to ii) creation of biodiversity spaces; greening of streets with grass, trees and flowers, 'eco-ducts', green pedestrian crossings, green spaces along: roads, railway corridors, tram lines, cycling routes, pedestrian paths; orbital forests around cities, etc.
- Bringing the land to its original state in order to restore the ecosystem and creation, modernization and extension of existing green spaces;
- Arranging the natural tourist objectives of public utility as well as the creation / modernization of the related infrastructures of public utility, including the facilities / berthing infrastructure for river tourism.

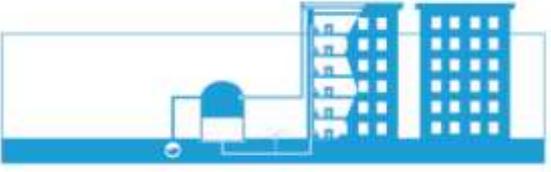
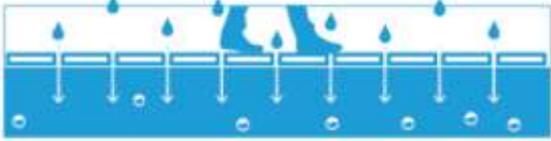
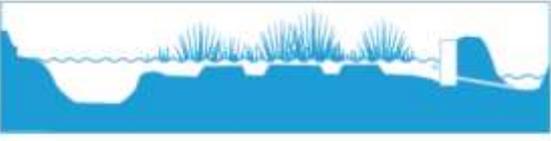
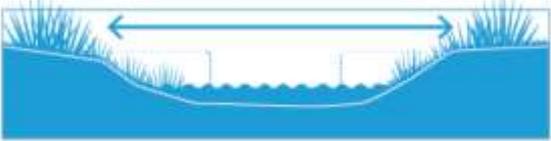
**The potential BGI typologies represent a first tier that can be applied to any BGI project, from a local to city scale, or as part of a regional project and that corresponds to the specific objectives of the ROP.**

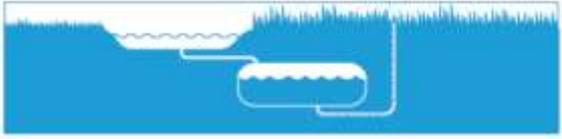
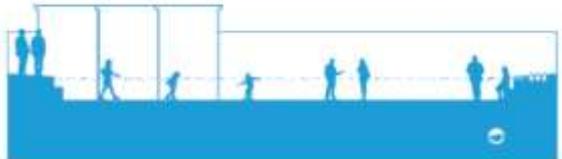
A typology is a congregation of functions adapted to local or regional context. The specification of individual typologies should recognise water quantity management and water quality benefits, along with wider environmental, cultural and amenity enhancements, that accrue from BGI implementation.

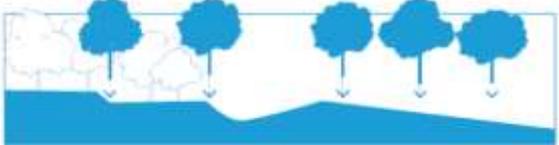
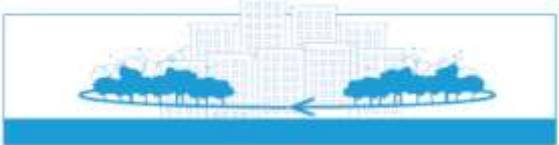
The following typologies were further elaborated and should be considered when defining and designing blue and green infrastructure projects in general. When assessing the local projects (see **section 2.3** and **Appendix 3**) the consultants made suggestions on which typologies could be applied for each project, to align it better with requirements.

In **Appendix 1**, the concept and context of blue green infrastructure is elaborated in a convenient brochure.

<p><b>Living Roofs and Walls</b></p> <p>Integrating vegetation and storage potential into new buildings and infrastructure acts as a first response in reducing local cloudburst runoff. With multifunctional potential, living roofs replace underutilized hard surface spaces in cities with rain soaking materials and vegetation that can reduce stormwater volumes and improve water quality, as well as reduce the urban heat island effect.</p>	
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<p><b>Rainwater Tank</b></p> <p>A rainwater tank is a retention container used to collect and store water that can be re-used for non-potable purposes. Rainwater tanks are generally used to supplement water supply systems and have nearby functions for both outdoor and in-house usage such as irrigation or toilet flushing.</p>	
<p><b>Permeable Pavements</b></p> <p>Any system providing hard or trafficable areas which also provides for downward percolation of stormwater runoff. This includes no-fines concrete or porous asphalt, permeable pavers, porous pavers, and stabilised loose material. The flow of stormwater from the surface to the collection system is slowed through infiltration and is temporarily stored and slowly released by the base course, resulting in detention of the peak flow.</p>	
<p><b>Wetlands</b></p> <p>Constructed stormwater wetlands are ponded areas, densely vegetated with water-loving plants that mimic the treatment processes of natural wetlands with detention, fine filtration and biological absorption, to remove contaminants from stormwater runoff.</p>	
<p><b>Bioretention Basin</b></p> <p>Bioretention basins such as rain gardens (including 'pocket parks'), planter boxes and swales can involve daylighting historic streams, formalizing existing streams, or creating new streams as quality improvement and conveyance connections between other cloudburst elements. Typically, smaller in scale, bioretention basins can re-establish or create new neighbourhood character and social spaces.</p>	
<p><b>Urban Canal</b></p> <p>Urban canals are larger infrastructure projects that typically involve daylighting of a stream or river within a dense urban area. They can be designed to create new and healthy oases in the city while increasing biodiversity and stormwater volume capacity.</p>	
<p><b>Stream Restoration</b></p> <p>Stream Restoration and re-profiling existing urban water edges can help build capacity for stormwater through retention and detention. Additionally, redesign of stream or riverfront parks to allow for seasonal and cloudburst flooding can reduce downstream flooding in unwanted areas. Inclusion of natural edges and floating islands/floating wetlands/floating gardens improves water quality and provides amenity enhancement.</p>	

<p><b>Underground Basin</b></p> <p>An underground basin is a buried system, which stores stormwater for either detention or large volume re-use purposes such as irrigation. It should be sized to manage excess stormwater runoff that cannot be stored by any other traditional or BGI component. It is often connected to a primary drainage system where it discharges to, by means of a regulator, to slowly release stormwater overflow to reduce peak discharges downstream.</p>	
<p><b>Retention Boulevard</b></p> <p>Retention boulevards are similar in scale to cloudburst roads, but incorporate large green, depressed medians that can detain and retain stormwater while allowing regular traffic use of the street. It requires taking away space from existing roads but can be very effective along larger urban arteries that are underutilized.</p>	
<p><b>Cloudburst Roads</b></p> <p>Cloudburst roads are used to channel and direct cloudburst water. These streets can be formed with a V-shaped profile and raised curbs to ensure water will flow in the middle of the road, away from the buildings. In addition, channels and swales can be established at the side of the road so that the water runs in urban rivers or green strips.</p>	
<p><b>Floodable Parks</b></p> <p>Floodable Parks and recreation spaces present the greatest opportunity for large retention spaces within urban areas. They can be located throughout the watershed and receive stormwater conveyance systems or adjacent water bodies. They can provide a combination of hydrological services including, water quality improvements via filtration, retention, detention, and infiltration.</p>	
<p><b>Cloudburst Pipes</b></p> <p>A cloudburst pipe handles rainwater in the same way as cloudburst roads. This is placed just below street level to ensure connection to other surface solutions. This solution is used if there is limited space for above ground conveyance.</p>	
<p><b>Wet Plazas</b></p> <p>Wet plazas or floodable public spaces are another great opportunity for large retention capacity within denser urban environments. Typically, hardscapes with some potential vegetation, these spaces collect, detain and retain stormwater to reduce flooding downstream. Additionally, they can incorporate drainage connections to allow the plaza, courtyard, etc. spaces to return to normal use quickly.</p>	

<p><b>Green Streets</b></p> <p>Green Streets (including railway corridors, tram lines, cycling routes, pedestrian paths) are located as upstream connections to all cloudburst roads or retention areas. The green streets should be established with a combination of small-scale channels and stormwater planters or permeable paving. Stormwater should be collected, delayed, and then channelled toward the cloudburst roads.</p>	
<p><b>Parks and Gardens</b></p> <p>Parks and gardens are examples of green infrastructure that can host stormwater management solutions such as bioswales, cleansing biotopes/raingardens, retention and detention swales and lakes, infiltration systems and others. . Parks and gardens present opportunities for improving the air quality and reducing the urban heat island effect incorporating a multifunctional design enhancing socio-economic and socio-ecological benefits.</p>	
<p><b>Urban Forest</b></p> <p>Urban Forests are highly effective ecological solutions for nature enhancement within city limits. The design consists of large, densely planted, high vegetation areas with few to no amenities. Urban forests are beneficial for mitigating heat island effect, enhancing biodiversity and strengthening urban ecosystems.</p>	
<p><b>Afforestation and Re-afforestation</b></p> <p>Afforestation and re-afforestation consist in planting or growing forests in high-risk areas. On top of the ecological value, afforestation and reforestation can mitigate landslides and flooding by serving as sponges, trapping water after heavy rains, and releasing it into waterways, reducing flood incidence and maintaining stream flow during dry periods.</p>	
<p><b>Active Waterfront</b></p> <p>Waterfronts present opportunities to integrate multifunctional solutions combining flood protection and public amenities. While serving an essential utilitarian function of protecting, waterfront designs can enhance livability and contribute to the aesthetic, functional, and cultural values of urban landscapes.</p>	
<p><b>Orbital Forests</b></p> <p>Orbital Forests are a system of large, densely planted areas that surround cities and act as green buffers. Among a wide range of benefits, orbital forests are especially efficient for pollution mitigation, soil erosion control and biodiversity enhancement. They can also mitigate the dust storm and snow drift.</p>	

<p><b>Thematic Parks</b></p> <p>BGI can host a variety of functions such as botanical or zoological gardens, amusement parks and temporary events. Thematic parks are a good example for BGI multifunctionality and added value as they enhance socio-economic benefits.</p>	
<p><b>Pocket Parks</b></p> <p>Pocket parks are small green spaces with recreational value that hold the potential to integrate stormwater management solutions such as infiltration systems, raingardens, small retention and detention swales. Their small scale lends itself to phased implementation over a larger area.</p>	

### 2.3 Local project proposals

A total of 27 local project proposals were received directly from the towns and counties in South Muntenia Region, as presented in **Table 2-1**.

**Table 2-1 Number and location of local projects per county**

No.	Name	County	Location	Estimated value
1	Development of Blue-Green Infrastructure in the protected natural area Balta Comana - Comana Monastery	Giurgiu	Comana National Park, Comana Commune	7 million euros
2	Rehabilitation of the Pitesti Zoo - stage II	Argeş	Piteşti Zoo, Piteşti	1.25 million euro (6,200,000 lei)
3	Realization of Lunca Argesului Park II	Argeş	Lunca Argesului Park along Argeş River, Piteşti	2 million euro (9,600,000 lei)
4	Rehabilitation and modernization of shore defense infrastructure, Central Park area in the Municipality of Calarasi	Călăraşi	Waterfront Central Park, Călăraşi	7 million euro
5	Greening and landscaping the banks of the Jirlău Canal and transforming it into a green corridor in order to prevent damage caused by floods	Călăraşi	Waterfront Central Park, Călăraşi	5 million euro
6	Rehabilitation and arrangement of the banks of the Settling Pond in Călăraşi Municipality	Călăraşi	Settling Pond, Călăraşi	6 million euro
7	Establishment of a forest plot in the area of the Tineret residential neighborhood	Călăraşi	Tineret residential neighborhood, Călăraşi	2 million euro

No.	Name	County	Location	Estimated value
8	Forest-Park development along the Borcea canal	Călărași	The forest along the Borcea canal in the area of Tineretului Beach in Călărași	N/A
9	Extension and modernization of the Greenhouses of the City Hall of Campina to be converted into a botanical garden	Prahova	Campina	2 million euro
10	Doftana River Development	Prahova	Campina	2 million euro
11	Urban regeneration by transforming the decommissioned railway lines and creating a green axis within the city	Prahova	Campina	1 million euro
12	Realization of afforestations in the area of running waters in rural areas	Dambovita	Not specified	N/A
13	Creation of floodable parks / permeable green spaces in rural areas on poorly used or abandoned land	Dambovita	Not specified	N/A
14	Realization of afforestations and floodable parks / permeable green spaces in mountainous areas	Dambovita	Not specified	N/A
15	Making forest curtains along county roads - Buffer Strips along County Roads	Dambovita	Not specified	N/A
16	Realization of floodable ditches / permeable green spaces along the county roads - Bio Swales along County Roads	Dambovita	Not specified	N/A
17	Realization of some constructions with green walls along the county roads	Dambovita	Not specified	N/A
18	Ialomita - Targoviste river regularization by creating permeable green spaces along the riverbed	Dambovita	Not specified	N/A
19	County roads - green corridors for environmental protection and traffic participants	Călărași	Călărași County, on the side of the county roads (South of County Road?)	N/A
20	Multiple investments in green-blue infrastructure	Călărași	Multiple locations within Oltenita Municipality	1.25 million euro (6,200,000 lei)
21	Promenades along Vedea river	Teleorman	Alexandria	N/A
22	Expanding green spaces	Prahova	Ploiesti	N/A
23	Implementation of the blue-green corridor in Pârâu Dâmbu area and programming for adaptation to climate change	Prahova	Ploiesti	N/A

No.	Name	County	Location	Estimated value
24	Rainwater collection systems (there is currently no separate system for rainwater and wastewater collection)	Ialomita	Fetesti	N/A
25	Creating green spaces (current problem: lack of green spaces)	Ialomita	Fetesti	N/A
26	Solving the deficiencies of the water infrastructure - especially of the rainwater collection system (current problems: the rainwater network is undersized, old pumps, urban area flooding) Rainwater retention tanks and the use of rainwater for irrigation of green spaces (current problem: drought, groundwater pollution)	Ialomita	Slobozia	N/A
27	Water transport infrastructure (boat point, recreation routes pedestrian access roads) spaces for the enhancement of flora and fauna – tourist attraction points (benches, intelligent lighting using renewable energy)	Ialomita	Ialomita Coridor	N/A

The location of the submitted project proposals is shown in the figure below and can be consulted in large format in **Appendix 5**.

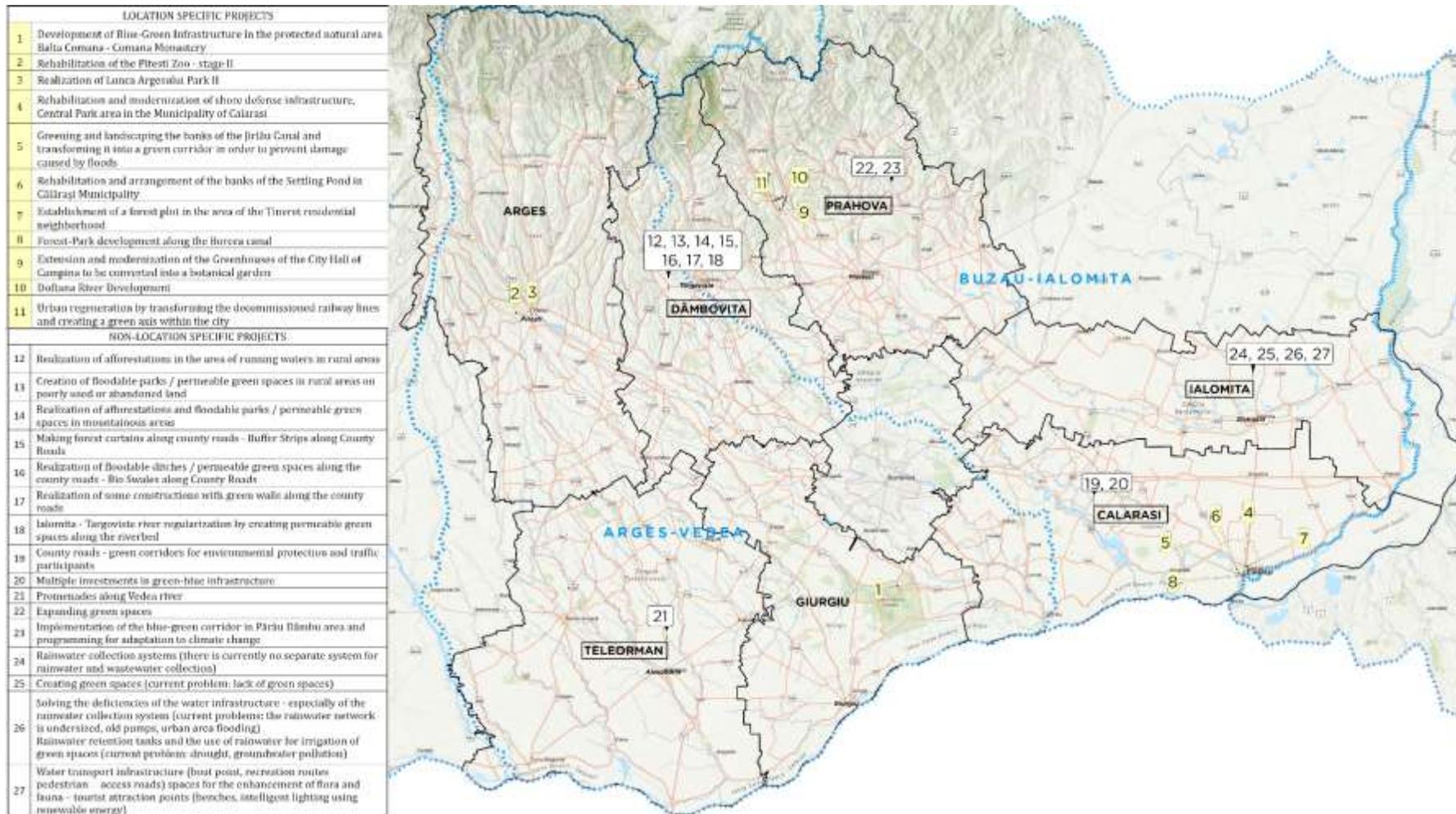


Figure 2-3 Location of submitted project proposals

An overview of main environmental issues experienced in each county is presented in **Table 2-2**. This shows that **flooding and water pollution** are the most common environmental issues mentioned, while **soil and air pollution** are also mentioned often. Lack of water (**drought**) is mentioned in more than half the counties.

**Table 2-2 Environmental issues in each county**

County	Environmental Issues
Giurgiu	Flooding; Lack of forested area/de-forestation; Air pollution; Landslides; Water pollution; Drought
Dambovita	Flooding; Air quality; Lack of green space; Soil pollution due to agricultural activities; Landslide; Water pollution.
Călărași	Flooding; Pollution from traffic/Air pollution; Heat; Risk of snow and other weather conditions on county roads; Soil pollution due to agricultural activities; Water pollution; Drought.
Argeș	Flooding; Lack of green space Air pollution; De-forestation; Landslides; Water pollution; Drought.
Teleorman	Flooding; Air pollution; Soil pollution due to agricultural activities; Land degradation; Water pollution; Drought.
Prahova	Flooding; Air pollution; Soil Pollution; Land degradation; Water pollution; Drought.
Ialomita	Flooding; Lack of biodiversity; Soil pollution due to agricultural activities; Landslide; Water pollution.

The intended objective of the projects is thus to address the following challenges:

- Flood
- Water pollution
- Drought
- Soil pollution due to improper agricultural activities
- Air pollution / Pollution from traffic
- Lack of biodiversity
- Landslides
- De-forestation / Lack of forested area
- Heat
- Snow accumulation / Wind and blizzard due to extreme northern positioning
- Human & ecosystem health

While some proposed projects are location specific, many are generic and unspecified. The projects don't yet have a detailed rationale as to what combined environmental, economic or social problem they intend to solve; they still lack some data and knowledge for fully connecting the (perceived) problem to the solution. Several projects seem to be a "one-off" and not part of a city / county / regional (integrated) strategy or masterplan.

The consultants have reviewed the local project proposals as how to connect them to the applicable BGI Typologies (see tier 1, **section 2.2**), considering the environmental challenges identified and the potential benefits generated, responding to the strategic local and regional priorities.

Moreover, the consultants have defined a general assessment methodology based on the TOR requirements, as detailed further in section 2.4.2, looking at ensuring:

1. Consistency to the existing plans and strategies
2. Promotion of BGI as catalyser for a sustainable and climate resilient future
3. Opportunity to incorporate smart solutions.

For the regional projects depicted in section 2.4, a thorough assessment for each project was performed, in the form of a screening matrix as presented in **Appendix 2**, while a high-level screening was done for the local projects, combining both the technical evaluation and the TOR criteria alignment, and considering the available level of data; this is also included in **Appendix 3**.

The assessment matrix and methodology discussed in the following section 2.4 is intended to be used as a screening tool for BGI project planning, in relation to the policy and strategy perspectives alignment.

## 2.4 Regional project concepts

### 2.4.1 Technical evaluation framework

Following the assessment of the local projects, the site visit and the second stakeholder workshop, **four regional project concepts** were developed (see **Table 2-3** and **Figure 2-4** through **Figure 2-7**).

**Table 2-3 Regional project concepts**

<b>Description</b>	<b>Location</b>	<b>Regional element</b>
<b>1. Regional project for integrating the Arges River in urban areas and creating functional ecological connectivity between cities and protected areas</b>	Arges County (Pitesti, Curtea de Arges, Topoloveni), Calarasi County (Oltenita), Giurgiu County (Comana, Mihailesti)	The key element taken into consideration is the river (Arges River)
<b>2. Regional project for integrating the Ialomita River to enhance its attractiveness and ecosystem services</b>	Dambovita County (Pucioasa, Târgoviște), Ialomita County (Urziceni, Țândărei, Slobozia)	The key element taken into consideration is the river (Ialomita River)
<b>3. Blue and Green Infrastructure for the sustainable urban development of the municipalities in the SM Region, improving energy efficiency and livability</b>	Argeș County(Pitesti) Prahova County (Ploiesti) Dâmbovița County (Targoviste) Ialomița County (Slobozia) Calarasi County (Călărași) Giurgiu County (Giurgiu) Teleorman County (Alexandria)	Local projects integrated in one project, having a similar approach
<b>4. An innovative bike and pedestrian green connection generating bundles of ecosystem services along the Danube River</b>	Giurgiu County (Giurgiu), Călărași County (Călărași) Ialomița County Fetești), Teleorman (Turnu Măgurele)	The key element taken into consideration was the river (Danube)

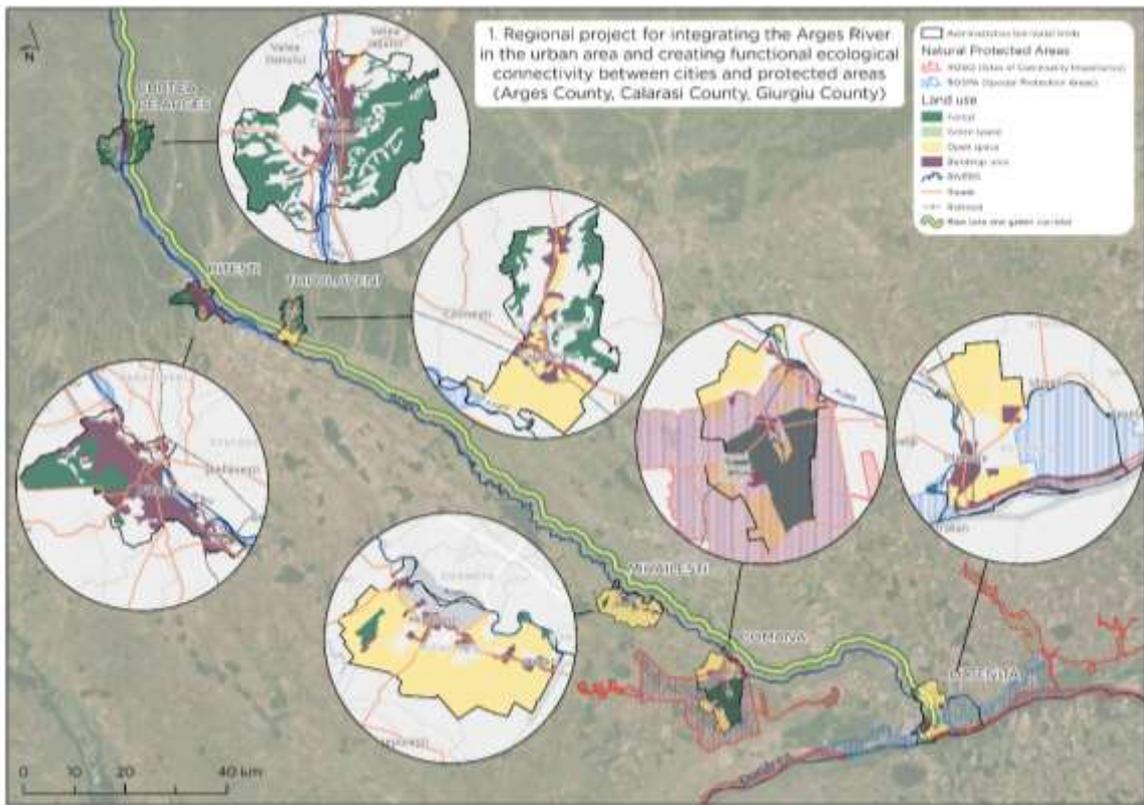


Figure 2-4 Regional project for the integration of Arges River

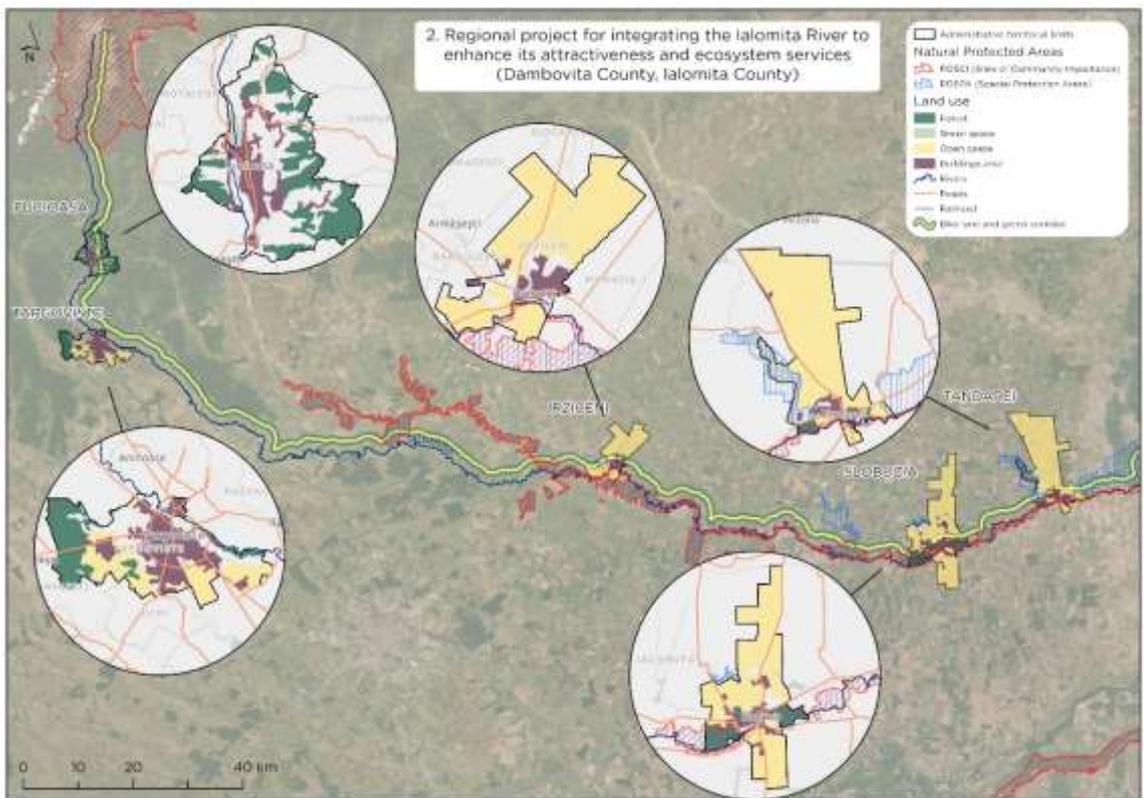


Figure 2-5 Regional project for the integration of Ialomita River

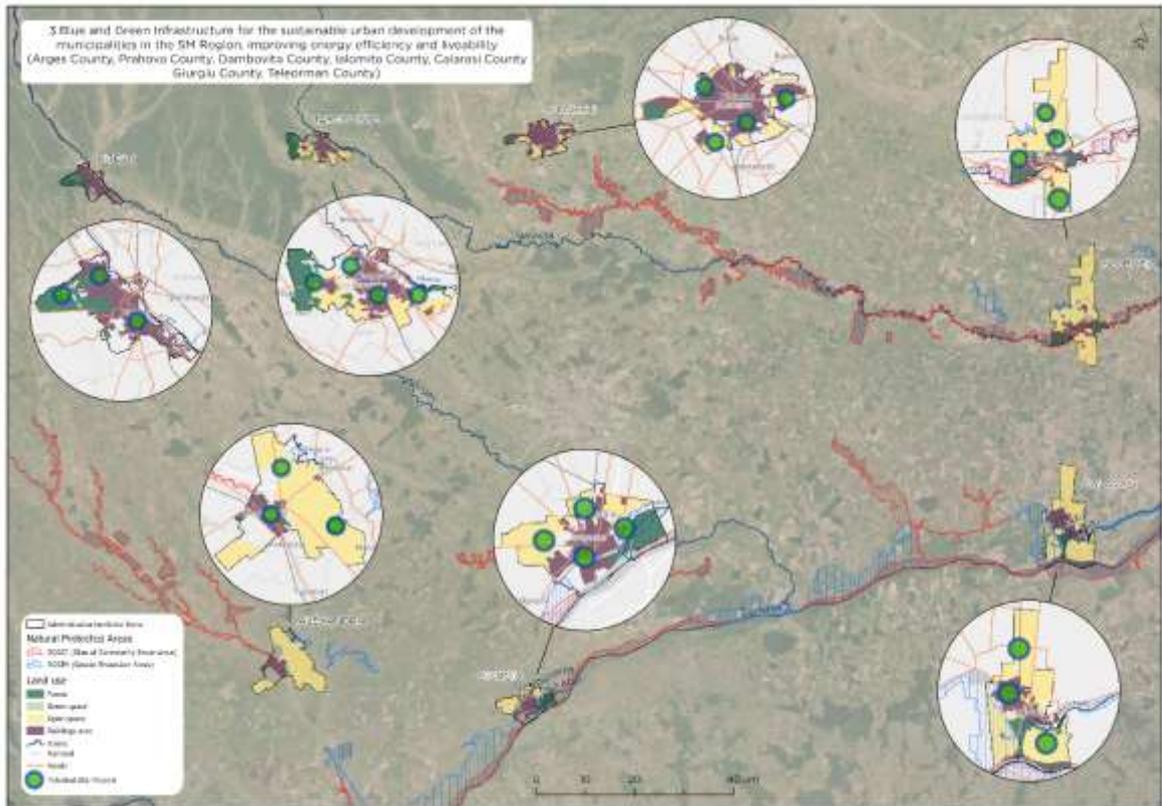


Figure 2-6 Potential Blue-Green Infrastructure Projects

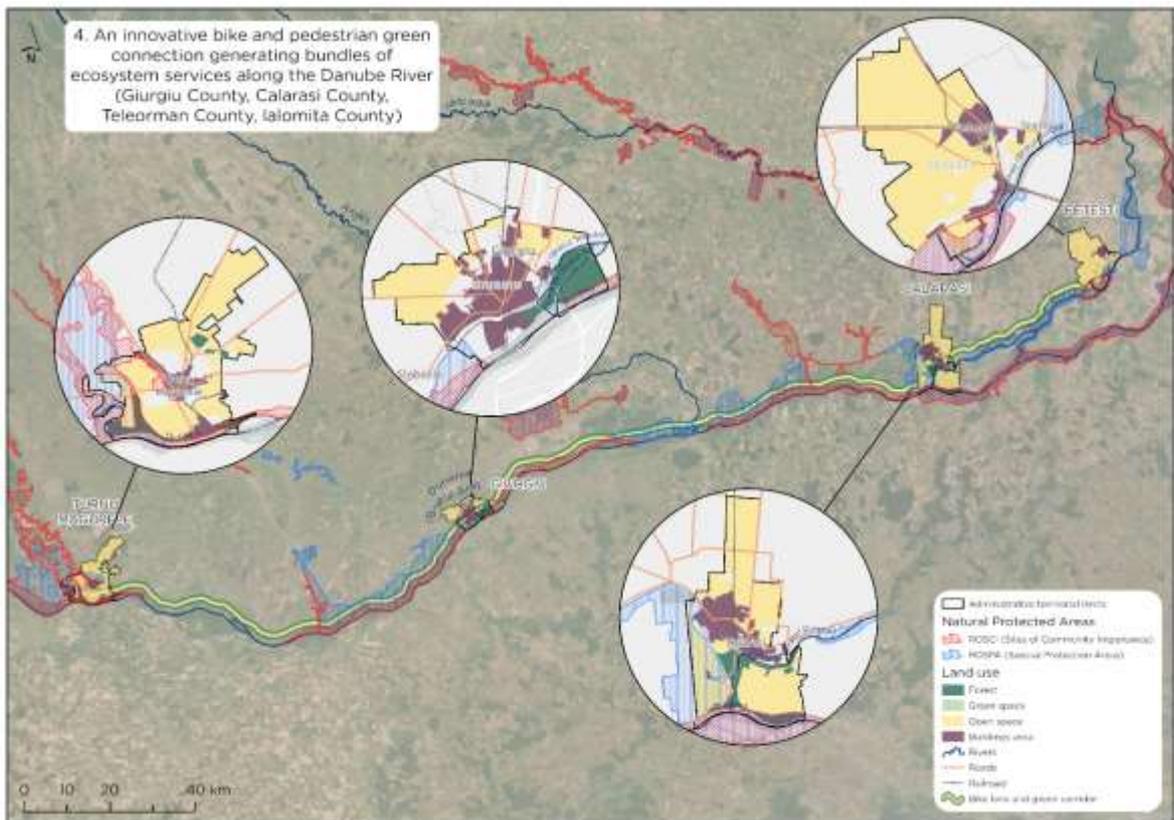


Figure 2-7 Bike and Pedestrian Green Corridor

For the technical evaluation framework of the projects and the determination of the areas that could be addressed in the context of the blue-green infrastructure, the Consultant took into account the following environmental components:

**Table 2-4 Environmental Components**

<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>• the existence of protected areas on the administrative territory of the locality</li> <li>• surfaces of green spaces and their location in relation to watercourses</li> <li>• urban forests/parks and their location in relation to watercourses</li> </ul>
<b>Water quality</b>	<ul style="list-style-type: none"> <li>• diminishing water resources</li> <li>• water quality elements</li> <li>• rainwater collection in the urban area</li> </ul>
<b>Climate change</b>	<ul style="list-style-type: none"> <li>• flood risks</li> <li>• risks of drought</li> <li>• risks of landslides</li> </ul>
<b>Human Health</b>	<ul style="list-style-type: none"> <li>• air quality</li> </ul>
<b>Land use</b>	<ul style="list-style-type: none"> <li>• free construction spaces</li> <li>• built spaces and access routes</li> </ul>

For each environmental component, 5 evaluation criteria were defined. The definition of the criteria takes into account the existing local environmental conditions:

- distances from protected natural areas
- location of surface water bodies in relation to key gateway areas to the city and main business areas and pedestrian routes
- available green spaces/forests and the possibility to extend this area
- water quality conditions
- impact on water resources
- risks to natural hazards
- free and built space surfaces, avoid clashes with other urban utilities and infrastructure
- the condition and availability of the stormwater collection system
- exceedances of the limit values for air quality parameters

The evaluation criteria are presented in **Appendix 2**.

The benefits that the implementation of blue green infrastructure could bring are also considered, such as:

- adaptation to climate change
- to allow a passive and active recreation throughout the year
- reduce the risks of losing water resources locally
- to ensure the protection and improvement of water quality
- to ensure an improvement and expansion of urban biodiversity
- to ensure the comfort of the urban environment
- to allow a stronger connection between communities and nature
- to allow an improvement of the functionality of urban places

Each defined criterion was assigned a scoring system from 1-5. The highest grade was given to the area that ensures the best conditions for the implementation of blue green infrastructure (*elements of natural and semi-natural landscape, from individual rows of trees to complete valley systems, hedges, bushes, orchards, forests, meadows natural areas, parks, protected areas,*

*watercourses, lakes, ponds, etc.*) and which allows the implementation of most measures to ensure the quality of the environment and human health.

The data used in the verification phase of the defined criteria and the allocation of the grade for each area included in the 4 regional projects were:

- the limits of the protected natural areas
- land use information (Corine landcover)
- reports on the current state of the environment, made by the Local Environmental Protection Agencies
- local development strategies
- air quality plans made at county level
- urban mobility plans
- drought data
- flood risk maps and flood risk prevention and reduction plans
- river basin management plans
- data obtained following field visits made between 22-22.09.2021
- spatial planning plans
- general urban plans.

Also, the areas with the highest score can be considered as a priority for implementation and inclusion in the context of the regional project.

The project with the highest score, brings the most benefits on the environment both locally and regionally.

The results of the evaluation for the 4 proposed projects are presented in **Appendix 2**.

#### **2.4.2 TOR policy and strategies criteria evaluation framework**

The regional projects pipeline has been proposed taking into consideration the TOR requirements, looking at ensuring:

1. Consistency to the existing plans and strategies, respectively:
  - a) ROP SM scope – Specific Objective b(vii) - Enhancing protection and preservation of nature, biodiversity and green infrastructure, including in urban areas, and reducing all forms of pollution
  - b) EC's guidelines cumulative criteria:
    - strategically planned network
    - addressing biodiversity-rich natural / semi-natural areas raising environmental challenges
    - deliver a wide range of ecosystem services
  - c) strategic documents – local and regional: Development Strategy, Mobility Plan, Energy Efficiency Plan, General Urban Plan, SM RDP
  - d) sectorial strategies & plans: Biodiversity, Protected Areas, Air Quality, Water & Flood Management, Site Restoration
2. Promotion of green and blue infrastructures and policy measures for a sustainable, low-carbon, equitable and climate resilient future
3. Opportunities to incorporate smart solutions to enhance green impacts

Thus, for analysing the project proposals, we have defined **an assessment matrix, following the 3 requirements above, with a screening methodology** based on the traffic-light colours pattern, respectively: green – meets criterion, yellow – partially meets and red – does not meet. The proposed projects should fully meet the criteria of 1a), c), d), while for 1 b), there could be differences in the intensity of alignment due to the project typologies' complexity.

Criteria 2 and 3 should be met by the relevant recommendations for each project type.

While this matrix is intended to be used as a screening tool for BGI project planning, for the regional projects we have performed a thorough assessment for each project. See **Appendix 4**.

Thus, the **project concepts 1, 2, 4**, presented in section 2.4.1 above, had been defined **on the basis of a strategically planned network**, centred on the common river basin, ensuring the spatially and functionally connection, between the local components (biodiversity-rich parks, gardens, ponds, streams, active waterfront, bioretention basins, woods, restored degraded sites etc), while delivering multiple ecosystem services such as flood risk reduction, maintaining and improving air, soil and water quality, carbon sequestration etc. and creating enhanced social and economic benefits, including recreational value and tourism opportunities, as well as environmental education, through actions related to product-development (e.g. boat or bike excursions), joint capacity-building activities and regional promoting efforts.

The BGI **project concept 3** supports the sustainable urban development of the municipalities in the SM Region, with focus on improving energy efficiency and liveability, comprising local projects part of a regional planned network with *similar sustainability objectives and approach*, to promote policy measures for a sustainable, low-carbon, equitable and climate resilient future.

By addressing the common environmental challenges and incorporating a long-term perspective, the project concepts are in line with the approach in The SM Regional Development Plan 2021-2027 that is centred on integrated economic, social and environmental development policies with a strong sustainability focus. The transcendence of administrative boundaries requires cooperation and partnerships between administrative entities or other public parties, as applicable.

The proposed BGI regional project concepts are aligned or complementing the measures comprised in the sectorial strategies and plans, while **contributing to several key strategic objectives** as laid down in the Integrated Sustainable Development Strategies (SIDU), Sustainable Urban Mobility Plans (PMUD) or the Plans for Energy Efficiency Increase developed by the municipalities:

- Enhance liveability in the urban spaces by ensuring access to nature and more urban greenery providing a space for citizens to relax and enjoy
- Enhancing the energy efficiency for buildings by using nature-based solutions
- Reduced air pollution and greenhouse gas emissions
- Enhanced storm water management and water quality
- Promoting the sustainable mobility through the creation of new cycling and pedestrian routes in the urban and neighbouring functional urban areas, as well as micro-mobility when bringing the nature closer to citizens
- Complementing measures to other measures undertaken as part of the air quality plans or the flood risk reduction plans
- Ensuring the right and effective land use, considering the open spaces that could enable access or development of the BGI structures: free land, access ways, streets.

Some **additional preliminary strategic actions** will also be required, as next steps in developing these concepts:

- Detailed Site Studies to identify the terrain and physical conditions
- Checks of the regulations of the general urban plans
- Studies to identify landowners and expropriation procedures to be deployed as soon as the projects pre-approval is obtained
- Partnerships between relevant stakeholders concluded as to enable the right coordination
- Technical assistance to be contracted as needed for the key project development phases (pre-feasibility study, feasibility study, etc).

At the same time, the BGI projects are accompanied by **a set of recommendations for measures across different sector strategies and investments** to be undertaken by the Beneficiaries, **as to ensure the promotion of the green and blue infrastructures and policy measures for a sustainable, low-carbon, equitable and climate resilient future**, as detailed also for each project in the validation matrix:

- An integrated mobility master-planning including alternative mobility (e.g., bike routes infrastructure extension) connecting the new green spaces and the old town or ensuring regional green connectivity along roads or rivers.
- Stimulation of the private mobility with electrical vehicles by provisioning the extension of the electric charging stations network in the access points to the blue-green sites.
- The update of the General Urbanistic Plans to reevaluate the general architectural profile of the city (central zones, neighbourhoods, green pockets, public utilities spaces, recreational spaces) as well as the revaluation of the neighbouring administrative with the perspective of the creation of new areas with environmental, residential, economic and recreational functions, whereas BGI will play a more prominent role than today;
- Update the Plans for the Energy Efficiency Increase by including also BGI solutions for buildings, like the living roofs and walls and turn it into a regional objective;
- Develop Smart City strategies to ensure the integration of innovative BGI concepts across smart mobility, smart buildings, smart environmental systems & infrastructures, smart energy & utilities, safe city pillars, including safer city for women and girls through improved street lightening, as an example.
- Development of regional strategies for public awareness and promotion of the BGI projects and derived eco-touristic programs and/or destinations network.

As highlighted also in the EC's guidelines, The European Commission proposals for the EU Multi-annual Financial Framework 2021- 2027 provide **new opportunities for supporting BGI**, that should be considered in planning the further developments at regional level:

- The new LIFE programme, which includes new 'strategic nature projects', which aim at strengthening the integration of nature and biodiversity in other policies through a more coordinated and strategic approach;
- Cohesion policy, including the proposed Regulation on the European territorial cooperation goal (Interreg), which aims at fostering cross-border, transnational, maritime and inter-regional cooperation – with relevancy for the Danube River Basin;
- The new EU Common Agricultural Policy (CAP), putting greater emphasis on environment and climate – reflected in the 2023-2027 National Strategic Plan investments;
- The new Framework Programme for Research and Innovation, Horizon Europe, investing on enhancing knowledge and demonstrating solutions to preserve and restore biodiversity and ecosystems.

At the same time, **the sectorial reforms and investments provisioned in the National Plan for Recover and Resilience (PNRR) should be considered by the Beneficiaries in the long-term and integrated perspective planning at regional level**, as to ensure the legal framework update that will enhance the BGI implementation across multiple sectors as well as the actions complementarity and access to additional funding:

- The cooperation with the Romanian Waters National Administration to integrate complementary measures for the modernization and maintenance of the national and regional system for water management and the effective implementation of the Water Framework Directive, and Flood Directive
- New urban forests investments under the Forests and Biodiversity Protection Policies reforms to meet the requirements in the National Forestry Strategy 2020 – 2030.

- A simplified and updated legal framework to support the implementation of the investments for the transition towards green and resilient buildings to be reflected in the review of the Plans for the Energy Efficiency Increase as well as of The Urban Planning Strategies, according to the new Code of Territory Design, Urbanism and Constructions
- The acceleration of digital transformations at all levels (public administration and services, private enterprises, population), in parallel with the development of the advanced 5G communications, cloud networks, unified databases and digital platforms across all sectors will lay solid grounds for promoting smart solutions to enhance green impacts
- The Local Fund component comprises 5 key reforms and related investments, some relevant for BGI promotion: the framework for sustainable urban mobility (including concrete plans for safe bike routes infrastructures construction); creation of the policy framework for a sustainable urban transformation, reflected in updated Sustainable Urban Mobility Plans; increased liveability and development of the planning system through the new code of territory design, urbanism and constructions.
- The reform for the creation of a framework for the operationalization of the cyclo-touristic routes at national and regional level: EuroVelo multi-level partnerships creation, The National Center for Velo Coordination; specific studies for cyclo-touristic routes; national network of cyclo-touristic routes, including EuroVelo; National E-Velo Platform.

The BGI proposed concepts should consider **opportunities to incorporate smart solutions to enhance green impacts**, as follows:

- Sensors and alarm systems incorporated in the areas that are having multiple functions like retention basins for storm water exceptional events, while in most of the time represents a recreational space for people.
- Smart lighting systems, with solar panels and LED lighting for the newly created recreational spaces, wi-fi could be added as well on the poles to ensure the communication backbone in those areas to attract visitors
- Charging stations for electrical vehicles mounted at the access points in the newly created spaces to promote green mobility and access to these natural or semi-natural ecosystems
- Smart waste bins to secure controlled and efficient waste storage and collection in the green peripheral urban areas or remote areas, by equipping bins with sensors and mobile data communications transmission connected to the waste management centre
- Digital video-surveillance system connected over-the-air communication technologies to ensure real-time area surveyance and safety.

### 3 CONCLUSION

The ToR calls for a pipeline for regional projects (with a focus on type of projects, but also including specific projects, where possible).

This is intended to be the heart of the analysis, outlining the types of investments, policy and strategic actions the Region and main cities could undertake in the next 5-to-7-year period to address environmental challenges.

As experienced during this project, during the site-visits and workshops, a locally centered approach is still predominant. The complexity of the BGI concept implementation, both from a technical and institutional perspective, is not yet fully acknowledged by potential beneficiaries, while environmental data is still incomplete.

To address these, the consultants proposed a projects pipeline development structured on a three-level approach:

- BGI typologies, as the basis of further projects development
- local projects, mapped with relevant BGI typologies and with areas requiring further data or development, and
- regional project concepts, with a detailed technical and policy perspectives characterization that provides a method for assessing potential projects.

To enable further institutional capacity for defining relevant BGI projects, besides the BGI typologies list, the consultants have proposed assessment tools that were also applied on the current pipeline.

## **4 APPENDICES**

Appendix 1 – BGI Typologies Brochure

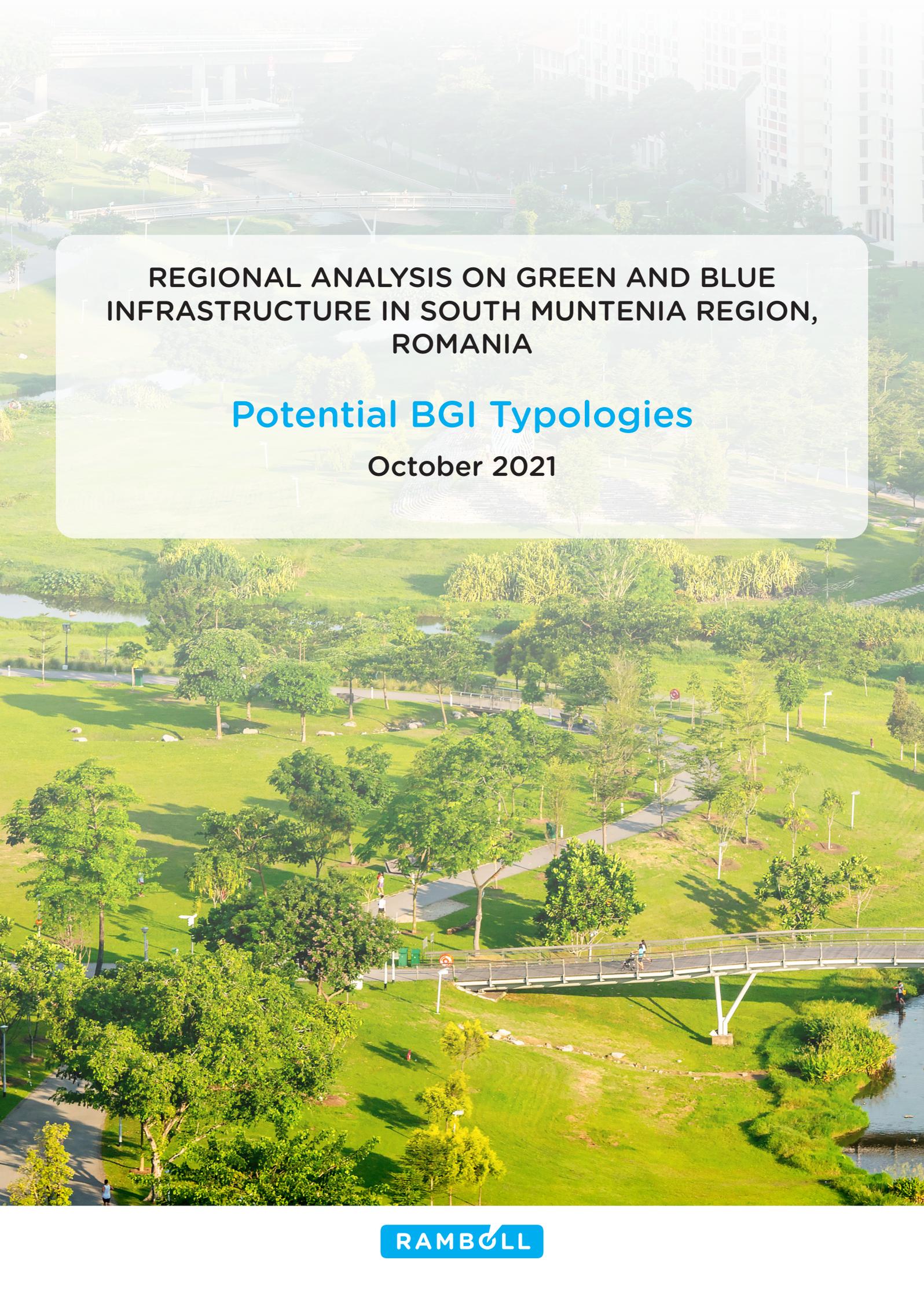
Appendix 2 – Technical evaluation framework and screening matrix regional projects

Appendix 3 - Screening matrix - local project assessment

Appendix 4 - TOR policy and strategies criteria evaluation framework

Appendix 5 - Location of submitted project proposals

## **APPENDIX 1 – BGI TYPOLOGIES BROCHURE**



**REGIONAL ANALYSIS ON GREEN AND BLUE  
INFRASTRUCTURE IN SOUTH MUNTENIA REGION,  
ROMANIA**

**Potential BGI Typologies**

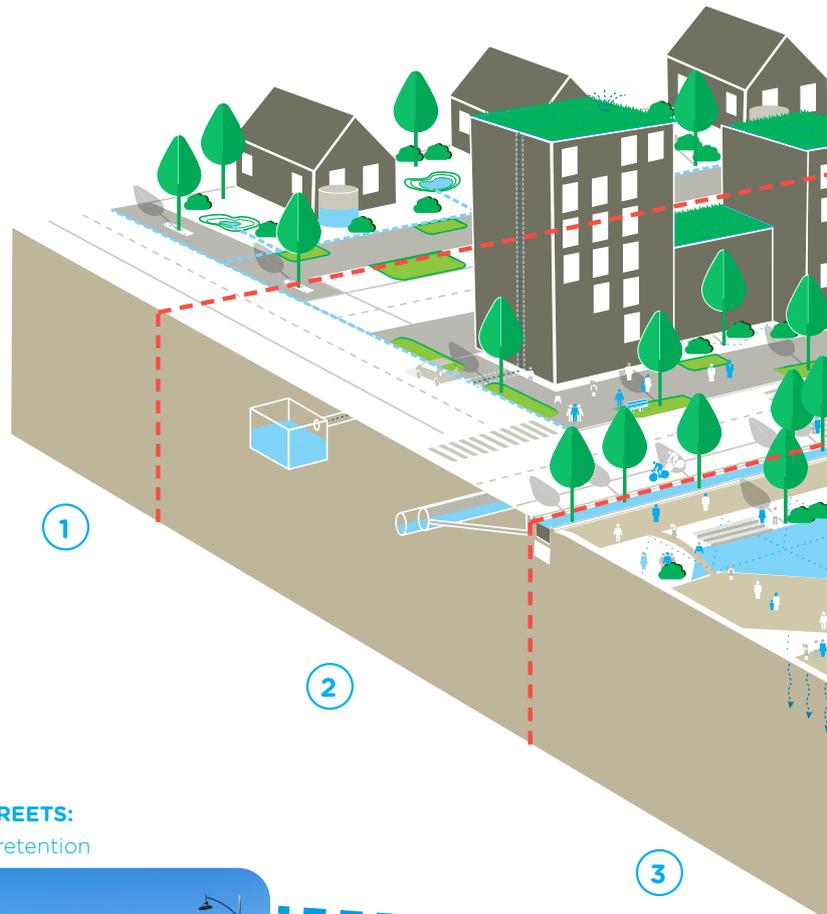
**October 2021**

# WHAT IS BLUE GREEN INFRASTRUCTURE

BGI are engineered solutions that mimic nature, connecting urban hydrological functions (blue) and permeable recreational spaces (green), with wider urban design and planning benefits. BGI can address typical drainage issues such as water quality and extreme flooding, while generating social and environmental value for local areas, that also addresses the challenges of urban growth and climate change.

BGI includes features like bioretention basins, swales, raintanks, permeable paving, green streets, green roofs, water reuse, wetlands and floodable parks, to name a few. Where necessary, BGI is supported by traditional grey infrastructure and technologies to address specific issues or targeted water pollutants. At

all scales of development, BGI can be used to directly improve water quality, waterway health and beach swimability, address capacity issues in stormwater and combined network systems and provide flood risk reduction.



## 1. SMART HOME SOLUTIONS

Rainwater tank & Raingarden



### BENEFITS

Reduced potable water use, less runoff and reliance on public drainage networks, increased property value, reduced cumulative effects

## 2. GREEN STREETS:

Roadway bioretention



### BENEFITS:

Greener communities, less storm water pollution, aquifer recharge

## 3. STORMWATER PARKS:

Stormwater retention systems

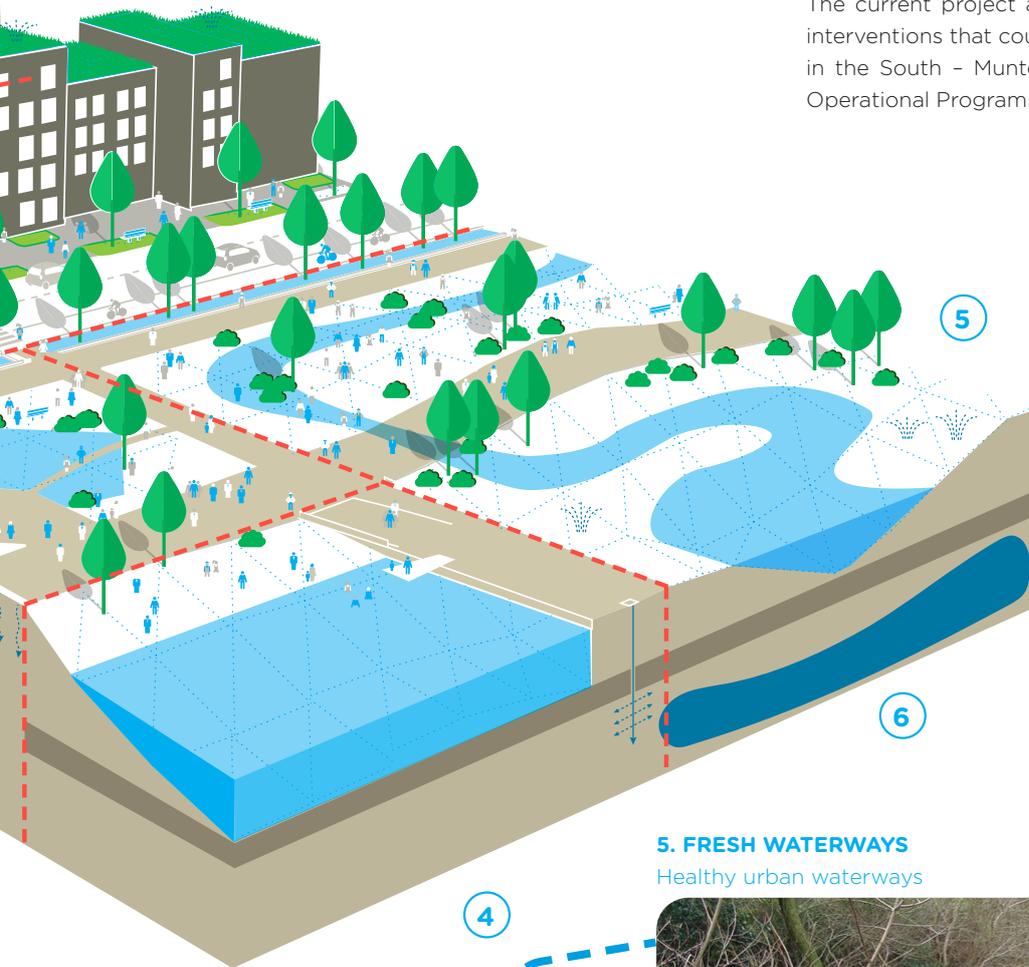


### BENEFITS

Dual use parks, enhanced community and aesthetics, flood protection

When BGI is considered as a common and accepted approach across the community and government agencies, then broad cumulative benefits of BGI can be realised. It has the ability to enhance mobility, social spaces, economic value, and longevity of existing assets through the development of multi-functional spaces.

In cities such as Copenhagen, New York and Singapore, water is now at the forefront of integrated urban and infrastructure planning, with BGI being the main driver bringing all key stakeholders together working for a common vision and tapping from the many benefits and co-benefits offered by BGI. Locally, the South - Muntenia Region in Romania presents a varied number of environmental challenges, ranging from drought, flooding, air pollution, loss of biodiversity, etc. The current project aims at identifying potential BGI interventions that could be financed and implemented in the South - Muntenia Region, under the Regional Operational Programme being currently developed.



**4. HEALTHY HARBOURS:**  
Active & Clean waterfronts



**BENEFITS:**  
Safe swimming & healthy marine environment

**5. FRESH WATERWAYS**  
Healthy urban waterways



**BENEFITS:**  
Natural, clean and resilient ecological areas

**6. RECHARGED AQUIFERS**  
Reliable drinking supply



**BENEFITS:**  
Clean drinking water

# POTENTIAL BGI TYPOLOGY

A typology is a congregation of functions adapted to local context. The specification of individual typologies should recognise stormwater *quantity* management as the project's primary driver but also acknowledge the water *quality* benefits, and wider environmental, cultural, and amenity enhancements, that accrue from BGI implementation.

## Living Roofs and Walls

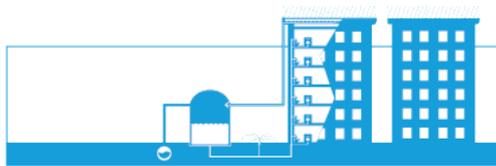
Integrating vegetation and storage potential into new buildings and infrastructure acts as a first response in reducing local cloudburst runoff. With multifunctional potential, living roofs replace underutilized hard surface spaces in cities with rain soaking materials and vegetation that can reduce stormwater volumes and improve water quality, as well as reduce the urban heat island effect.



City Hall Living Roof, Chicago Built

## Rainwater Tank

A rainwater tank is a retention container used to collect and store water that can be re-used for non-potable purposes. Rainwater tanks are generally used to supplement water supply systems and have nearby functions for both outdoor and in-house usage such as irrigation or toilet flushing.



Rainwater tank and Raingarden

## Permeable Pavements

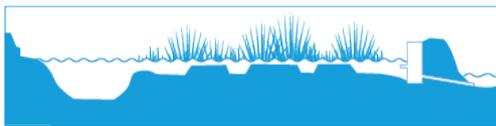
Any system providing hard or trafficable areas which also provides for downward percolation of stormwater runoff. This includes no-fines concrete or porous asphalt, permeable pavers, porous pavers, and stabilised loose material. The flow of stormwater from the surface to the collection system is slowed through infiltration and is temporarily stored and slowly released by the base course, resulting in detention of the peak flow.



Marks Stigs Alle, Bagsværd, Denmark

## Wetlands

Constructed stormwater wetlands are ponded areas, densely vegetated with water-loving plants that mimic the treatment processes of natural wetlands with detention, fine filtration and biological absorption, to remove contaminants from stormwater runoff.



Bishan Ang-Mo Kio Park, Singapore Built

## Bioretention Basin

Bioretention basins such as rain gardens (including 'pocket parks'), planter boxes and swales can involve daylighting historic streams, formalizing existing streams, or creating new streams as quality improvement and conveyance connections between other cloudburst elements. Typically, smaller in scale, bioretention basins can re-establish or create new neighbourhood character and social spaces.



Arkadien Asperg, Stuttgart, Germany Built

## Urban Canal

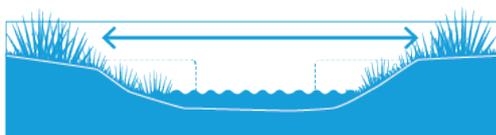
Urban canals are larger infrastructure projects that typically involve daylighting of a stream or river within a dense urban area. They can be designed to create new and healthy oases in the city while increasing biodiversity and stormwater volume capacity.



Rochor Canal, Singapore Built

## Stream Restoration

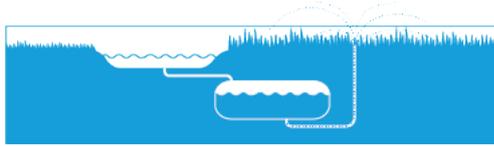
Stream Restoration and re-profiling existing urban water edges can help build capacity for stormwater through retention and detention. Additionally, redesign of stream or riverfront parks to allow for seasonal and cloudburst flooding can reduce downstream flooding in unwanted areas. Inclusion of natural edges and floating islands/floating wetlands/floating gardens improves water quality and provides amenity enhancement.



Bishan Ang Mo Kio Park, Singapore Built

**Underground Basin**

An underground basin is a buried system, which stores stormwater for either detention or large volume re-use purposes such as irrigation. It should be sized to manage excess stormwater runoff that cannot be stored by any other traditional or BGI component. It is often connected to a primary drainage system where it discharges to, by means of a regulator, to slowly release stormwater overflow to reduce peak discharges downstream.



Symfonivej, Herlev, Denmark

**Retention Boulevard**

Retention boulevards are similar in scale to cloudburst roads, but incorporate large green, depressed medians that can detain and retain stormwater while allowing regular traffic use of the street. It requires taking away space from existing roads, but can be very effective along larger urban arteries that are underutilized.



Sankt Annae Plads, Copenhagen  
Built

**Cloudburst Roads**

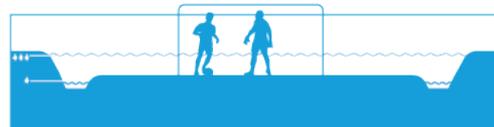
Cloudburst roads are used to channel and direct cloudburst water. These streets can be formed with a V-shaped profile and raised curbs to ensure water will flow in the middle of the road, away from the buildings. In addition, channels and swales can be established at the side of the road so that the water runs in urban rivers or green strips.



Copenhagen Cloudburst Street  
Visualization

**Floodable Parks**

Floodable Parks and recreation spaces present the greatest opportunity for large retention spaces within urban areas. They can be located throughout the watershed and receive stormwater conveyance systems or adjacent water bodies. They can provide a combination of hydrological services including, water quality improvements via filtration, retention, detention, and infiltration.



Hans Tavsens Park  
Visualization - SLA A/S

**Cloudburst Pipes**

A cloudburst pipe handles rainwater in the same way as cloudburst roads. This is placed just below street level to ensure connection to other surface solutions. This solution is used if there is limited space for above ground conveyance.



Sankt Annae Plads, Copenhagen  
Built

**Wet Plazas**

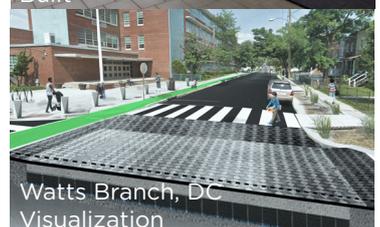
Wet plazas or floodable public spaces are another great opportunity for large retention capacity within denser urban environments. Typically hardscapes with some potential vegetation, these spaces collect, detain and retain stormwater to reduce flooding downstream. Additionally, they can incorporate drainage connections to allow the plaza, courtyard, etc. spaces to return to normal use quickly.



Mailänder Platz Stuttgart, Germany  
Built

**Green Streets**

Green Streets (including railway corridors, tram lines, cycling routes, pedestrian paths) are located as upstream connections to all cloudburst roads or retention areas. The green streets should be established with a combination of small scale channels and stormwater planters or permeable paving. Stormwater should be collected, delayed, and then channelled toward the cloudburst roads.



Watts Branch, DC  
Visualization

## Parks and Gardens

Parks and gardens are examples of green infrastructure that can host stormwater management solutions such as bioswales, cleansing biotopes/raingardens, retention and detention swales and lakes, infiltration systems and others. Parks and gardens present opportunities for improving the air quality and reducing the urban heat island effect incorporating a multifunctional design enhancing socio-economic and socio-ecological benefits.



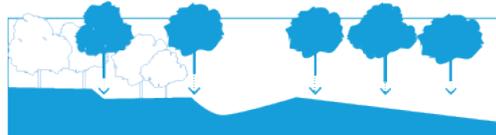
## Urban Forest

Urban Forests are highly effective ecological solutions for nature enhancement within city limits. The design consists of large, densely planted, high vegetation areas with few to no amenities. Urban forests are beneficial for mitigating heat island effect, enhancing biodiversity and strengthening urban ecosystems.



## Afforestation and Re-afforestation

Afforestation and re-afforestation consist in planting or growing forests in high risk areas. On top of the ecological value, afforestation and reforestation can mitigate landslides and flooding by serving as sponges, trapping water after heavy rains, and releasing it into waterways, reducing flood incidence and maintaining stream flow during dry periods.



## Active Water Front

Waterfronts present opportunities to integrate multifunctional solutions combining flood protection and public amenities. While serving an essential utilitarian function of protecting, waterfront designs can enhance livability and contribute to the aesthetic, functional, and cultural values of urban landscapes.



## Orbital Forests

Orbital Forests are a system of large, densely planted areas that surround cities and act as green buffers. Among a wide range of benefits, orbital forests are especially efficient for pollution mitigation, soil erosion control and biodiversity enhancement. They can also mitigate the dust storm and snow drift.



## Thematic Parks

BGI can host a variety of functions such as botanical or zoological gardens, amusement parks and temporary events. Thematic parks are a good example for BGI multifunctionality and added value as they enhance socio-economic benefits.



## Pocket Parks

Pocket parks are small green spaces with recreational value that hold the potential to integrate stormwater management solutions such as infiltration systems, raingardens, small retention and detention swales. Their small scale lends itself to phased implementation over a larger area.







## **APPENDIX 2 – TECHNICAL EVALUATION FRAMEWORK AND SCREENING MATRIX REGIONAL PROJECTS**

Biodiversity				Water quality						Climate change						Human health		Land use					
Protected Area		Green spaces		Urban forest		Water quality		Storm water collection		Water resources		Flooding		Drought		Landslides		Air quality		Open space		Built-up area	
Project area or city overlaps with the boundary of the protected area	5	Green area could be extended	5	Forest area could be extended	5	Ecological potential and chemical status are bad	5	No stormwater collection network; floods	5	Receives (treated) wastewater and is water supply source	5	Area proposed for connectivity is located in high flood risk area and no measures are proposed	5	High risk	5	High risk	5	Very poor (the upper assessment thresholds for human health are exceeded); large number of exposed inhabitants (more than 1000 people)	5	There are areas available that can be connected or extended	5	There are areas available among buildings that can be connected (road, pedestrians way) or extended	5
Project area is in the vicinity of the protected area	4	Small areas of green space, isolated but area could be extended	4	Small areas of forest, isolated but area could be extended	4	Ecological potential and chemical status are moderate	4	stormwater is collected together with domestic water and the network is undersized; floods	4	Only water supply source	4	Area proposed for connectivity is located in high flood risk area and measures are proposed (local level)	4	Moderate risk	4	Moderate risk	4	Poor (exceeded limit values); large number of exposed inhabitants (more than 1000 people)	4	There are isolated areas that can be connected or extended	4	There are isolated areas between the building that can be connected or extended	4
City is in the immediate vicinity of the protected area	3	There are green spaces but they cannot be extended	3	There are forest areas but they cannot be extended	3	Ecological potential poor and chemical status good	3	stormwater is collected separately but the network is undersized; floods	3	Receives (treated) wastewater; not a water supply source	3	Area proposed for connectivity is located in high flood risk area and measures are proposed (basin level)	3	Low risk	3	Low risk	3	Moderate (occasional exceedances of limit values); large number of exposed inhabitants (more than 1000 people)	3	There are areas available but they cannot be connected or extended	3	There are areas available but they cannot be connected or extended	3
Project area or city are at a distance of less than 7 km	2	There are no green spaces but there is the possibility of creating them	2	There are no forest areas but there is the possibility of creating them	2	Ecological potential good and chemical status poor	2	stormwater network is properly sized but needs to be rehabilitated	2	it is not used for water supply or for discharge of (treated) wastewater	2	Area proposed for connectivity is located in low flood risk area	2	Very low risk	2	Very low risk	2	Good	2	There are isolated areas but they cannot be connected or extended	2	There are isolated areas but they cannot be connected or extended	2
No protected area within a radius of 7 km	1	There are no green spaces and none can be realized	1	There are no forest areas and none can be realized	1	Ecological potential and chemical status are good	1	stormwater collection network in good condition; no floods	1	Lack of resources	1	The area proposed for connectivity is not at risk of flooding	1	No risk	1	No risk	1	Very good	1	There are no areas available	1	There are no areas available	1

Regional project for integrating the Arges River in urban area and creating functional ecological connectivity between cities and protected areas			Biodiversity			Water quality			Climate change			Human Health	Land use		Total score
County	Locality	The key element of Regional approach take in to consideration (water course)	Protected areas that could be connected (located near city, river or overlapping with them)	Urban Green Space	Urban forest or similar	Surface Water quality	Stormwatercollection	Water resources	Flooding	Drought	Landslides	Air quality	Open space	Built-up area	
Arges	Ploesti	Arges	Water body or city overlaps with the boundary of the protected area: ROSPA062-Lacurile de acumulare de pe Arges, 3.43% of the city area	According to the inventory of green spaces, at the level of the Ploesti City there is an area of about 869 ha marked green representing approximately 9% of the total area. On the river bank there are some small areas of green spaces, isolated but area could be extended, and connected with the river (Strand Park, Area neara Lunca Argeului + Depozitor Street)	There are forest areas but they cannot be connected to the river: Trivale Forest is located at 2.1 km from River Arges	River's ecological potential and chemical status are bad	Combined sewer system in the old part of the city-central area, the neighborhoods Craiova, Razboieni, Exercitiei, Banat and Simionescu. Separate sewer systems in the new areas of the city: neighborhoods Prunii, Trivale, Zona Nord, Gavana, Erma, Ingruseni, Campinani, Catea, Rucuresti, Garle, Nicolae Balcescu, Popa Sapca, Tudor Vladimirescu and Zona Industriala Nord.	The main water source of the Ploesti water supply system is Bulezoi Lake, on Arges River. Treated wastewater is discharged into the river Arges. According to the Management Plan of the Arges Vodea Water Basin, the Arges Basin has sufficient groundwater and surface water resources.	The area proposed for connectivity is in the area with high risk of flooding and measures are proposed (basin level) According to a flood management plan, the floods in 2014 highlighted the existence of a technical / technological risk in Ploesti associated with the Bulezoi, Buceu, Prundu Lake (Arges river) and the non-permanent accumulation of Măldăreni (Doamnei river). Also Development of the Arges river downstream of the Prundu accumulation, right bank in the area of the Prundu, etc. neighborhood, Arges county (consolidation of the right bank on a length of 465 meters). The proposed measure is: Restoration of the attenuation volume of Prundu accumulation lake, Arges river, Ploesti locality, Arges county (V = 460,000 m3)	According to the map with soil moisture reserve made by the National Meteorological Agency, Ploesti has low risk to drought	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Ploesti city no areas with landslides were identified.	Occasionally the PM10 concentration exceeds the upper assessment thresholds for human health.	There are isolated areas that can be connected directly to the river	There are areas available among buildings that can be connected (road, pedestrian way). Through the urban mobility plan, bike lanes along the Arges river are proposed. Also, in the updated General Urban Plan, bike lanes are proposed along the Arges river, on Rucuresti Street, Buzănești Street and on Emil Simionescu Street.	44
	Curtea de Arges	Arges	Water body or city overlaps with the boundary of the protected area: ROSPA062-Lacurile de acumulare de pe Arges, 1.79% of the city area in the eastern part of the city limits there is the ROSC0268 - Valea Vajaniului	There are green spaces but they cannot be connected to the river	Forest area could be extended, connected with the river: Forest is located at 500 m from River Arges	River's ecological potential and chemical status are bad	Separate system, stormwater is collected through its own network and discharged into the stream that flows into Lake Curtea de Arges, or through drainage ditches oriented on the East-West direction that also flows into the Arges river	The main water source of the Curtea de Arges water supply system is Curburanu Lake, on Arges River. Treated wastewater is discharged into the river Arges. According to the Management Plan of the Arges Vodea Water Basin, the Arges Basin has sufficient groundwater and surface water resources	Area proposed for connectivity is located in low flood risk area	According to the map with soil moisture reserve made by the National Meteorological Agency, Arges county is affected by strong periodical drought in the north (Curtea de Arges)	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Curtea de Arges no areas with landslides were identified.	The air quality in Curtea de Arges is generally good	There are isolated areas that can be connected directly to the river	There are isolated areas but its cannot be connected directly to river	42
	Topoloveni	Arges	Water body is in the vicinity of the protected area: ROSPA062-Lacurile de acumulare de pe Arges	There are no green spaces that can be connected to the river or none can be realized	There are no forest areas that can be connected to the water body or none can be realized	River's ecological potential and chemical status are bad	Separate system, stormwater collection network in a good condition	Water supply from groundwater sources According to the Management Plan of the Arges Vodea Water Basin, the Arges Basin has sufficient groundwater and surface water resources	Area proposed for connectivity is located in high flood risk area and measures are proposed (basin level)	According to the map with soil moisture reserve made by the National Meteorological Agency, Topoloveni has low risk to drought	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Topoloveni areas with landslides were identified.	The air quality in Topoloveni is generally good	There are areas available but they cannot be connected directly to the river	There are no areas available to connect to the river	31
Calarasi	Oltenta	Arges	Water body or city overlaps with the boundary of the protected area: ROSPA038-Garilele Oltentei - 1.54% of the city area: ROSPA136-Oltenta Jimini - 0.58% of the city area: ROSC0131-Oltenta - Moștești - Chioiu - 7.83% of the city area	Small areas of green spaces exist, isolated but area could be extended, connected with water the river	Small areas of forest, isolated but area could be extended, connected with river, located in the north-west and south-west part of the city	River's ecological potential and chemical status are bad	Lack of a stormwater drainage system in the urban area leads to flooding of streets and buildings.	Water supply from groundwater sources. According to the Management Plan of the Arges Vodea Water Basin, the Arges Basin has sufficient groundwater and surface water resources. Treated wastewater is discharged into the Curtea River	Area proposed for connectivity is located in high flood risk area and measures are proposed (basin level)	According to the map with soil moisture reserve made by the National Meteorological Agency, Oltenta has high risk to drought	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Oltenta no areas with landslides were identified.	The results of the air quality monitoring carried out in 2014 showed that occasionally there are exceedances of the allowed limit values for the PM10 and CO concentration. These exceedances are determined by the heavy traffic (on DOLJUL), wind erosion and thermal power plant.	There are isolated areas that can be connected directly to the river	There are areas available among buildings that can be connected (road, pedestrian way)	46
Giurgiu	Mihalesti	Arges	No protected area within a radius of 7 km: ROSC0138 - Padurea Bălărești is located at a distance of more than 7 km from the city limit	There are no green spaces that can be connected to the river or none can be realized	Isolated but area could be extended, connected with river	River's ecological potential and chemical status are bad	Separate network of stormwater sewerage and retention basins, the stormwater collection network is in a good condition	Water supply from groundwater sources. The effluent of the Mihalești treatment plant will be discharged into the Arges river, downstream of the Mihalești accumulation lake	Area proposed for connectivity is located in low flood risk area	According to the map with soil moisture reserve made by the National Meteorological Agency, Mihalesti has low risk to drought	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Mihalesti no areas with landslides were identified.	The air quality in Mihalesti is generally good	There are areas available but they cannot be connected directly to the river	There are no areas available to connect to the river	24
	Comana	Arges	The commune overlaps with the boundary of the protected area: ROSC0043 - Comana and ROSPA022 - Comana, 81.25% of the commune area	There are green spaces but they cannot be connected to the river	Small areas of forest, isolated but area could be extended, connected with river, located in areas outside the protected area, in the northern part of the commune	River's ecological potential and chemical status are bad	A sewerage network is under construction, the discharge of sewage will be done in the local Tapes water treatment plant, water from treatment plant will discharge in Arges River; no stormwater collection network, however no pluvial floods	Water supply from groundwater sources. Sewerage network under construction, the discharge of treated wastewater from the local Tapes water treatment plant is to the Arges River	Comana is a locality at high risk of floods (produced by the Neajlov river, in north-western part)	According to the map with soil moisture reserve made by the National Meteorological Agency, Comana has low risk to drought	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LSTR / 2001) in Comana no areas with landslides were identified.	The air quality in Comana is generally good	There are areas available that can be connected directly to the river	There are isolated areas but its cannot be connected directly to river	39
<b>Total Score:</b>															<b>181</b>

2. Regional project for integrating the Ialomita River to enhance its attractiveness and ecosystem services			Biodiversity			Water quality			Climate change			Human Health		Land use		Total score											
County	Locality	The key element of Regional approach take in to consideration (water course)	Protected areas that could be connected (located near city, near river or overlapping with them)	Urban Green Space	Urban forest or similar	Surface Water quality	Storm watercollection	Water resources	Flooding	Drought	Landslides	Air quality	Open space	Built-up area													
Dambovita	Pucioasa	Ialomita	No protected area within a radius of 15 km	1	There are no green spaces that can be connected to the river and cannot be realized	1	Broad-leaved forest located at 380 m from Pucioasa Lake (in the north part of the urban area)	5	According to the results of monitoring the quality status of the surface water bodies in the Ialomita basin, the surface water bodies delimited on the Ialomita River have more than half of their length in good ecological condition, the rest having moderate ecological status. Pucioasa Lake is considered a strongly modified water basin.	4	The sewerage network in the Pucioasa City is technically a separate system, but it seems the network works as a combined system. The treatment plant is located in the southern part of Pucioasa, near the Ialomita River. The treated wastewater is discharged into the Ialomita River	4	Water Supply: Pucioasa artificial lake (located on the Ialomita River) According to the Management Plan of the Buzau Ialomita Water Basin, the Ialomita Basin has sufficient groundwater and surface water resources	5	The areas with significant risk of floods are: Ialomita River - omidu sector of the Dridu accumulation, downstream of Targoviste (125 km) The cities of Pucioasa and Targoviste are affected by exposure to flood risk/ Through the project REDUCING THE RISK OF FLOOD IN BH IALOMITA ACCUMULATION - COMPONENT I BH IALOMITA SUPERIOARA is proposed for this river sector measures for reducing the risks of floods (In the analyzed area it was proposed the Securing the lake of Pucioasa accumulation)	3	The zoning map of Ramania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Dambovita County is exposed to extreme drought. However, Pucioasa is a locality with moderate risk of drought	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LS75 / 2001) in Pucioasa areas with landslides were identified.	1	In general, the air quality is good.	2	Land principally occupied by agriculture, with significant areas of natural vegetation (on the river bank, in the north part of the urban area)	5	There are areas available but they cannot be connected directly	3	35
	Targoviste	Ialomita	No protected area overlaps with the river sector in the Targoviste area or with the administrative territory of the city. The nearest area is located at a distance of about 1.8 km from the city limit (ROSPA0124-Lacurile de pe Valea Ilfovului)	2	Chindiel Park near River Ialomita on Mihai Bravu Street (the park include Chindiel Park)	4	Broad-leaved forest (approximate 93 ha) located in the east part of the city, near Ialomita River Broad-leaved forest (approximate 33 ha) located in the north part of the city, near Ialomita River	5	According to the results of monitoring the quality status of the surface water bodies in the Ialomita basin, the surface water bodies delimited on the Ialomita River have more than half of their length in good ecological condition, the rest having moderate ecological status.	4	The type of sewer system is apparently of combined type. The treated wastewater is discharged into the Ialomita River.	4	Groundwater supply: there is a surface catchment on the Ialomita River, but this source is no longer used due to the poor quality of the river water. According to the Management Plan of the Buzau Ialomita Water Basin, the Ialomita Basin has sufficient groundwater and surface water resources	4	The Ialomita river meadow in the lower sector is one of the strongest areas affected by floods both by the frequency of these phenomena and by the extent of the damage registered in the localities that are in the meadow, roads, agriculture, etc. Among the localities at risk of floods is Urziceni and Slobozia. The Risk Management Plan proposed the following measure: Securing the flood protection works on the Ialomita river and the tributaries on the Slobozia Tandarei sector, Securing the flood protection works on the Ialomita river and its tributaries in the Urziceni municipality area	3	The zoning map of Ramania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Dambovita County is exposed to extreme drought. However, Targoviste is a locality with moderate risk of drought	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LS75 / 2001) in Targoviste no areas with landslides were identified. On the Ialomita river there are areas with spontaneous vegetation and the riverbanks are affected by erosion.	1	In general, the air quality is good.	2	Arable land/Pastures (approximate 38 ha) located in the north part of the site, on Ialomita River Bank On Profesor Corneliu Popa Street there is a arable land (approximate 25 ha)	5	There are areas available among buildings that can be connected (road, pedestrians way)	4	38
Ialomita	Urziceni	Ialomita	River or city overlaps with the boundary of the protected area (ROSCIO290-Coridorul Ialomitei andROSPA0152-Coridorul Ialomitei 1.54% of the city area) ROSPA0112-Campia Gherghitei is located at 1.8 km distance from Urziceni City (north-western part of the city)	4	Teoharie Parc is located at 650 m from Ialomita River (on Arcuului Street)	4	Urziceni Forest (Liziera Urziceni) is located at 270 m from Ialomita River, the eastern part of the city (Aviator Jipa Ionescu Street)	5	According to the results of monitoring the quality status of the surface water bodies in the Ialomita basin, the surface water bodies delimited on the Ialomita River have more than half of their length in good ecological condition, the rest having moderate ecological status.	4	The discharge of treated wastewater is to the Ialomita tributary; part of the stormwater collected in the separate system is discharged directly into the Ialomita river or in the Crivale stream.	4	Groundwater supply According to the Management Plan of the Buzau Ialomita Water Basin, the Ialomita Basin has sufficient groundwater and surface water resources	4	The Ialomita river meadow in the lower sector is one of the strongest areas affected by floods both by the frequency of these phenomena and by the extent of the damage registered in the localities that are in the meadow, roads, agriculture, etc. Among the localities at risk of floods is Urziceni and Slobozia. The Risk Management Plan proposed the following measure: Securing the flood protection works on the Ialomita river and the tributaries on the Slobozia Tandarei sector, Securing the flood protection works on the Ialomita river and its tributaries in the Urziceni municipality area	3	From the point of view of the pedological (soil) drought in Ialomita county, extreme pedological drought is manifested. In the last twenty years a considerable part of the irrigation systems have been degraded or destroyed, so that in 2016 the agricultural area irrigated with at least one watering was 7% of the used capacity.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LS75 / 2001) in Urziceni no areas with landslides were identified.	1	In general, the air quality is good.	2	Land principally occupied by agriculture, with significant areas of natural vegetation (aprox. 30 ha) located in the S-SE part of the city	5	There are areas available among buildings that can be connected (road, pedestrians way)	5	41
	Tandarei	Ialomita	River or city overlaps with the boundary of the protected area ROSCIO290-Coridorul Ialomitei and ROSPA0152- Coridorul Ialomitei 3.42% of the city area ROSPA0059-Lacul Strachina, 8.6% of the city area ROSPA0120-Kogalniceanu - Gura Ialomitei, 0.61% of the city area. At a distance of more than 4 km from the city limit, the following areas have been identified: ROSCIO389-Siraturile de la Gura Ialomitei - Mihai Bravu - northeast of Tandarei Cit. ROSPA0006	4	Mare Tandarei Park (approximate 3 ha) is on the Ialomita River bank (near road D1212 on Aleea Stadionului Street) Stadion Ground is located on the Ialomita River bank at 130 m from Mare Tandarei Park	4	Broad-leaved forest (29 ha) located in the western part of the urban area, at 0.270 m from the urban area and at 180 m from Ialomita River	5	According to the results of monitoring the quality status of the surface water bodies in the Ialomita basin, the surface water bodies delimited on the Ialomita River have more than half of their length in good ecological condition, the rest having moderate ecological status.	4	The sewerage system of Tandarei city serves the public institutions, the block of flats area of the city. The type of sewer system is apparently of combined type and undersized. The treated wastewater is discharged into the Ialomita River.	4	Groundwater supply The groundwater shows exceedance of the parameters ammonium, iron, manganese. Tandarani has a treatment plant. According to the Management Plan of the Buzau Ialomita Water Basin, the Ialomita Basin has sufficient groundwater and surface water resources	4	The Ialomita river meadow in the lower sector is one of the strongest areas affected by floods both by the frequency of these phenomena and by the extent of the damage registered in the localities that are in the meadow, roads, agriculture, etc. Among the localities at risk of floods is Urziceni and Slobozia. The Risk Management Plan proposed the following measure: Securing the flood protection works on the Ialomita river and the tributaries on the Slobozia Tandarei sector, Securing the flood protection works on the Ialomita river and its tributaries in the Urziceni municipality area	3	From the point of view of the pedological (soil) drought in Ialomita county, extreme pedological drought is manifested. In the last twenty years a considerable part of the irrigation systems have been degraded or destroyed, so that in 2016 the agricultural area irrigated with at least one watering was 7% of the used capacity.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LS75 / 2001) in Tandarei no areas with landslides were identified.	1	In general, the air quality is good.	2	Arable land /pastures (approximate 25 ha)	5	There are areas available among buildings that can be connected (road, pedestrians way)	5	41
	Slobozia	Ialomita	River or city overlaps with the boundary of the protected area ROSCIO290-Coridorul Ialomitei and ROSPA0152- Coridorul Ialomitei , 12.18% of the city area ROSPA0065 - Lacurile Fundata Amara, 0.06% of the city area	4	1 Mai Park, Mare Park, Sport Ground are located near the Ialomita River and near ROSPA0152 - Coridorul Ialomitei	4	Broad-leaved forest (approximate 72 ha) located in the north part of the city, at 1,8 km from Mare Park and Ialomita River Provizhetoarea Forest (part from protected Area ROSPA0152 Coridorul Ialomitei) located in the southwest of the urban area,	5	According to the results of monitoring the quality status of the surface water bodies in the Ialomita basin, the surface water bodies delimited on the Ialomita River have more than half of their length in good ecological condition, the rest having moderate ecological status. The groundwater body ROIL14 / Gimbagani-Sudjti from Slobozia area presents the risk of not reaching good chemical condition. The chemical state of the groundwater body ROIL14 Gimbagani-Sudjti (in 2013) is poor at NH4 due to the fact that the polluted surface (50%) represents more than 20% of the surface of the entire groundwater body	5	The sewerage network of Slobozia municipality is mainly a separate system, 80% of the network, the remaining 20% being combined. The stormwater network is undersized, old pumps, urban area flooding	3	The area is affected by drought, groundwater pollution According to the Management Plan of the Buzau Ialomita Water Basin, the Ialomita Basin has sufficient groundwater and surface water resources	4	The Ialomita river meadow in the lower sector is one of the strongest areas affected by floods both by the frequency of these phenomena and by the extent of the damage registered in the localities that are in the meadow, roads, agriculture, etc. Among the localities at risk of floods is Urziceni and Slobozia. The Risk Management Plan proposed the following measure: Securing the flood protection works on the Ialomita river and the tributaries on the Slobozia Tandarei sector, Securing the flood protection works on the Ialomita river and its tributaries in the Urziceni municipality area	3	From the point of view of the pedological (soil) drought in Ialomita county, extreme pedological drought is manifested. In the last twenty years a considerable part of the irrigation systems have been degraded or destroyed, so that in 2016 the agricultural area irrigated with at least one watering was 7% of the used capacity.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (LS75 / 2001) in Slobozia no areas with landslides were identified.	1	In general, the air quality is good. In Slobozia, the average annual concentrations of gravimetric PM10 did not exceed the annual limit. Occasionally PM10 exceeds the daily limit value. The few registered exceedances, not having a permanent character, do not constitute a source of concern	2	Non-irrigated arable land (approximate 140 ha) Complex cultivation patterns (approximate 62 ha)	5	There are areas available among buildings that can be connected (road, pedestrians way)	5	41
<b>Total Score:</b>															<b>196</b>												

Blue and Green Infrastructure for the sustainable urban development of the municipalities in the SM Region, improving liveability (Pitești, Ploiești, Târgoviște, Slobozia, Calarasi, Giurgiu, Alexandria)			Climate change			Human Health		Land use		Total score					
County	Locality	Water Course	Flooding	Drought	Landslides	Air quality	Open space	Built-up area							
Arges	Pitești	Arges River In the Trivale Forest and in the vicinity - non-permanent watercourses	The area proposed for connectivity is in the area with high risk of flooding and measures are proposed (basin level) According to the flood management plan, the floods in 2014 highlighted the existence of a technical / technological risk in Pitești associated with the Budeasa, Bascov, Prundu Lake (Arges river) and the non-permanent accumulation of Mărăcineni (Doamnei river). Also Development of the Argeș river downstream of the Pitești accumulation, right bank in the area of the Prundu Mic neighborhood, Argeș county (consolidation of the right bank on a length of 465 meters). The proposed measure is: Restoration of the attenuation volume of Prundu accumulation lake, Argeș river, Pitești locality, Argeș county (V = 600,000 m3)	3	According to the map with soil moisture reserve made by the National Meteorological Agency, Pitești has low risk to drought	3	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Pitești City no areas with landslides were identified.	1	Occasionally the PM10 concentration exceeds the upper assessment thresholds for human health.	3	There are isolated areas that can be connected directly to the river	4	There are areas available among buildings that can be connected (road, pedestrians way) Through the urban mobility plan, bike lanes along the Argeș river are proposed. Also, in the updated General Urban Plan, bike lanes are proposed along the Argeș river, on Bucovina Street, Basarabiei Street and on Emil Simionescu Street.	5	44
Dambovita	Târgoviște	Ialomita River	The areas with significant risk of floods are: Ialomita River - omidui sector of the Dridu accumulation, downstream of Târgoviște (125 km) The cities of Pucioasa and Târgoviște are affected by exposure to flood risk. Through the project REDUCING THE RISK OF FLOOD IN BH IALOMITA DOWNWARD OF PUCIOASA ACCUMULATION - COMPONENT I BH IALOMITA SUPERIOARA is proposed for this river sector measures for reducing the risks of floods.	3	The zoning map of Romania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Dambovita County is exposed to extreme drought. However, Târgoviște is a locality with moderate risk of drought	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Târgoviște no areas with landslides were identified. On the Ialomita river there are areas with spontaneous vegetation and the riverbanks are affected by erosion.	1	In general, the air quality is good.	2	Arable land/Pastures (approximate 38 ha) located in the north part of the site, on Ialomita River Bank; on Profesor Cornel Popa Street there is an arable land (approximate 25 ha)	5	There are isolated areas available among buildings that can be connected (road, pedestrians way)	4	42
Ialomita	Slobozia	Ialomita River	In the lower sectors of the Ialomita river farmland is one of the strongest areas affected by floods both by the frequency and by the extent of the damage. Among the localities at risk of floods are Urziceni and Slobozia. The Risk Management Plan proposed the following measure: Securing the flood protection works on the Ialomita river and the tributaries on the Slobozia Tandarei sector, Securing the flood protection works on the Ialomita river and its tributaries in the Urziceni municipality area	3	From the point of view of the pedological drought in Ialomita county, extreme pedological drought is manifested. In the last twenty years a considerable part of the irrigation systems have been degraded or destroyed, so that in 2016 the agricultural area irrigated with at least one watering was 7% of the used capacity.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Slobozia no areas with landslides were identified.	1	In general, the air quality is good. In Slobozia, the average annual concentrations of gravimetric PM10 did not exceed the annual limit. Occasionally PM10 exceeds the daily limit value. The few registered exceedances, not having a permanent character, do not constitute a source of concern	2	Non-irrigated arable land (approximate 140 ha) Complex cultivation patterns (approximate 62 ha)	5	There are areas available among buildings that can be connected (road, pedestrians way)	5	44
Călărași	Călărași	Danube River (Borcea Channel - the Calarasi tourist port is being built on this canal) Iezer Lake	Floods resulting from heavy rainfall - on the Borcea Channel (Danube River) area (Călărași City) According to the Flood Risk Management Plan, the Danube - Corabia / Călărași sector has a high risk of floods. The following measures are proposed for this sector: Protection of the right bank of the Borcea Channel km 48-49 + 500, in Borcea commune, county Călărași: bank protected 1800 m	3	The zoning map of the Romanian territory from the point of view of the Palmer Index for Drought Severity (IPSS) indicates that the Buzau Ialomita hydrographic area (including Călărași County) is one of the most exposed areas to drought.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Calarasi City no areas with landslides were identified.	1	At the level of Călărași Municipality, they were no critical areas identified in terms of air pollution.	2	Complex cultivation patterns (32 ha) on the left bank of the channel, in the southern of the urban area	5	There are areas between the building that can be connected directly to the river According to Urban Plan of the Călărași City (Mobility Plan) there are proposed bike lines (on Nivodari Street, Cornișei Street, 1 Mai Boulevard, Bobâlna Street)	5	48
Giurgiu	Giurgiu	Dunabe River (Ara Channel - on there are fishing areas on this canal; Smirda Channel)	In Giurgiu City, some of the stormwater retention basins are located very close to blocks of flats without having at least a suitable fence, or a buffer green space planted with trees and shrubs. There are areas without stormwater drainage with a special impact on important road arteries, which sometimes leads to flooding of streets. Giurgiu City has a high risk of floods (1% probability). The Risk Management Plan proposes measures to Consolidate the Giurgiu-Gostinu-Greaca-Arges protection line.	3	The zoning map of the Romanian territory from the point of view of the Palmer Index for Drought Severity (IPSS) indicates that the Giurgiu County presents a moderate risk of drought.	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Giurgiu City no areas with landslides were identified.	1	In 2019, in Giurgiu City there were occasional exceedances of the daily limit values for PM10 and of the hourly limit values for NO2. The few registered exceedances, not having a permanent character, do not constitute a source of concern. Thus, there is no major risk of the population being exposed to concentrations that exceed the safety limit. The largest contribution of air pollutants has the energy sector, agriculture and road traffic.	3	Isolated pastures/arable land in the eastern part of the city	4	There are isolated areas between the building that can be connected directly to the water body or interconnected. Currently, in Giurgiu the facilities dedicated to pedestrians are located in the city center, where pedestrians can walk without restrictions (only in weekend - Mircea cel Batran Street; permanent - Gării Street). Regarding the facilities dedicated to cyclists, they are a single bicycle lane (two directions of traffic), implemented by the City Hall of Giurgiu, on Mircea cel Batran Street from the Tudor Vianu Theater to the intersection with Bulevardul1907. Thus, the following measures are proposed through the Urban Mobility Plan: -bike lanes on the Danube Port route, Bizets Bridge, Plant Alley, Mihai Viteazu Bvd, Ac. Miron Nicolescu - connection of archeological site according to the proposal from the General Urban Plan - on a length of 10 km Connection of the Bizets Bridge with Mircea cel Batran Street (pedestrian alley) by bike lane with a length of 0.3 km -bike line on the route Str. Mircea cel Batran (Tudor Vianu Theater) - Bucharest Blvd., length 5.2 km - bike line on the route Str. Ramadan (intersection with Sos. Sloboziei) - Ghizdarului Street - Intersection Bvd CFR - Intersection Bvd Bucharest, length 3.8 km - agreement space on Cama Channel, adjacent to Bizets Bridges All these measures have as source of financing the regional operational program	4	44
Prahova	Ploiești	Dambu Stream and the Teleajan (Prahova tributary, Prahova River is a tributary of the Ialomita River)	Areas exposed to floods are downstream of Ploiești. Through the flood management plan, measures are proposed to achieve small non-permanent accumulations on the Dambu Stream, upstream of Ploiești (Dambu Stream crosses the locality of Ploiești through the northeast, from the Bucov Barrier to the Râfov Barrier)	3	The zoning map of Romania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Prahova County is exposed to extreme drought. However, Ploiești is a locality with moderate risk of drought	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Ploiești no areas with landslides were identified.	1	in the area of City Ploiești the concentration of PM10, benzene, NO2 exceeds the allowed limit value) and Commune Brazi (where the concentration of NO2 and benzene exceeds the allowed limit value	5	Small isolated areas -located in the South-East of the city	4	The Urban Mobility Plan proposes bicycle lanes for the South ring link, radial connection between the central area and the Ploiești industrial park (extension of the bicycle lanes on the east-west direction between the central area and the west belt, cyclists in the area of public institutions, connected with Rușului street, the eastern area between Mihai Bravu neighborhood and Gheorghe Deja neighborhood, on the East-West direction in the central area and Bereasca neighborhood until the East Bypass) Inclusion of parking facilities (free spaces identified Palace of Culture / Ploiești Court of Appeal, Prahova Hotel, Central Square, Valeni Street (opposite the Prahova Court), Valeni Street (near BCR headquarters), Vasile Lupu (Logofat Street Tautu)	5	45
Teleorman	Alexandria	Vedea River located in the ast part of the city	In the built-up area of Alexandria there are no special problems related to floods, except for the areas in the immediate vicinity of the river Vedea. These lands are located in the northeastern part of the city. The Urban Development Strategy proposes for the rehabilitation and consolidation of the protection dam (Vedea River) The urban development strategy proposes shelterbelts (forest protection corridor) in the Vedea River area to reduce the natural risk (flood and soil deterioration).	3	The zoning map of Romania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Teleorman County is exposed to extreme drought.	5	Soil degradation also occurs through the deposition of alluvium during the Vedea river overflow - alluvial processes, erosion of the bank, sanding and clogging.	3	The air quality is generally good.	2	Small isolated areas -located in the South-East of the city	4	There are isolated areas between the building that can be connected directly to the water body The urban development strategy proposes measures for the construction of bike lanes, green roofs, rehabilitation and consolidation of roads (which could be adapted to the blue green infrastructure)	5	49

Total Score: 316

An innovative bike and pedestrian green connection generating bundles of ecosystem services along the Danube River			Climate change			Human Health	Land use		Total score						
County	Locality	The key element of Regional approach take in to consideration (water course)	Flooding	Drought	Landslides	Air quality	Open space	Built-up area							
Ialomița	Fetești	Dunarea (Borcea Channel)	According to the Flood Risk Management Plan, the Danube Model / Fetești sector represents a high risk of floods. The following measures are proposed for this sector: Flood Protection Works in Fetești municipality, Ialomița county: 0.6 km concrete parapet and 6.7 km flood wall	3	The zoning map of the Romanian territory from the point of view of the Palmer Index for Drought Severity (IPSS) indicates that the Buzau-Ialomita hydrographic area (including Călărași County) is one of the most exposed areas to drought. The Fetești City presents a high risk of drought.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Fetești City no areas with landslides were identified.	1	At the level of Oltenita City, no critical areas were identified in terms of air pollution.	2	Inland marshes in the south-east part of the city, on the left bank of the Danube River (Borcea Channel) - approximate 78 ha Pastures (283 ha) in the south of the city, on the left bank of the Danube River (Borcea Channel)	5	There are isolated areas between the building that can be connected directly to the river	4	44
Călărași	Călărași	Dunabe (Borcea Channel - the Calarasi tourist port is being built on this canal)	Floods produced during major storm events - on the Borcea Channel (Danube River) area (Călărași City) According to the Flood Risk Management Plan, the Danube Corabia / Călărași sector has a high risk of floods. The following measures are proposed for this sector: Protection of the right bank of the Borcea Channel km 48-49 + 500, in Borcea commune, county Călărași: bank protected 1800 m	3	The zoning map of the Romanian territory from the point of view of the Palmer Index for Drought Severity (IPSS) indicates that the Buzau-Ialomita hydrographic area (including Călărași County) is one of the most exposed areas to drought.	5	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Calarasi City no areas with landslides were identified.	1	At the level of Călărași Municipality, no critical areas were identified in terms of air pollution.	2	Complex cultivation patterns (32 ha) on the left bank of the channel, in the southern of the urban area	5	There are areas between the building that can be connected directly to the river According to Urbanistic Plan of the Calărași City are Moblity Plan there are proposed bike line (on Năvodari Street, Cornișei Street, 1 Mai Boulevard, Bobâlna Street)	5	48
Giurgiu	Giurgiu	Dunabe (Ara Channel - on there are fishing areas on this canal; Smirda Channel)	In Giurgiu City, some of the stormwater retention basins are located very close to blocks of flats without having at least a suitable fence, or a buffer green space planted with trees and shrubs. There are areas without stormwater drainage with a special impact on important road arteries, which sometimes leads to flooding of streets. Giurgiu City has a high risk of floods (1% probability). The Risk Management Plan proposes measures to Consolidate the Giurgiu-Gostinu-Greaca-Arges protection line.	3	The zoning map of the Romanian territory from the point of view of the Palmer Index for Drought Severity (IPSS) indicates that the Calarasi Giurgiu presents a modarete risk of drought.	4	According to the NATIONAL LAND PLANNING PLAN SECTION V - NATURAL RISK AREAS Landslides (L575 / 2001) in Giurgiu City no areas with landslides were identified.	1	In 2019, in Giurgiu City occasional exceedances of the daily limit values for PM10 and of the hourly limit values for NO2 were registered. The few registered exceedances, not having a permanent character, do not constitute a source of concern. Thus, there is no major risk of the population being exposed to concentrations that exceed the safety limit. The largest contribution of air pollutions has the energy sector, agriculture and road traffic.	3	Pastures in the eastern part of the city	4	there are isolated areas between the building that can be connected directly to the river	4	43
Teleorman	Turnu Măgurele	Danube	Turnu Măgurele City has a high risk of floods (1% probability) - in the southern part of the city (industrial area). The Risk Management Plan proposes some measures upstream; also a longitudinal dam from Turnu Măgurele to Seaca exist in the area. According to the Flood Management Plan, downstream of Turnu Magurele City there is a natural flood area in controlled regime (Suhaiia)	3	The zoning map of Romania's territory in terms of the Palmer Drought Severity Index (IPSS) indicates that the territory of Turnu Magurele City has a moderate risk.	4	In Turnu Măgurele City no areas with landslides were identified.	1	At the level of Turnu Măgurele Municipality, no critical areas were identified in terms of air pollution.	2	there are no areas available to connect to the river	1	There are isolated areas but they cannot be connected directly to river	1	37

**Total Score: 172**

## **APPENDIX 3 - SCREENING MATRIX - LOCAL PROJECT ASSESSMENT**

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
1	Development of Blue-Green Infrastructure in the protected natural area Balta Comana - Comana Monastery	Giurgiu	Comana National Park, Comana Commune	ATU (Administrative Teritorial Unit) Giurgiu, through the Giurgiu County Council. Final beneficiaries: Comat Commune ATU, Comana Monastery	The purpose of the project: development of green-blue infrastructure, rehabilitation and extension of Balta Comana dam, rehabilitation of county road DJ 411 (about 2 km as a dam) and roundabout construction, regularization of Neajlov river, arrangement of Neajlov river banks, park establishment / recreation area about 4 ha and pedestrian bridge over Neajlov (at Comana monastery), social spaces, administrative spaces, parking lots, electric charging stations, location of photovoltaic panels, etc.)	Lack of green space; Land conversion and loss of biodiversity; <b>Soil point pollution</b> ; <b>Air pollution</b> ; <b>Surface water pollution/quality</b> ; <b>Drought</b> ; <b>Flooding (basins to close to building blocks etc.)</b> ; Expansion and Development of human settlements, overexploitation of natural resources, high noise level	7 million euros	Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Improvement of environmental quality, increase of tourist attractiveness	1,2,3,4	Lack of data on environmental issues;	yes	yes	yes
2	Rehabilitation of the Pitesti Zoo - stage II	Argeş	Piteşti Zoo, Piteşti	Piteşti Municipality	Adaptation of the exhibition space to the European requirements in the field of ensuring the conservation of ex-situ biodiversity.	<b>Lack of Green Space</b> ; Loss of Biodiversity and Land Conversion; <b>Air pollution</b> ; <b>De-forestation</b> ; <b>Water pollution</b> ; Stormwater flooding; High Noise Level; <b>Landslides</b> ; <b>Drought</b> ; <b>Flooding</b> .	1.25 million euro (6,200,000 lei)	Thematic Parks, Urban Forest	Protecting wildlife and conserving biodiversity, by ensuring housing conditions for animals that meet their biological requirements and maintaining a high standard of animal husbandry, with a preventive and curative program developed for veterinary and food care, taking into account the identification zoos as conservation, research, education and entertainment sites.	1,2,3	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	no	could
3	Realization of Lunca Argesului Park II	Argeş	Lunca Argesului Park along Argeş River, Piteşti	Piteşti Municipality	Functional reconversion of degraded lands and surfaces in order to revitalize the urban environment of Pitesti, reduce air pollution and increase opportunities for leisure and free time for residents.	<b>Lack of Green Space</b> ; Loss of Biodiversity and Land Conversion; <b>Air pollution</b> ; <b>De-forestation</b> ; <b>Water pollution</b> ; Stormwater flooding; High Noise Level; <b>Landslides</b> ; <b>Drought</b> ; <b>Flooding</b> .	2 million euro (9,600,000 lei)	Parks and Gardens, Urban Forest, Wet Plazas, Floodable Parks	Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	1,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	could
4	Rehabilitation and modernization of shore defense infrastructure, Central Park area in the Municipality of Calarasi	Călăraşi	Waterfront Central park, Călăraşi	Călăraşi County	The municipality of Călăraşi is located on the left bank of the Borcea arm, a tributary of the Danube river, the buildings built in the municipality being located in the immediate vicinity of the water. The increase of the river flow affects large areas of the municipality every year, causing considerable damage. In this context, interventions are needed on the shore defense infrastructure, which currently does not meet the safety standards of the resident population and the locality in general, which have been modified according to drastic environmental changes.	<b>Flooding (stormwater due to lack of drainage system)</b> ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation</b> ; Lack of green space; <b>Air pollution</b> , <b>Soil pollution due to agricultural activities</b> ; <b>Surface water pollution/quality</b> ; Lack of water resources; <b>Drought (one of the most exposed to drought)</b> .	7 million euro	Wet Plazas, Floodable Parks, Green Streets, Permeable Pavements	Reduction of flood risk from Danube, <b>Social and cultural benefits, Tourism</b>	1,4	Lack of data on environmental issues; Location/ perimeter of proposed project is not well defined;	yes	could	no
5	Greening and landscaping the banks of the Jirliău Canal and transforming it into a green corridor in order to prevent damage caused by floods	Călăraşi	Waterfront Central park, Călăraşi	Călăraşi County	Both Jirliău Lake and the Zoo are located in the immediate vicinity of the inhabited area of the municipality, presenting an increased risk in terms of safety in community life. Also, an important aspect is the existence in the Zoo of a very large number of dangerous wild animal species, for which it is necessary to ensure special safety conditions. Several years ago, when water safety quotas were exceeded, the damage was considerable, which was recorded at the same time as creating a high-risk situation, by the uncontrolled release of animals housed in the garden.  Carrying out specific shore defense works and landscaping for the creation of a new green corridor.	<b>Flooding (stormwater due to lack of drainage system)</b> ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation</b> ; Lack of green space; <b>Air pollution</b> , <b>Soil pollution due to agricultural activities</b> ; <b>Surface water pollution/quality</b> ; Lack of water resources; <b>Drought (one of the most exposed to drought)</b> .	5 million euro	Wet Plazas, Floodable Parks, Green Streets, Permeable Pavements, Bioretention Basin	Reduction of flood risk from Danube, <b>Social and cultural benefits, Tourism</b>	1,4	Lack of data on environmental issues; Location/ perimeter of proposed project is not well defined;	yes	yes	no

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
6	Rehabilitation and arrangement of the banks of the Settling Pond in Călărași Municipality	Călărași	Settling Pond, Călărași	Călărași County	The current state of the Settling Pond of Călărași Municipality, located in the immediate vicinity of the residential buildings in the southwestern part of the municipality, is a risk factor in terms of citizen safety, with present erosion of the banks. At the same time, through the proposed works, the area can become a recreation area. Carrying out the works for strengthening and securing the banks of the Settling Pond.	Flooding (stormwater due to lack of drainage system) ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation</b> ; Lack of green space; <b>Air pollution, Soil pollution due to agricultural activities; Surface water pollution/quality</b> ; Lack of water resources; <b>Drought (one of the most exposed to drought)</b> .	6 million euro	Wet Plazas, Floodable Parks, Green Streets, Permeable Pavements, Bioretention Basin, Afforestation	Reduction of landslides due to lack of vegetation and floods caused by rising runoff levels ( <b>landslide reduction, beautification, recreational value, social value, ecological value, biodiversity enhancement, Flood risk reduction</b> )	1	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	yes	no
7	Establishment of a forest plot in the area of the Tineret residential neighborhood	Călărași	Tineret residential neighborhood, Călărași	Călărași County	The Tineret District of Călărași Municipality represents a very new urban development, as its name suggests, being in full development process, the need for intervention being timely. Creating a forest curtain by planting trees near homes.	Flooding (stormwater due to lack of drainage system) ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation</b> ; Lack of green space; <b>Air pollution, Soil pollution due to agricultural activities; Surface water pollution/quality</b> ; Lack of water resources; <b>Drought (one of the most exposed to drought)</b> .	2 million euro	Parks and Gardens, Urban Forest, Wet Plazas, Floodable Parks	Creating a proper urban microclimate, air filtration, reducing noise pollution, creating a weather protection curtain	1	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	yes	no
8	Forest-Park development along the Borcea canal	Călărași	The forest along the Borcea canal in the area of Tineretului Beach in Călărași	Călărași County	The aim of the project is to arrange a forest-park along the Borcea canal, bringing added value to the area by preserving biodiversity, by special arrangements, by creating spaces for socialization and relaxation. The concept of forest-park is relatively new in our country, but it is implemented in important cities at European level. Through a series of actions and measures to improve environmental conditions and enhance the natural potential, the project contributes to Specific Objective b (VII) Intensification of actions for the protection and conservation of nature, biodiversity and green infrastructure, including in urban areas, as well as the reduction of all forms of pollution, Priority 2. A region with environmentally friendly cities, within the SOUTH ROP MUNTENIA 2021-2027. Within the project, the investments in the green-blue infrastructure will aim at works, services and endowments for the arrangement of an urban park forest and the revitalization of the unused land, even abandoned, by arranging the natural and semi-natural urban green spaces. The project proposes to highlight the natural potential of an area of the forest along the Borcea canal, taking into account the value of the ecosystem and the daily use for walks, sports and recreation. The interventions will be minimal and aim to improve the experience of those who will attend them, without disturbing the ecosystem in any way. On the contrary, through improved forest management, the aim is to conserve biodiversity, in parallel with increasing the quality of life for the inhabitants.	Flooding (stormwater due to lack of drainage system) ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation</b> ; Lack of green space; <b>Air pollution, Soil pollution due to agricultural activities; Surface water pollution/quality</b> ; Lack of water resources; <b>Drought (one of the most exposed to drought)</b> .	N/A	Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants; Education	1,4	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	yes	no
9	Extension and modernization of the Greenhouses of the City Hall of Campina to be converted into a botanical garden	Prahova	Campina	Campina Municipality	<ul style="list-style-type: none"> <li>Extension of green areas within the urban environment;</li> <li>Arrangement of fountains, water meshes, walls with waterfalls - blue concept;</li> <li>Conservation of the natural environment;</li> <li>Creating a space for relaxation and beneficial leisure;</li> <li>Setting a promenade area</li> <li>Improving environmental conditions - reducing CO2, increasing air humidity, reducing temperatures</li> </ul>	<ul style="list-style-type: none"> <li>Stormwater Flooding; <b>Land degradation</b>;</li> <li>Surface water pollution/quality; <b>Drought</b>; Soil Pollution caused by accidental pollution; .</li> </ul>	2 million euro	Parks and Gardens, Thematic Parks	Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants; Tourism;	1,3	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	could	could
10	Doftana River Development	Prahova	Campina	Campina Municipality	<ul style="list-style-type: none"> <li>Greening the riverbed; its arrangement: extension, shore alignment, consolidations, etc.;</li> <li>Conservation of the natural ecosystem by arranging the land with natural materials: minerals - stone, sand, concrete, etc. and vegetal: wood, grass, trees, shrubs, natural ecosystem; arrangement of islands connected by bridges to the shore;</li> <li>Realization of protection plantations;</li> <li>Modeling the topography of the banks by arranging spaces and routes for the inhabitants;</li> </ul>	<ul style="list-style-type: none"> <li>Stormwater Flooding; <b>Land degradation</b>; <b>Air pollution</b>; <b>Surface water pollution/quality</b>; <b>Drought</b>; Soil Pollution caused by accidental pollution; <b>Land slide</b>.</li> </ul>	2 million euro	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants; Tourism;	1,2,3,4	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	could	could

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions	
					<ul style="list-style-type: none"> <li>•Arrangement of access, parking lots;</li> <li>•Inclusion of the area in the touristic and leisure circuit;</li> <li>•Highlighting the value of the green-blue concept, in conjunction with the protection, conservation and consolidation of natural capital;</li> </ul>			Thematic Parks	for inhabitants; tourism;						

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
11	Urban regeneration by transforming the decommissioned railway lines and creating a green axis within the city	Prahova	Campina	Campina Municipality	Landscaping of the area and planting of dendrological material; Creation of pedestrian routes and a corridor dedicated to bike lanes; Endowment with smart urban furniture; Extension and public lighting with LED, ornamental lighting, wi-fi, including facilities and equipment; Redeveloped/newly proposed green space area; Arrangement of fountains, rehabilitation and arrangement of existing lake, artificial water meshes; Conservation of the natural environment;	Stormwater Flooding; Land degradation; Surface water pollution/quality; Drought; Soil Pollution caused by accidental pollution; Land slide.	1 mil. Euro		Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants; Tourism;	1,2,3,4	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	yes	yes
12	Realization of afforestations in the area of running waters in rural areas	Dambovita	not available (N/A)	not available (N/A)	Realization of afforestations in the area of running waters in rural areas	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Afforestation, Wetlands, Stream Restoration, Parks and Gardens	Reducing landslide risks; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of natural disasters; Improving biodiversity	1,2,3,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project;	yes	yes	could
13	Creation of floodable parks / permeable green spaces in rural areas on poorly used or abandoned land	Dambovita	not available (N/A)	not available (N/A)	Creation of floodable parks / permeable green spaces in rural areas on poorly used or abandoned land	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Parks and Gardens, Wetlands, Pocketparks	Reducing the risk of flooding these areas; Increasing the attractiveness of the area; Expansion and development of human settlements; Improving air quality; Preventing the occurrence of natural disasters; Improving biodiversity	1,2,3	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	could
14	Realization of afforestations and floodable parks / permeable green spaces in mountainous areas	Dambovita	not available (N/A)	not available (N/A)	Realization of afforestations and floodable parks / permeable green spaces in mountainous areas	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Reducing landslide risks; Reducing the risk of flooding these areas; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of natural disasters; Improving biodiversity	2,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	could
15	Making forest curtains along county roads - Buffer Strips along County Roads	Dambovita	not available (N/A)	not available (N/A)	Making forest curtains along county roads - Buffer Strips along County Roads	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Afforestation, Wetlands, Stream Restoration, Bioretention Basin, Bio Swales	Reducing landslide risks; Reducing the risk of flooding these areas; Reducing the risk of snow on county roads; Improving air quality; Preventing the occurrence of natural disasters; Reduction of soil pollution	2,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	no
16	Realization of floodable ditches / permeable green spaces along the county roads - Bio Swales along County Roads	Dambovita	not available (N/A)	not available (N/A)	Realization of floodable ditches / permeable green spaces along the county roads - Bio Swales along County Roads	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Afforestation, Wetlands, Stream Restoration, Bioretention Basin, Bio Swales	Reducing landslide risks; Reducing the risk of flooding these areas; Reducing the risk of snow on county roads; Improving air quality; Preventing the occurrence of natural disasters; Reduction of soil pollution	2,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	could
17	Realization of some constructions with green walls along the county roads	Dambovita	not available (N/A)	not available (N/A)	Realization of some constructions with green walls along the county roads	Landslide; Land conversion and loss of biodiversity; Land degradation; Soil pollution; Water pollution; Flooding (river); Drought; Soil erosion and erosion of river banks.	N/A	Green Roofs and Walls	Reducing the risk of snow on county roads; Improving air quality	2,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis: Unclear	could	could	could

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
						erosion and erosion of river banks.					scope.			

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
18	Ialomita - Targoviste river regularization by creating permeable green spaces along the riverbed	Dambovită	not available (N/A)	not available (N/A)	Ialomita - Targoviste river regularization by creating permeable green spaces along the riverbed	<b>Landslide;</b> Land conversion and loss of biodiversity; <b>Land degradation;</b> <b>Soil pollution;</b> <b>Water pollution;</b> <b>Flooding (river);</b> <b>Drought;</b> <b>Soil erosion and erosion of river banks.</b>	N/A	Afforestation, Wetlands, Stream Restoration, Bioretention Basin, Pocket Parks, Orbital Frest	Reducing landslide risks; Reducing the risk of flooding these areas; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of natural disasters; Improving biodiversity	4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	yes	yes	no
19	County roads - green corridors for environmental protection and traffic participants	Călărași	Călărași County, on the side of the county roads	Călărași County	<p>The aim of the project is to arrange green corridors, which consist of planting shrubs on the county roads.</p> <p>Through a series of actions and measures to improve environmental conditions and enhance the natural potential, the project contributes to Specific Objective b (VII) Intensification of actions for the protection and conservation of nature, biodiversity and green infrastructure, including in urban areas, as well as the reduction of all forms of pollution, Priority 2. A region with environmentally friendly cities, within the SOUTH ROP MUNTENIA 2021-2027.</p> <p>Within the project, the investments in green infrastructure will aim at works for the arrangement of green corridors on the county roads and the revitalization of the unused land, even abandoned, by arranging the natural green spaces.</p> <p>In the current context, the county roads are presented as lacking a natural vegetal border, following the deforestation, in accordance with the provisions of the national legislation in force of the trees that represented a danger for traffic safety, but with their elimination the problem of lack of delimitation of roads, lack of protection for snow, lack of natural color for the transit of wild animals, as well as lack of protection of crops from traffic pollution.</p>	<b>Flooding (stormwater due to lack of drainage system)</b> ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation;</b> Lack of green space; <b>Air pollution, Soil pollution due to agricultural activities;</b> <b>Surface water pollution/quality;</b> Lack of water resources; <b>Drought (one of the most exposed to drought).</b>	N/A	Afforestation and Re-afforestation, Buffer Strips , Bio Swales	Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants	1	Lack of data on environmental issues; Location/ perimeter of proposed project is not well defined;	yes	yes	no
20	Multiple investments in green-blue infrastructure	Călărași	Multiple locations within Oltenita Municipality	Oltenita Municipality	<ol style="list-style-type: none"> <li>Increasing the level of resilience to the phenomena caused by climate change (for example - sustainable stormwater drainage systems that lead to reducing the risk of floods, regulating air quality by planting trees and protecting existing green spaces, etc.).</li> <li>Reconversion and defunctionalisation of degraded, vacant or unused lands, surfaces and buildings in order to capitalize on them by transforming them into modern areas of public utility (parks, small recreation areas, etc.).</li> <li>Creation of the Local Public Transport Network, by creating the necessary infrastructure for public transport (buses, electric minibuses) - the project will contribute to reducing CO2 emissions.</li> <li>Forest curtains around Oltenița Municipality, in order to reduce pollution and the possible risk of floods.</li> <li>Encouraging a healthy lifestyle, by creating opportunities to practice sports and various exercises (swimming, rowing, walks on the waterfront, etc.).</li> <li>Restoration of the pedestrian area of Argesului street (replacement of rainwater collection system, intelligent public lighting, bicycle track, green areas with trees, flowers, intelligent irrigation system, etc.).</li> <li>System for production, distribution, storage of electricity from renewable sources.</li> <li>Arranging a promenade park in the Oltenita port area.</li> <li>Arranging a leisure area in Oltenita Port.</li> <li>Elaboration of a plan for the green-blue infrastructure.</li> </ol>	<b>Flooding (River + stormwater due to lack of drainage system)</b> ; Land conversion and loss of biodiversity; High noise level; Expansion and development of human settlements; <b>Lack of forest vegetation;</b> Lack of green space; <b>Air pollution, Soil pollution due to agricultural activities;</b> <b>Water pollution;</b> <b>Drought (one of the most exposed to drought).</b>	1.25 million euro (6,200,000 lei)	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	1,2,3,4	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	could	could	could

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
21	Promenades along Vedeia river	Teleorman	Alexandria	Alexandria Municipality	<ul style="list-style-type: none"> <li>Consolidating the dam, raising it and widening it in order to intervene with equipment, in order to reduce the risk of floods and its arrangement as a promenade area for the inhabitants of Alexandria, it can be part of the recreational area of the city adjacent to Padurea Vedeia Park.</li> <li>Transforming the banks into an attractive promenade area for all the inhabitants of the city - Esplanada Raului Vedeia.</li> <li>Creating a continuous, uninterrupted pedestrian and bicycle route on the left bank and along the dam on the right bank, ensuring easy access to Padurea Vedeia park.</li> <li>Superior capitalization of the existing park - Vedeia Forest, planting of trees and replacement of degraded urban furniture, including utilities and public lighting, as well as the creation of new green spaces;</li> <li>Improving pedestrian and bicycle traffic between the two banks;</li> <li>Introduction of sports / leisure navigation by creating a pontoon for vaporetto (small boat intended for transport for leisure) and for private boats;</li> <li>Increasing the activity of the Vedeia River and the surrounding areas (terraces, events, picnics, historical areas, etc.).</li> <li>The endowments and rehabilitation of the dam proposed in this variant will ensure the development of the site as a promenade area and will help to transform it into a symbol green area of the city.</li> <li>For the pedestrian alleys and for bicycles along the Vedeia River, only the following materials will be used: asphalt or natural stone (with a high aesthetic and qualitative standard);</li> <li>The slopes of the Vedeia River will be arranged in such a way as to preserve the existing natural character: the shore will be consolidated only with geocells or similar, destined to reinforce the vegetal land and to fix the vegetation on the slopes. Do not use waterproof material for reinforcement (reinforced concrete, etc.)</li> <li>Arranged accesses to the water will be provided at regular intervals. On certain segments, the banks will be arranged with gardens;</li> <li>Rehabilitation of the banks of the Vedeia River in the peripheral areas while preserving their natural appearance;</li> <li>Trees and shrubs will be planted on the banks of the Vedeia River and in the vicinity forming an alignment on the edge of pedestrian / bicycle alleys, without affecting the water flow in any way;</li> <li>Redevelopment of the banks of the Vedeia River with high quality urban furniture and playgrounds for children;</li> <li>Providing street lighting along the pedestrian / bicycle alley.</li> </ul>	<p>Air pollution/Population exposure to high levels of air pollutants; Land conversion and loss of biodiversity; Lack of green sapce; Soil Pollution by accidental pollution; <b>Soil pollution due activities in extractive and chemical industry; Surface water pollution/quality; Flooding; Drought.</b></p>	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	1	Lack of data on environmental issues; Unknown location/ perimeter of the proposed project; General description of project ideas rather than specific projects based on local analysis.	could	could	could
22	Expanding green spaces	Prahova	Ploiesti	Ploiesti Municipality	<p>Extending the green space by:</p> <ul style="list-style-type: none"> <li>capitalization of unused lands (izlaz, classified lands - potentially contaminated sites, orphan battle).</li> <li>installation of roof-like vegetation on roofs.</li> </ul>	<p>Stormwater Flooding; Lack of green space; Lack of forest area; <b>Land degradation; Air pollution;</b> Land conversion and loss of biodiversity; <b>Surface water pollution/quality; Drought;</b> Soil Pollution caused by accidental pollution; Soil Pollution; Lack of water resources; expansion and development of human settlement; overexploitation of natural resources; High noise level.</p>	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	1,2,3,4	Lack of data on environmental issues; Location/ perimeter of proposed project is not well defined;	yes	could	no
23	Implementation of the blue-green corridor in Pârâu Dâmbu area and programming for adaptation to climate change	Prahova	Ploiesti	Ploiesti Municipality	<p>Study on the capitalization of the marginalized area in the vicinity of Dâmbu Creek and the integration of solutions to provide a response in emergency situations (heavy rains, floods, response to floods, rainwater discharges, etc.)</p> <p>Utilization of the riparian areas of the Teleajen river to increase the water absorption capacity (heavy rains, floods, floods upstream of the municipality, etc.).</p>	<p>Stormwater Flooding; Lack of green space; Lack of forest area; <b>Land degradation; Air pollution;</b> Land conversion and loss of biodiversity; <b>Surface water pollution/quality; Drought;</b> Soil Pollution caused by accidental pollution; Soil Pollution; Lack of water resources; expansion and development of human settlement; overexploitation of natural resources; High noise level.</p>	N/A	Afforestation, Wetlands, Stream Restoration, Parks and Gardens	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	3	Lack of data on environmental issues; Location/ perimeter of proposed project is not well defined;	yes	yes	could

No.	Name	County	Location	Beneficiary	Description	Environmental Challenges	Estimated value	BGI Typologies that could be applied	Potential benefits	ROP activities	Gap Assessment	Consistent with existing plans and strategies	Promotes BGI and policy measures for a sustainable and climate resilient future	Opportunities to incorporate smart solutions
24	Rainwater collection systems (there is currently no separate system for rainwater and wastewater collection)	Ialomita	Fetesti	Fetesti Municipality	Rainwater collection systems (there is currently no divider system for rainwater and wastewater collection)	Landslides; Soil pollution due to agricultural, industrial activities and traffic; Water pollution; Flooding ( One of the most affected municipalities, undersized sewerage system for rain events); Drought; Land Conversion and Biodiversity; Lack of Green Space	N/A	Wet Plazas, Floodable Parks, Green Streets, Permeable Pavements	Reducing landslide risks; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of flooding; Improving biodiversity	1,2	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	could	could
25	Creating green spaces (current problem: lack of green spaces)	Ialomita	Fetesti	Fetesti Municipality	Creating green spaces (current problem: lack of green spaces)	Landslide; Soil pollution due to agricultural, industrial activities and traffic; Water pollution; Flooding ( One of the most affected municipalities, undersized sewerage system for rain events); Drought; Land Conversion and Biodiversity; Lack of Green Space	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation	Reducing landslide risks; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of flooding; Improving biodiversity	1,2,3,4	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	could	no
26	Solving the deficiencies of the water infrastructure - especially of the rainwater collection system (current problems: the rainwater network is undersized, old pumps, urban area flooding) Rainwater retention tanks and the use of rainwater for irrigation of green spaces (current problem: drought, groundwater pollution)	Ialomita	Slobozia	Slobozia Municipality	Solving the deficiencies of the water infrastructure - especially of the rainwater collection system (current problems: the rainwater network is undersized, old pumps, urban area flooding) Rainwater retention tanks and the use of rainwater for irrigation of green spaces (current problem: drought, groundwater pollution)	Landslide; De-Forestation; Soil pollution due to agricultural, industrial activities and traffic; Water pollution and Scarcity (affecting safe drinking water supply); Flooding; Stormwater Flooding (due to undersized sewerage networks) ; Lack of Green Space; Air Pollution; Surface water Qquality; Land conversion and loss of Biodiversity; Drought; Lack of water resources; Overexploitation of natural resources; Expansion and development of human settlements	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation	Reducing landslide risks; Increasing the attractiveness of the area; Improving air quality; Preventing the occurrence of flooding; Improving biodiversity	1,2,3	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	could	could
27	Water transport infrastructure (boat point, recreation routes pedestrian access roads) spaces for the enhancement of flora and fauna – tourist attraction points (benches, intelligent lighting using renewable energy)	Ialomita	Ialomita Coridor	Ialomita County	Routes for cyclists and pedestrian paths that connect the following cities: Fetesti, Tandarei, Slobozia Routes for cyclists and pedestrian paths that connect the following cities: Fetesti, Tandarei, Slobozia Construction of a pedestrian passage for crossing the river Camping area, picnic and agreement Water transport infrastructure (boat point, recreation routes pedestrian access roads) spaces for the enhancement of flora and fauna – tourist attraction points (benches, intelligent lighting using renewable energy)	Landslide; Soil pollution due to agricultural, industrial activities and traffic; Water pollution; Flooding; Drought; Land Conversion and Biodiversity; Lack of Green Space	N/A	Wetlands, Bioretention Basin, Parks and Gardens, Afforestation and Re-afforestation, Active Water Front, Thematic Parks	Reduction of flood risk; Improvement of environmental quality; Improving biodiversity; Improving quality of life for inhabitants;	4	Lack of data on environmental issues; Location/perimeter of proposed project is not well defined;	yes	yes	yes

Legend

Name

Project is aligned with existing plans and strategies and promotes BGI as catalyser for another future

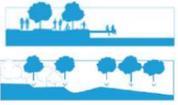
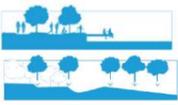
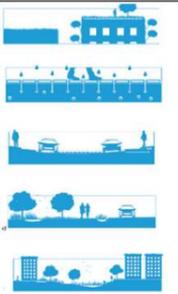
Project could be adjusted to align with existing plans and strategies or promote BGI as catalyser for another future

Project is either not aligned with existing plans and strategies or doesn't promote BGI as catalyser for another future

\* ROP activities

- Public parks and gardens, urban forests, botanical gardens, zoos;
- Permeable Green spaces, fences, green roofs and walls;
- Urban natural and semi-natural green spaces - arrangement of poorly used or abandoned lands, forests, bushes, meadows, wetlands (swamps), lakes and rivers / streams, rocky areas, etc.;
- Green corridors - rivers and canals, including their banks, street alignments with grass, trees and flowers, ecoducts, green pedestrian crossings, green spaces along: roads, railway corridors, tram lines, cycling routes, pedestrian paths, etc.

## **APPENDIX 4 - TOR POLICY AND STRATEGIES CRITERIA EVALUATION FRAMEWORK**

Regional Project	BGI typology description	Ecosystem services	Environmental, Social and Economic Benefits	Strategies, Policy and institutional measures	Smart solutions opportunities	TOR REQUIREMENTS						
						1. consistent with existing plans and strategies				2. promotes BGI and policy measures for a sustainable and climate resilient future	3. opportunities to incorporate smart solutions	
						a) ROP SM scope	b) EC's guidelines	c) strategic planning documents at local & regional level	d) sectorial strategies and plans	recommendations for reviews of existing strategies or new policy measures	specific per project type	
<b>1. Regional project for integrating the Arges River in urban area and creating functional ecological connectivity between cities and protected areas</b> Arges County, Calarasi County, Giurgiu County	Active water front Afforestation and Re-afforestation Bioretention basins Green bridges		Flood risk reduction Natural water cleaning Degraded sites restoration Improve the riparian vegetation Reducing landslide risks Reducing air pollution and greenhouse gas emissions Carbon storage and sequestration Environmental settings and biodiversity Nature-based tourism Ecosystem services for agriculture enabled by the species movement (such as biological control, pollination or recycling of organic matter) Providing access to the waterways for the community builds awareness and appreciation of these assets	Improved biodiversity Improved water quality Improved air quality Educational Value Increased tourist attractiveness Recreational value Enhanced green mobility and micro-mobility by bringing the nature closer to citizens Increased regional connectivity Increased social inclusiveness and cohesion, thereby contributing to reducing family violence and violence against women arising from social and mobility restrictions during the pandemic Increased access to nature through green corridors along Arges river Reduced air pollution and greenhouse gas emissions Reduced soil pollution Increased safety and resilience to climate change Positive impacts on health and well-being Enhanced economic growth in the area arising from tourism development and opportunities for small entrepreneurs to open food and entertainment related small businesses Creation of natural water management assets creates amenity and supports community use and tourism	Detail Site Studies to identify terrain and physical condition Checks of the regulations of the general urban plans and further reviews to reevaluate the general architectural profile of the city, also in alignment with the new Code of territory, urbanism, construction under PNRR Check the air quality plans and/or the flood risk reduction plans and provision additional measures, as per case Studies to identify landowners, and expropriation procedures Partnerships between local, county councils and other stakeholders (Romanian Waters N.A.), as per land ownership Cooperation with Romanian Waters for complementary investments in Arges Basin, as per the PNRR measures Check the existing Sustainable Urban Mobility Plans and identify new connectivity solutions as needed and leverage also the new Local Fund in PNRR Integrated sustainable mobility masterplanning Velo-route regional network plan (and further integration with the National E-Velo Platform under PNRR initiatives) Review Development Strategies for 2021-2027 to include also Smart City chapter and BGI related initiatives Identify specific initiatives for biodiversity and protected areas that could be financed through dedicated EU programmes like the new LIFE Nature or Horizon Europe Technical assistance provisioned, as needed	Smart technologies integrated to ensure safety and connectivity:  smart LED solar power supplied lighting wi-fi network (mounted on the electricity poles) sensors and emergency alert systems charging station for electric cars at the access point parking place digital video-surveillance system connected to the neighbouring city system						
<b>2. Regional project for integrating the Ialomita River to enhance its attractiveness and ecosystem services</b> Dambovitza County, Ialomita County	Active water front Afforestation and Re-afforestation Bioretention basins Green bridges		Flood risk reduction Natural water cleaning Degraded sites restoration Improve the riparian vegetation Reducing landslide risks Reducing air pollution and greenhouse gas emissions Carbon storage and sequestration Environmental settings and biodiversity Nature-based tourism Ecosystem services for agriculture enabled by the species movement (such as biological control, pollination or recycling of organic matter) Providing access to the waterways for the community builds awareness and appreciation of these assets	Improved biodiversity Improved water quality Improved air quality Educational Value Increased tourist attractiveness Recreational value Enhanced green mobility and micro-mobility by bringing the nature closer to citizens Increased regional connectivity Increased social inclusiveness and cohesion thereby contributing to reducing family violence and violence against women arising from social and mobility restrictions during the pandemic Increased access to nature through green corridors along Arges river Reduced air pollution and greenhouse gas emissions Reduced soil pollution Increased safety and resilience to climate change Positive impacts on health and well-being Enhanced economic growth in the area arising from tourism development and opportunities for small entrepreneurs to open food and entertainment related small businesses Creation of natural water management assets creates amenity and supports community use and tourism	Detail Site Studies to identify terrain and physical condition Checks of the regulations of the general urban plans and further reviews to reevaluate the general architectural profile of the city, also in alignment with the new Code of territory, urbanism, construction under PNRR Check the air quality plans and/or the flood risk reduction plans and provision additional measures, as per case Studies to identify landowners, and expropriation procedures Partnerships between local, county councils and other stakeholders (Romanian Waters N.A.), as per land ownership Cooperation with Romanian Waters for complementary investments in Arges Basin, as per the PNRR measures Check the existing Sustainable Urban Mobility Plans and identify new connectivity solutions as needed and leverage also the new Local Fund in PNRR Integrated sustainable mobility masterplanning Velo-route regional network plan (and further integration with the National E-Velo Platform under PNRR initiatives) Review Development Strategies for 2021-2027 to include also Smart City chapter and BGI related initiatives Identify specific initiatives for biodiversity and protected areas that could be financed through dedicated EU programmes like the new LIFE Nature or Horizon Europe Technical assistance provisioned, as needed	Smart technologies integrated to ensure safety and connectivity:  smart LED solar power supplied lighting wi-fi network (mounted on the electricity poles) sensors and emergency alert systems charging station for electric cars at the access point parking place digital video-surveillance system connected to the neighbouring cities' system						
<b>3. Blue and Green Infrastructure for the sustainable urban development of the municipalities in the SM Region, improving energy efficiency and liveability</b> (Pitesti, Ploiesti, Targoviste, Slobozia, Calarasi, Giurgiu, Alexandria)	Living roofs and walls - public institution (City Hall, County Hall) Permeable pavements around the public institution building Cloudburst Roads Green Street Bioretention Basin		Building and urban temperature regulation Reducing air pollution Reducing surface water flooding Reducing pollution of urban watercourses Noise Reduction Carbon Storage Pollination	Improved air quality Enhanced storm water management and water quality Increased energy efficiency Carbon emission reduction Improving quality of life for inhabitants Increase social inclusiveness and cohesion thereby contributing to reducing family violence and violence against women arising from social and mobility restrictions during the pandemic Increased aesthetic urban landscape Enhanced economic growth in the area arising from tourism development and opportunities for small entrepreneurs to open food and entertainment related small businesses	Update the Plans for the Energy Efficiency with BGI for buildings, leveraging also the updated normative framework to support the implementation of the investments for the transition towards green and resilient buildings in PNRR Update the General Urbanistic Plans to include BGI and align to the new Code of territory, urbanism, construction in PNRR (e.g. review the construction norms to enable cloudburst roads design)	Automated controlled irrigation system for the living roofs and walls Sensors and emergency alert systems for the controlled floodable areas						
<b>4. An innovative bike and pedestrian green connection generating bundles of ecosystem services along the Danube River</b> (Ialomita County, Giurgiu County, Calarasi County, Teleorman County)	Active water front Green corridors		Natural water cleaning Reducing air pollution and greenhouse gas emissions Carbon storage and sequestration Environmental settings and biodiversity Nature-based tourism Cultural ecosystem services Providing access to the waterways for the community builds awareness and appreciation of these assets	Improved water quality Improved air quality Improved biodiversity Increased touristic attractiveness Recreational value Promoting green mobility and micro-mobility by bringing the nature closer to citizens Increased social inclusiveness and cohesion Positive impacts on health and well-being Increased regional connectivity	Partnerships between city & county councils, and/or Romanian Waters National Administration, according to the land ownership Sustainable mobility masterplanning Bike-sharing system and infrastructure Velo-route regional networks and integration with EuroVelo and National E-Velo Platform developed under PNRR	Smart technologies integrated to ensure safety and connectivity:  smart LED solar power supplied lighting, integrating also wi-fi for the promenade sectors sensors and emergency alert systems digital video-surveillance system						

## **APPENDIX 5 - LOCATION OF SUBMITTED PROJECT PROPOSALS**



LOCATION SPECIFIC PROJECTS	
1	Development of Blue-Green Infrastructure in the protected natural area Balta Comana - Comana Monastery
2	Rehabilitation of the Pitesti Zoo - stage II
3	Realization of Lunca Argesului Park II
4	Rehabilitation and modernization of shore defense infrastructure, Central Park area in the Municipality of Calarasi
5	Greening and landscaping the banks of the Jirău Canal and transforming it into a green corridor in order to prevent damage caused by floods
6	Rehabilitation and arrangement of the banks of the Settling Pond in Călărași Municipality
7	Establishment of a forest plot in the area of the Tineret residential neighborhood
8	Forest-Park development along the Borcea canal
9	Extension and modernization of the Greenhouses of the City Hall of Campina to be converted into a botanical garden
10	Doftana River Development
11	Urban regeneration by transforming the decommissioned railway lines and creating a green axis within the city

NON-LOCATION SPECIFIC PROJECTS	
12	Realization of afforestations in the area of running waters in rural areas
13	Creation of floodable parks / permeable green spaces in rural areas on poorly used or abandoned land
14	Realization of afforestations and floodable parks / permeable green spaces in mountainous areas
15	Making forest curtains along county roads - Buffer Strips along County Roads
16	Realization of floodable ditches / permeable green spaces along the county roads - Bio Swales along County Roads
17	Realization of some constructions with green walls along the county roads
18	Ialomita - Targoviste river regularization by creating permeable green spaces along the riverbed
19	County roads - green corridors for environmental protection and traffic participants
20	Multiple investments in green-blue infrastructure
21	Promenades along Vedeia river
22	Expanding green spaces
23	Implementation of the blue-green corridor in Pârâu Dâmbu area and programming for adaptation to climate change
24	Rainwater collection systems (there is currently no separate system for rainwater and wastewater collection)
25	Creating green spaces (current problem: lack of green spaces)
26	Solving the deficiencies of the water infrastructure - especially of the rainwater collection system (current problems: the rainwater network is undersized, old pumps, urban area flooding) Rainwater retention tanks and the use of rainwater for irrigation of green spaces (current problem: drought, groundwater pollution)
27	Water transport infrastructure (boat point, recreation routes pedestrian access roads) spaces for the enhancement of flora and fauna - tourist attraction points (benches, intelligent lighting using renewable energy)

