



GREEN INFRASTRUCTURE IN ALBANIA

Increasing the interconnection of the Balkan Green Belt in the Shebenik-Jablanica region

Tirana, 2022

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References:	Shkreli, E. and Bajrami, Z. (2022). Green Infrastructure in Albania - Increasing the interconnection of the Balkan Green Belt in the Shebenik-Jablanice region. Project report. Protection and Preservation of Natural Environment in Albania, 2023.
Financed by:	This project is funded by the German Federal Environment Ministry's Advisory Assistance Program (AAP) for environmental protection in the countries of Central and Eastern Europe, the Caucasus and Central Asia and other countries neighboring the European Union. It is supervised by the Federal Agency for Nature Conservation and the German Environment Agency.
	The responsibility for the content of this publication lies with the authors.
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Cover photo:	European Green Belt Association
Computer processing:	Design and print sollution Studio "Mavroski"



Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection



Federal Agency for
Nature Conservation

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ACRONYMS

AAP	German Federal Environment Ministry's Advisory Assistance Program
BfN	Federal Agency for Nature Conservation
BGB	Balkan Green Belt
CICES	Common International Classification of Ecosystem Services
DCM	Decision of Council of Ministers
ES	Ecosystem Services
EU	European Union
EUSAIR	EU Strategy on the Adriatic-Ionian Region
GI	Green Infrastructure
GNTP	General National Territorial Plan
IPA	Instrument for Pre-accession
IUCN	International Union for Conservation of Nature
LAG	Local Action Group
MDD	Mura-Drava-Danube
MEA	Millennium Ecosystem Assessment
MES	Macedonian Ecological Society
NAPA	National Protected Areas Agency
NEA	National Environment Agency
NGP	National General Plan
NSDI	National Strategy for Development and Integration
NTC	National Territorial Council
NTPA	National Territorial Planning Agency
OECM	other effective area-based conservation measures
PPNEA	Protection and Preservation of Natural Environment in Albania
UBA	German Environment Agency
WWF	World Wide Fund

ABSTRACT

To achieve a developed Balkan Green Belt (BGB) in Albania and North Macedonia with a secure connectivity as part of the Green Infrastructure (GI), both within and outside of protected areas, it is necessary to improve legislation and implementation of land use planning. However, the concept of GI is largely unknown among decision-makers responsible for landscape planning decisions in Albania and not yet reflected in national legal frameworks and related processes. The current report compiles the analyses of relevant laws and practices in Albania regarding GI and spatial planning. It aims to identify legal and institutional deficiencies and needs and draft recommendations for improvement, in accordance with the current requirements of relevant EU strategies and legislation. The inclusion of the concept of GI and connectivity in legislation will improve the approach to planning, projecting, and implementing infrastructure projects, initiatives, and activities with the aim of sustainable development and sustainable use of biodiversity.

ABSTRAKT

Um ein entwickeltes Grünes Band Balkan (BGB) in Albanien und Nordmazedonien mit einer gesicherten ökologischen Konnektivität als Teil der Grünen Infrastruktur (GI) sowohl innerhalb als auch außerhalb von Schutzgebieten zu erreichen, ist es notwendig, die Gesetzgebung und die Umsetzung der Landnutzungsplanung zu verbessern. Das Konzept der GI ist unter den für Landschaftsplanungsentscheidungen verantwortlichen Entscheidungsträgern in der Region jedoch bisher weitestgehend unbekannt und spiegelt sich noch nicht in den jeweiligen nationalen Rechtsrahmen und damit verbundenen Prozessen wider. Der vorliegende Bericht fasst eine Analyse der relevanten Gesetze und Praktiken in Albanien in Bezug auf GI und Raumplanung zusammen. Er zielt darauf ab, rechtliche und institutionelle Defizite und Bedarfe zu identifizieren und Empfehlungen für Verbesserungen in Übereinstimmung mit den aktuellen Anforderungen der relevanten EU-Strategien und -Gesetzgebung zu entwickeln. Die Aufnahme des Konzepts von GI und ökologischer Konnektivität in die Gesetzgebung wird den Ansatz zur Planung, Projektierung und Umsetzung von Infrastrukturprojekten, Initiativen und Aktivitäten mit dem Ziel der nachhaltigen Entwicklung und Nutzung der biologischen Vielfalt verbessern.

ABSTRAKTE

Për të arritur një zhvillim të Brezit të Gjelbër të Ballkanit (BGB) midis Shqipëri dhe Maqedonisë së Veriut me një ndërlidhje të sigurt si pjesë e Infrastrukturës së Gjelbër (IGJ), brenda dhe jashtë zonave të mbrojtura, është e nevojshme të përmirësohet legjislacioni dhe të zbatohet planifikimi i përdorimit të tokës. Megjithatë, koncepti i IGJ është kryesisht i panjohur midis vendimarrësve përgjegjës për vendimet mbi planifikimin e peizazhit në Shqipëri dhe i pasqyruar ende në kuadrin ligjor kombëtar dhe proceset që lidhen me të. Raporti aktual përbledh analizat e ligjeve përkatëse dhe praktikave në Shqipëri në lidhje me IGJ dhe

planifikimin hapësinor. Ai synon të identifikojë mangësitë ligjore dhe institucionale dhe nevojën për të hartuar rekomandime për përmirësim, në përputhje me kërkeshat aktuale të strategjive dhe legjislacionit përkatës të BE-së. Përfshirja e konceptit të IGJ dhe ndërlidhjes në legjislacion do të përmirësoj qasjen ndaj planifikimit, projektimit, dhe zbatimit të projekteve, iniciativave dhe aktivitetave infrastrukturore me qëllim zhvillimin e qëndrueshëm dhe përdorimin e qëndrueshëm të biodiversitetit.

SUMMARY

The national report integrates Green Infrastructure into its content, representing a cross-sectoral policy aimed at establishing a strategic network of natural and semi-natural areas with distinct environmental characteristics to ensure biodiversity and provide ecosystem services.

The chapter “Green Infrastructure” and its subchapters extensively covers Green Infrastructure’s primary components and its connectivity with ecological corridors. The methodology for categorizing components is divided according to various criteria, including territorial scale (local, regional/national, EU) and a breakdown into urban and rural green infrastructure, comprising area, point, and line features (refer to table 4).

The subsequent chapters “Compatibility of the Spatial Planning Law with Green Infrastructure” and “Compliance of Albanian Environmental Legislation with Green Infrastructure” respectively discuss the compatibility of Green Infrastructure with Spatial Planning Law and Environmental Legislation. The consulted laws include Planning and Infrastructure Amendment Act 107/2014 of 31.07.2014, Road Code Amendment Act 8378 of 22.07.1998, Railway Code Act 142/2016 of 22.12.2016, Climate Change Act 155/2020, Biodiversity Protection Act 9587 of 20.07.2006, Protected Areas Act 81/2017, Integrated Water Resources Management Act 111/2012, and Forests Act 57/2020. Each law and document related to Green Infrastructure evaluates the strengths and weaknesses of the legislation in general and specific articles/regulations. The analysis considers the scope of regulations, institutional approach, instruments, and established standards.

“Green Infrastructure Models” reviews key legal packages and is supplemented by significant case studies of practical Green Infrastructure projects in various European areas and Albania. These examples range from micro to macro interventions, aligning with the European Green Deal 2020-2050 and the EU Strategy for Biodiversity 2030. As Albania is in the process of EU accession, this section explores the opportunities created by these policies for institutions and other interested entities to undertake Green Infrastructure projects.

To finalize the report, the conclusions provide insights into the current state of Green Infrastructure identification and Albania's responsibilities as a potential EU candidate. This includes recommendations based on challenges encountered during the implementation of the legal package and experiences from similar EU countries regarding Green Infrastructure development. These recommendations are categorized into three scenarios and divided into two main topics: Information and training, and Implementation and development, addressing both local/national and international levels.

GREEN INFRASTRUCTURE

Definitions of key terms: Green Infrastructure (GI)

GI is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to provide a wide range of ecosystem services (ES). It includes green spaces (or blue in the case of aquatic ecosystems) and other physical features in terrestrial (including coastal) and marine areas. On land, GI is present in both rural and urban environments.

The table below outlines and describes the different elements of GI which may overlap, complement each other or form GI together as a network of natural and semi-natural areas that provide biodiversity and/or ecosystem services required by humans.

ELEMENTS OF GREEN INFRASTRUCTURE	
The main natural areas	Areas of high biodiversity conservation value, which are usually protected, such as Natura 2000
Ecosystem Services Areas	Areas of economic importance that supply Ecosystem Services (wood, food, drinking water), and that are sustainably managed to conserve.
Natural or artificial regenerated areas or Ecosystem Services areas	Areas of new habitats or restored ecosystems for specific target species and/or increased inventories of targeted Ecosystem Services.
Urban and suburban green areas	Parks, gardens, small forests, green walls and roofs, rows of trees, sustainable rainwater collectors, ponds, green schoolyards, cemeteries, small gardens.
Corridors/natural connections	Natural connections, such as rivers/streams, areas of natural connecting trees, fences, even stone walkways, all enable movement and improve species status and even the Ecosystem Services inventory.
Corridors/artificial connections	Artificially created links with the linking function of previous GI elements to allow movement and migration of species and to increase the inventory of Ecosystem Services.

A challenge in the definition of GI is often related to the question of whether a given area is GI or not, or whether areas can also be recognized as GI at different levels of recognition or values (high, low). The main goal when planning GI is not only to preserve and increase biodiversity and ecosystem service inventories in existing GI areas, which are recognized as such with a higher added value, but also in areas that have been recognized as GI with a lower value.

Ecosystem services (ES)

Based on current practice, there are many different international classification definitions of Ecosystem Services: Common International Classification of Ecosystem Services (CICES), Millennium Ecosystem Assessment (MEA), etc. The latter, The Millennium Ecosystem Assessment (MEA) Board of 2005 is the most established internationally and divides ES into four categories¹:

- **PROVIDING SERVICES:** provide food, water, wood and fiber as material or fuel, etc.
- **REGULATORY SERVICES:** affect climate (ex. carbon sink), floods, disease, waste quantity and water quality (ex. pollutant filtration in surface water), etc.
- **CULTURAL SERVICES:** provide recreation, aesthetic and spiritual benefits, research and education, tourism potential, etc.
- **SUPPORTING SERVICES:** provide soil generation, photosynthesis and nutrient cycling, etc.

CATEGORIES OF ECOSYSTEM SERVICES	ECOSYSTEM SERVICES
Provision of services	Cultivation of plants, grazing/grass as fodder, fishing and aquaculture, biotic raw materials, water supply, biomass for energy production, etc.
Regulation and maintenance of services	Conservation of nutrients/substances, water purification, reduction of greenhouse gases, mitigation of drainage and flood risks, mitigation of drought conditions, soil regeneration, local climate regulation, improvement of air quality, preservation of populations and habitats, etc.
Cultural services	Landscape values, natural and cultural heritage, education and science, recreation and tourism.

GI planning at macro, mezzo, micro levels

GI is planned and recognized at different landscape levels, ex. cross-border, national and local levels. We have two methods for recognizing and planning GI:

- (1) **From UP to DOWN:** recognition and planning harmonization starting at a smaller scale, such as the macro-regional level, which then „descends“ through the mezzo-national level to specific, municipal/local recognition and planning.
- (2) **From DOWN to UP:** knowledge and planning that starts at a large, detailed scale, for example at the level of the local community and its inhabitants, which is then „integrated“ at smaller scales through national to regional scales.

1 <https://www.millenniumassessment.org/en/index.html>

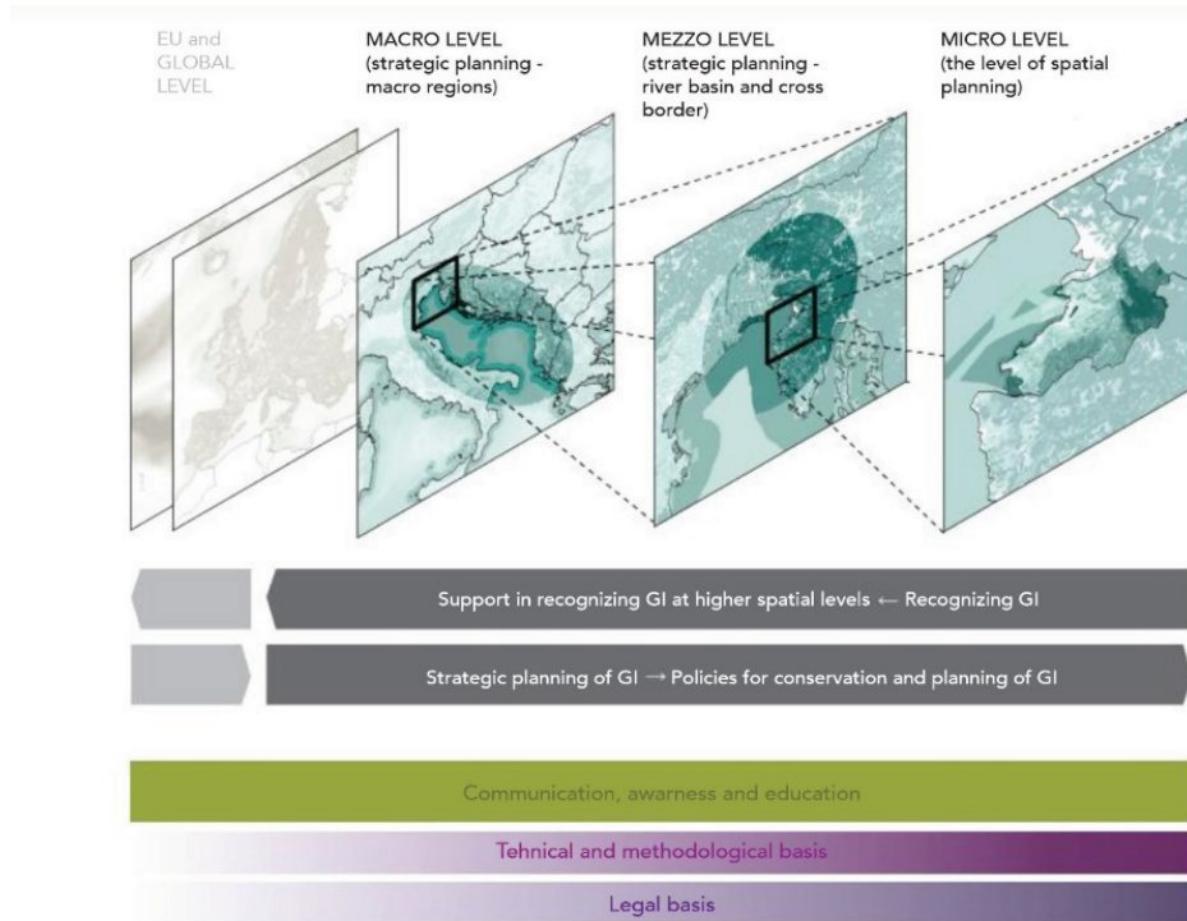


Figure 1: GI recognition and planning at different landscape levels (Source: Handbook for recognising and Planning Infrastructure. 6th Forum for EU Strategy for the Adriatic and Ionian Region. Pg 20. May 2021)

GI offers ecological, economic and social benefits through natural solutions. Green Infrastructure is based on the principle that the protection and improvement of nature and natural processes, as well as the many benefits that human society receives from nature, are consciously integrated into spatial planning and territorial development.

As a spatial planning concept, GI aims to be a systematic and holistic approach. GI helps conserve undeveloped land by highlighting the range of social benefits (i.e., land uses) associated with green areas. Using this approach as a governance strategy can make spatial planning sustainable. GI also presents a cross-sector solutions-oriented approach to spatial planning. Before fully implementing the concept, it is important to acknowledge that GI also has shortcomings in implementation and legislation. Since the 1970s, studies of human-environment relationships have focused primarily on ecosystem resilience and ecological networks.

The term Green Infrastructure is relatively new in Albania, but the concept exists. The Green Infrastructure movement is rooted in land studies and the interrelationship of man and nature that began over 80 years ago and as an example we mention the actions taken to preserve nature in Kune Vain, the first protected area during the kingdom period (1940).

From 'Greenways' to Green Infrastructures

The concept of green streets evolved at the end of the 19th century as a response to the needs for the growth of cities to the detriment of the landscape, the fragmentation of the territory and the protection of the environment, aspects that until that moment had not been considered in the urban planning process. The green movement laid the groundwork for Green Infrastructure planning. Greenways reinforced the concepts of connections and multi-use corridors in the fields of planning and design. Therefore, greenway planning and design was the forerunner of Green Infrastructure planning. Although Green Infrastructure initiatives often start from greenway efforts, there are some important differences.

GI differs from greenways in three aspects: a) Green Infrastructure emphasizes ecology, not recreation; b) Green Infrastructures include important ecologically important centers, as well as key landscape links; c) Green Infrastructure can be designed to shape urban form and provide a framework for growth.

Criteria for identifying potential green infrastructure sites

The following criteria should be considered when determining conservation values²:

- **Size:** The importance for nature conservation increases with the size of the intervention, the wider the scale of the intervention, the more necessary and urgent the conservation.
- **Diversity:** Greater diversity (ex. range of species and habitats) is better.
- **Naturalness:** Less modification is better.
- **Representation:** Natural communities that are not well represented in existing protected areas should be prioritized.
- **Rare:** Links that contain rare elements are better.
- **Fragility:** Fragile communities are more valuable and deserve protection.
- **Typification:** Keeping good examples of common species is important.
- **Recorded history:** Selecting well-researched and documented sites with known species and habitat presence is better than guesswork.
- **Landscape position:** Particularly important in Green Infrastructure, the proximity an area maintains to surrounding landscape elements is an important consideration (habitat connectivity).
- **Potential value:** Sites of diminished value but with potential for restoration or improvement are important
- **Intrinsic appeal:** Protection of some conspicuous species may be attractive to society and may result in a greater overall value for nature conservation.

The implementation scale of GI

GI provides services to improve water quality and quantity, air quality, climate resilience, habitat and wildlife connectivity, as well as to benefit communities from green job opportunities, health aspects, provision of recreational space and improvement of property values.

GI can be formed at the regional, city, neighborhood and plot levels. At the regional scale, GI is the elementary network of soil conservation and ecological corridor. At the urban scale, GI consists of urban forests/tree canopies, urban parks, parks and boulevards. At the neighborhood scale GI

² Derek A. Ratcliffe, *A Nature Conservation Review*, Cambridge, UK: Cambridge University Press, 1977; and Tony Kendle and Stephen Forbes, *Urban Nature Conservation*, London: Spon, 1997

Project “Improving Connectivity at the Balkan Green Belt”

includes elements of local parks, constructed wetlands and greenways, while at the plot scale it consists of stormwater planters, rain gardens, green roofs and living walls (Mark 2006) (Figure 2).

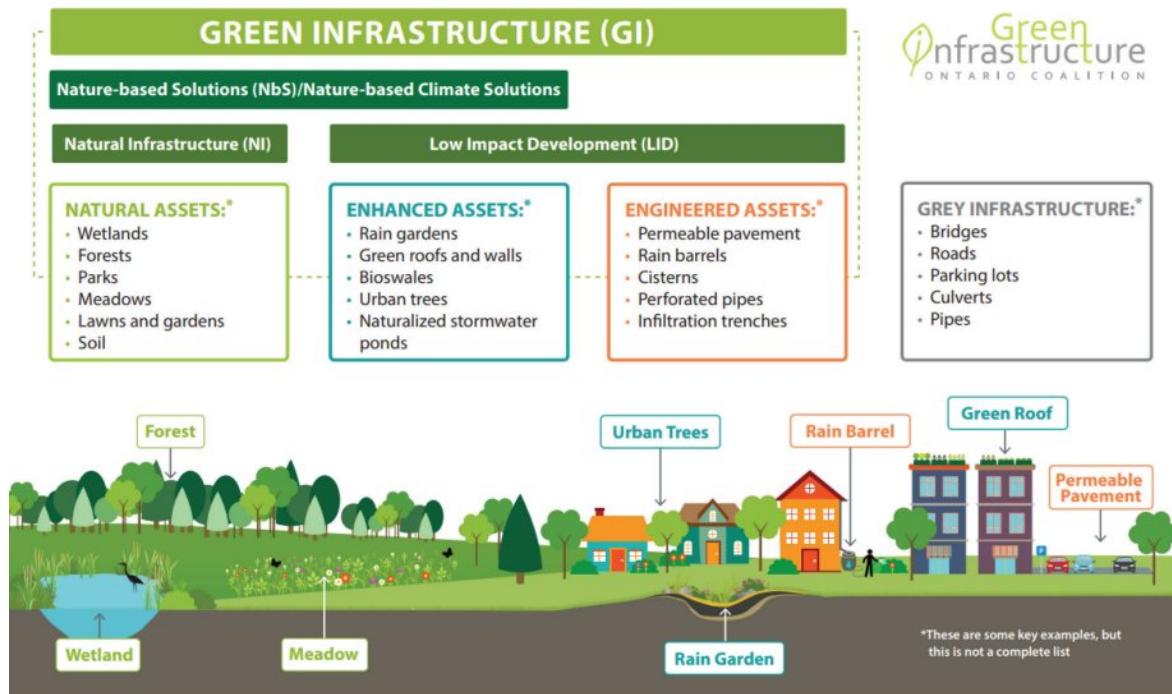


Figure 2: Green Infrastructure at any scales and forms
(Sources: <https://greeninfrastructureontario.org/what-is-green-infrastructure/>)

Multiple Benefits of Green Infrastructure

Green Infrastructure practices contribute to resilient communities and result in multiple benefits if implemented. These co-benefits include improved human health and well-being, improved environmental services and economic growth. They can be summarized as follows.

Economic benefits	Environmental Benefits	Social benefits
Reduces the cost of construction	Increases and maintains carbon sequestration	Improves the quality of life
Preserves aging infrastructure	Reduces the urban heat island	Creates urban green streets
Creates jobs	Reduces rainwater runoff and the risk of flooding	Improves mental health
Increases property value	Improves air quality	Creates attractive landscapes
Promotes economic development	Increases land use efficiency	
Reduces energy consumption and cost	Adds recreational space	
Reduces the life cycle costs of hard infrastructure	Protects drinking water, recharges groundwater, improves watersheds	
	Improves human health	
	Provides pollinator habitats	

Components of GI, type, degree

Components of GI, type, degree

Source: Supporting the Implementation of Green Infrastructure Final Report, 2016³

Description	LOCAL	Regional / National	EU	OPERATIONS
Central areas (core) - within protected areas	Local nature reserves, water protection areas, landscape protection areas, areas Natura 2000	Regional and national parks (including Natura 2000 sites)	Ecological networks with transboundary areas, including the Natura2000 network	Managing sites to maintain or improve their conservation status
Central areas – outside protected areas	Natural and semi-natural ecosystems, such as grasslands, forests, woodlands, ponds, marshes, rivers and floodplains, coastal wetlands, lagoons, beaches, marine habitats	Extensive agricultural and forested landscapes, large marshes and swamps, rivers and floodplains, coasts/coastal areas	Freshwater systems, major river basins, mountain ranges, regional basins marine	Land management to keep it in its current state
Restoration areas	Restored areas that were previously fragmented or degraded natural areas, unused brownfield or stony fields, transient ecosystems due to land abandonment or regeneration processes	Types of restored ecosystems	Restored landscape systems covering a significant proportion of agricultural/forestry and industrialized areas, including transboundary areas	Actions related to the restoration and subsequent management of continuity of the earth after it has been restored
Areas of sustainable use	High natural value agricultural land and multi-use forests (such as watershed forests), protective forests (against avalanches, mudslides, rockslides, forest fires), natural buffers such as protective beaches with barrier beaches and salt marshes	Extensive agricultural landscapes, sustainable forest management in regional and national level, functional coastal systems	Transboundary landscape features at river basin or mountain range level, sustainable coastal and marine management areas associated with the relevant sea basin	Actions related to transition to sustainable use and then continued management of land once it is used sustainably

³ Green Infrastructure Final Report, 2016

Project “Improving Connectivity at the Balkan Green Belt”

Description	LOCAL	Regional / National	EU	OPERATIONS
Urban and peri-urban green areas	Street trees and avenues, forests/city forests, high quality green public spaces & park/business premises, green roofs and vertical gardens, areas and orchards, storm basins and sustainable urban drainage systems, city reserves including Natura2000	Greenways, green belts, metropolitan park systems	Metropolitan areas with significant shares of high-quality green areas in Europe, including coherent approaches to cross-border urban areas	Actions related to the implementation of urban and peri-urban green areas and then the ongoing management of the land once established
Natural connection features	Hedgerows, stone walls, small wooded areas, ponds, wildlife strips, riparian vegetation, transitional ecosystems between farmland, grassland and forest	Sustainably managed multifunctional agricultural landscapes, riparian systems	Transregional corridors, a significant proportion of agricultural, forest or natural landscapes rich in structure	Actions related to the implementation of natural connectivity features and then the ongoing management of the land once established
Features of artificial connection	Eco-channels, green bridges, animal tunnels (e.g., for amphibians), fish passages, road edges, ecological corridor management electricity	Defragmented landscapes, improved areas along transport and energy networks, migration corridors, river continuity	The actions of Europe-wide or transnational defragmentation	Actions related to the implementation of artificial connectivity features and then the ongoing management of the land once it has been established

Connectivity and ecological corridors

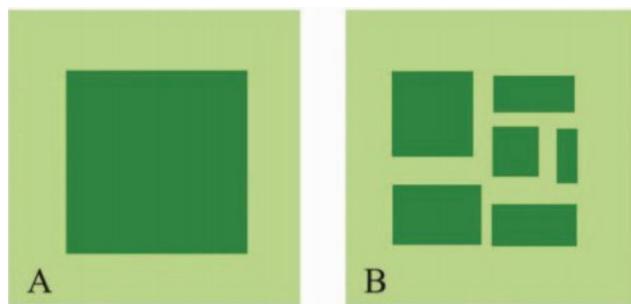


Figure 3: Schematic of continuous (A) fragmented (B) habitat
 (Source: Ćurčić N.B., Đurđić S., *The actual relevance ecological corridors in nature conservation*. 2013. UDC: 911.2:574 DOI: 10.2298/IJGI1302021C)

Human activities, such as agriculture, rural development, urbanization and the creation of hydropower reservoirs have destroyed and fragmented many habitats, causing great loss of biodiversity worldwide. Although scientists, concerned citizens and governments have raised the alarm about habitat and biodiversity loss and related issues for decades, solutions have so far failed. The creation of protected areas has been a solution, but not efficient, due to the random, fragmented settlement (see Figure 3), as well as the lack of strong management. One of the solutions recently proposed by IUCN⁴ is the new Guidelines for Maintaining Connectivity through Ecological Networks and Corridors. Although a new concept, the ecological corridor is easy to understand, so now more than ever is the time to implement this conservation tool.

Biodiversity and threats to it

Biodiversity is „the diversity of habitats, species and genetic diversity found in a place.” The existence of biodiversity within an ecosystem depends on the environmental and climatic circumstances, as well as their ability to adapt to them. Wildlife is always on the move, due to daily wandering, seasonal migrations, habitat changes, adaptation to climate changes, or escaping from different ecosystems and adapting to others. Meanwhile, the confrontation with fences, roads and cities turns into barriers. If once uncontrolled hunting, poaching were important causes for the decline of animal and plant diversity, today one of the biggest threats to biodiversity is the fragmentation of natural reserves.

Composition of an ecological network

Ecological networks consist of core areas, corridors and buffer zones (see Figure 4). Corridors create a permanent connection between the main areas. The main areas and connecting corridors are surrounded by buffer zones which serve as protection from possible disruptive external influences. Beyond the main areas and connecting corridors lies another area with land selected for sustainable use with the preservation of some ecosystem functions.

⁴ IUCN, Guidelines for conserving connectivity through ecological networks and corridors, 2020

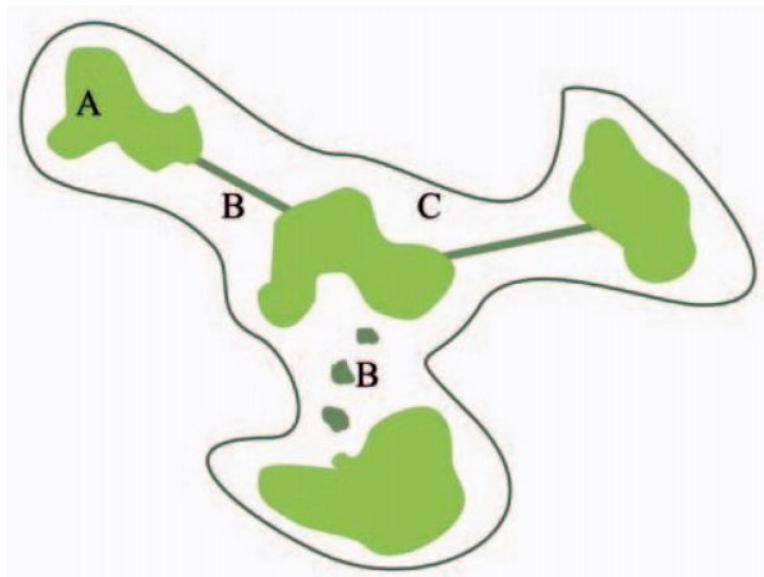


Figure 4: Ecological network - scheme (A - important ecological area, B - ecological corridors, C - buffer zones) (Source: Scotland's Nature Agency uploaded by Allison Jones, 2011)

What is the purpose of ecological corridors?

Corridors help maintain or recover a certain degree of cohesion in fragmented ecosystems. By connecting fragmented habitats, the sustainability of animal and plant species is improved as the habitat expands, „empty“ habitats are reused, contributing to a distribution of new species.

What types of animals and plants disappear?

Mainly less mobile species, depending on a specific set of habitat features, are vulnerable to the fragmentation of their habitat. Additionally, species that depend on large habitats, such as large mammals, are vulnerable. A sustainable population of these species cannot be ensured in small-scale habitats. Many forest animals and plants are threatened in their existence as a result of fragmentation.

What can be done against fragmentation?

To combat fragmentation, the creation of connecting ecological corridors is important. The idea of creating corridors began to develop over 30 years ago, and the IUCN has included it in its guidelines in 2020. Currently, research is being carried out worldwide to find the best way to incorporate ecological corridors into the landscape at regional (small rivers), national and international (major rivers or mountain ranges) levels. This research aims to strengthen the interconnectedness of habitats. By connecting neighboring nature reserves (core areas) through corridors, a network of natural areas or 'ecological network' is created.

What does a corridor look like?

Roughly speaking, three types of corridor can be distinguished:

- **Linear corridors:** These are long, continuous belts of vegetation, such as hedgerows, forest belts, and vegetation that grows along the banks of rivers and streams;

- **Stepping stone corridors:** A series of small, unconnected habitats used to find shelter, food or rest;
- **Landscape corridors:** These consist of various, uninterrupted landscape elements that provide sufficient coverage for safe travel from one core area to another.

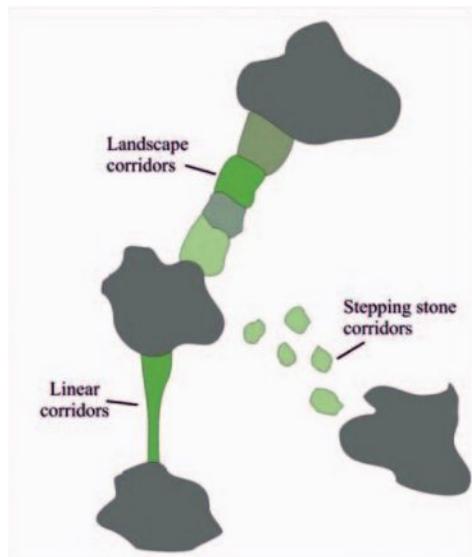


Figure 5: Morphological types of ecological corridors (Source: <http://www.sicirec.org/>)

What does a buffer zone look like?

Although the concept of a buffer zone is simple, its creation requires thorough research. A certain amount of human exploitation is possible in a buffer zone. To determine which type of use is appropriate, knowledge of the complex dynamics between human activities and flora and fauna is required. The use must in no way be detrimental to the preservation of the nature of the main areas and corridors. The reality is that neither method will solve the pressing issue of mass extinctions of species caused by widespread alteration of ecosystems by humans and climate change. However, when used together, protected areas, other effective area-based conservation measures (OECMs) and ecological corridors are a set of tools to create effective terrestrial, freshwater and marine ecological networks to effectively enhance and conserve biodiversity today and in the future.

For large, wide-ranging species, individual protected areas are often not large enough to maintain minimum sustainable populations or withstand major ecological disturbances, such as fires. While natural fires are part of the long-term cycles of any ecosystem, species can only recover from these events if they can recede. This may be possible itself if there is an ecological corridor (rescue). The Convention on Biological Diversity (CBD) 2020 was designed to advance progress towards achieving the CBD's 2050 vision of „living in harmony with nature“.⁵ The convention has been signed by 196 countries and includes the definition of ecological networks, for conservation and guidelines on how to identify, create, measure and report on ecological corridors.

5 <https://www.cbd.int/>

COMPATIBILITY OF THE SPATIAL PLANNING LAW WITH GREEN INFRASTRUCTURE

Green Infrastructure is a cross-cutting policy, which is included in the European Green Deal 2020-2050 and the EU Biodiversity Strategy 2030⁶ and is not consolidated (<https://eur-lex.europa.eu/browse/summaries.html?locale=en>). It deals with the progress so far and the challenges encountered both at the level of the EU and at the level of the Member States in the implementation of the four priority work streams of the Strategy, and it draws lessons and presents suggestions for the further implementation of the Strategy.

The GI Strategy emphasized the need to ensure that GI becomes a standard part of spatial planning and territorial development and that it is fully integrated into the implementation of policies whose objectives can be achieved in whole or in part through nature-based solutions.

Regarding EU directives, as previously stated, there is no EU-level directive that obliges the implementation of GI and spatial planning for every Member State, however this applies to states that accede to membership, like Albania. While the Environmental Directive exists, Albania has already started implementing the EU⁷ environmental acquis, thus creating the foundations for ecological integrity in the country. In addition, other directives such as: (i) Nature, (ii) Birds and Habitats, (iii) Water Framework and other policy documents such as the Action Plan for Nature, People and Economy affect, if not entirely, many important elements of GI and national ecological networks, and clearly orient the development of national policies in the desired tracks of the EU. Furthermore, although the territory/spatial planning legislation is not a directive, Albania has nevertheless embraced a kind of comprehensive planning system in its legislation since 2009 and with some modifications in 2014, Law no. 107/2014, „On planning and development of the territory“, as amended. These two Laws may be the foundation of the implementation of the GI in Albania, but they would not be enough to fully implement it.

Green Infrastructure can only be fully implemented if it stands solidly in all its cross-sectoral elements that are regulated by different sectoral legislations. Following is a list of these legislations and other strategic documents/instruments that overlap and address GI and spatial planning is presented. Each of the Laws and documents related to Green Infrastructure is presented, and the strengths and weaknesses identified of the legislation in general and of the articles /regulations in particular. Each Law and its by-Laws⁸ will be analyzed in relation to the scope of regulations, institutional approach, instruments and established standards. Furthermore, other strategic documents or adopted institutional instruments and land use plans should be analyzed in relation to the GI. For all mentioned above, a summary assessment regarding the time and effect in force will be dealt with.

The below table will help us clarify the problems and where and how we should intervene to improve the legislation on these issues. Laws related to GI and spatial planning are listed below based on a preliminary analysis:

⁶ See more EU Biodiversity Strategy 2030 https://eur-lex.europa.eu/resource.html?uri=cellar:a3c806a6-9ab3-11ea-9d2d-01aa75ed71a1.0001.02/DOC_1&format=PDF

⁷ Law No. 10 431, dated 9.6.2011 „On environmental protection“, Amended

⁸ At this stage, the report itself will bring up a preliminary list.

Table 5: Elaborated by E.Shkrelia

Law no.	Date approved	TITLE	Status
Planning and infrastructure			
107/2014	31.07.2014	Planning and infrastructure	Amended
8378	22.7.1998	Road Code of the Republic of Albania	Amended
142/2016	22.12.2016	Railway Code of the Republic of Albania	
Environment and agriculture			
81/2017	4.5.2017	For protected areas	
57/2020	30.4.2020	For forests	
155/2020	17.12.2020	On climate change	
9587	20.7.2006	For the protection of biodiversity	Amended
10440	7.7.2011	For environmental impact assessment	Amended
91/2013	28.2.2013	For strategic environmental assessment	
111/2012	15.11.2012	For the integrated management of water resources	Amended

Spatial planning and territory development

Since the approval of the GI Strategy by the Commission in 2013, there has been a strong emphasis on integrating GI into spatial planning and territorial development. The goal is to make GI a standard part of these processes and legislation to maximize economic benefits for European natural assets. This integration is crucial for ensuring that GI can have a significant impact on natural capital and ecological networks, especially when combined with other planning and development instruments through nature-based solutions.

In Albania, this process began in 2009 and was strengthened with the enactment of Law 107/2014, „On planning and development of the territory," which has been amended and further supplemented by its associated by-laws listed in the table above. Prior to this stage, legislation mandated that public authorities only devise development strategies for urban areas (largely focusing on gray infrastructure), assuming that a Local Government Unit would comprehensively plan its urban administrative territory. However, agricultural and natural lands were often overlooked in planning efforts, with only a few strategic documents available at the local level.

Today, Law 107/2014, "On Territorial Planning and Development," as amended, places significant emphasis on natural capital and the importance of Green Infrastructure (GI), as evident from its objectives outlined in Article 1. Additionally, Article 4 enumerates principles that guide the law's implementation, providing clear directives to public authorities and emphasizing compliance with EU legislation. The law's provisions are further elucidated through its associated by-laws, which outline specific regulations for natural and ecological networks.

According to Decree No. 686, "On the adoption of the territory planning regulation," as amended, each planning document at the national, regional, and local levels is required to establish clear strategies for territories identified as natural territorial systems. Article 75 of the law provides the following definition:

„The natural system (NS) consists of the totality of lands and natural landscapes, the ecological corridors connecting them, as well as the infrastructure and structures in function of natural activity.“

However, the natural territorial system is not the only one that fulfills all the elements of GI, as agricultural lands are seen as a separate territorial system in Albanian legislation. The definition of the agricultural territorial system is as follows:

“The agricultural system (B) is formed by the totality of agricultural lands occupied by field plants, orchards, vineyards and olive groves, with its essential features being the fertility of the soil, as well as the infrastructure and objects in function of the agricultural activity. This system is the result of the interaction in time of human activities for cultivation and constructions of an agricultural character in the territory.“

These two systems are the backbone of the territorial implementation of GI. Of course, according to the definitions of other territorial systems in the Albanian legislation, they play a role in the elements of GI, such as urban and territorial, and less is left to the territorial system of infrastructure. All these systems form the territorial coverage of Albania in general.

Mechanisms/instruments and levels

In Albania there are two levels of territorial planning: (i) national and (ii) local⁹, see L. -Article 15 of Law no. 107/2014, amended. At the national level, the legislation defines instruments such as: 1) the General National Territorial Plan (GNTP) for the entire territory of the Republic of Albania; 2) National Sectoral Plans for all or part of the territory; and 3) Detailed plans for areas of national importance.

Whereas, the local level foresees instruments such as, 1) Sectoral Plans at the District level; 2) General Local Territorial Plan; and 3) Detailed Local Plans. At these two levels, number 3 on the list, are planning instruments that go up to the level of detailed urban design, while the other instruments are more (but not only) strategic and policy-oriented documents.

As for the public authorities that are responsible for spatial planning and territorial development, the Law states that at the national level we have (i) the Council of Ministers, (ii) Sectoral Ministries and (iii) Ministry of Line [and its subordinate agencies]. While at the local level: (i) Local Municipal Councils, (ii) Mayors of Municipalities, (iii) other delegated public authorities. The foundations of GI/ecological networks are established at the highest level of spatial planning and territory development according to Albanian legislation. Reference to Decision of Council of Ministers (DCM) 16 of Law no. 107/2014, amended, which defines the main objectives of the General National Territorial Plan. Furthermore, the GNTP must include in its final proposal a clear territorial definition of the territorial systems (natural, water, agricultural, urban and infrastructural), on the basis of which the planning documents of the lower hierarchies will be detailed later, Article 19 in DCM no. 686, as amended. At this moment, Albania has already approved the GNTP, implemented with DCM since 14.12.2016, as the highest planning instrument.

Regarding the procedures, responsible authorities and standards related to the implementation of GI, DCM no. 686, dated 22.11.2017 „On the adoption of the territory planning regulation“, as amended, is the basic legal document and serves as the main functional ordinance to be implemented by public authorities and all actors involved. In this regulation can be found

⁹ The regional level seems to be included in the local level (number 1 in the list of the local level), but since the national level foresees the planning of partial territories without the national level (number 2 in the list of the national level), then we can say that it is a common function. Although the hierarchy prevails at the national level

the procedures related to who is responsible, as well as what to draft for each instrument at each level of spatial planning and land use. Together with its annexes, this by-law defines the framework for the regulation of land use and the classification of the functions of the structures and the territory itself. In addition, concepts, standards and limits related to land use zoning are established in this document. Some examples are listed below as they are directly related to the implementation of GI through the design of planning instruments and the land development process that comes with it.

The process, regardless of the planning level, starts with a public hearing of the public authority to announce the start of the drafting of the planning instruments. The National Territorial Planning Agency (NTPA) is the authority that is always part of the planning coordination process. Its duties are clearly listed in the Law and by-laws, as amended. It is precisely at this point that any national or general territorial plan is connected in parallel with the planning process and the process of drafting the EIA. It accompanies the planning process until its approval, being one of the mandatory documents for finalizing the approval process in the National Territorial Council (NTC).

In terms of content, there are some obligatory analyses that the technical team must fulfill before proposing the implementation of any development in the territory; one directly related (or not) to the implementation of GI is metabolomics analysis. Although it is essential to see the territory as a living organism, this type of territorial analysis requires a lot of up-to-date data to fully perform and understand the territory as an organism in general.

It is not only the Local General Plans or the National Plan that deal with the implementation of GI. According to Article 30, with DCM 686, amended, the NTP can approve issues, areas or objects of national importance, and further plan them in detail through planning instruments (Detailed Plan of Areas/Areas of National Importance).

Standards and indicators

According to DCM no. 686, as amended, the territory of Albania, in addition to territorial systems, must be categorized into 14 main groups of land use. They are clearly defined in an annex of the DCM. This type of categorization enables professionals and public authorities to identify, conserve and plan more easily the natural capital and environmental ecosystems in the territory.

Article 2 of the Ministry's National Decision no. 686 defines the definition of concepts such as „Blue Line“, „Red Line“ and „Green Line“. All three lines above basically try to direct or even limit the process of urbanization/urban sprawl.

Although it appears that this policy of demarcation has been established, however through the planning process, there are no clear standards or buffers on how public authorities can establish numbers/values or map drawing as basic and fixed boundaries for further enforcement by all stakeholders. This kind of ambiguity remains present even when it comes to planning standards. Although there seem to be some rules and indicators regarding territorial planning (see Articles 82-92), they remain vague in terms of detail or final rules when it comes to environmental protection and land conservation (but not only).

Participatory planning and coordination of public authorities

In this by-Law we have certain Articles that detail the process of participation and involvement of interested parties in the planning process and also the mandatory public hearings that must take place during each drafting of planning instruments. For the first time, two forums are introduced through this by-Law: (i) Local advisory forum and (ii) Forum for planning

coordination. The first is based on the voluntary participation of local communities, but will be initiated by local government units, while the second is mandatory for the participation of all public actors who are involved (through legislation/field of interest) during the planning process, local or central.

Another historical moment of planning legislation in Albania is DCM no. 408 „On the approval of the territory development regulation“, amended. Although this by-Law mainly deals with land development, it nevertheless plays a role in the implementation of elements of GI. This is done through indicators such as construction intensity, plot coverage ratio, public space index/coefficients, road coverage ratio, building height, distances and obstacles, etc. Precisely in this by-Law, certain instruments of land management (see Articles 41-44) are introduced and can help public authorities to increase or maintain certain elements of GI, such as transfer of development rights, bonus intensity, etc.

In addition to the approved legislation, there are other strategic documents that foresee the implementation of GI in Albania. Some of them, such as National Strategy for Development and Integration (NSDI) or GNTP, have also been approved as DCM. Other instruments are approved at the national level by the national councils, such as the National Council of the Territory, etc. While many have been drawn up and approved by the local government first, such as General Local Territorial Plans (almost 90% of the territory already covered). The regional level is also represented by two cross-sectoral spatial planning documents, which, in addition to the socio-economic focus, place great emphasis on green infrastructure.

Road and Railway Code in Albania

The Republic of Albania adopted the Road Code, dated 22.7.1998, and since then has amended and added to the Law, by-Laws and regulations and/or its instructions. However, it remains a technical and very gray infrastructure-oriented piece of legislation. When it comes to environmental and ecosystem aspects, there are certain Articles that guide (not oblige) infrastructure design/development to include some green and environmentally friendly solutions. Article 62/1 in DCM No. 628, dated 15.07.2015, „On the adoption of the technical regulation of road design and construction“, as amended, deals with service areas along national roads.

While the Railway Code is quite new in terms of years in force, the last one was approved on 22.12.2016, which replaced the previous one, dating to 2004. Recently, Albania is undergoing a serious reform in the administration of railways and in important railway infrastructure projects, since the first network built in the country. The latest development will connect the country once and for all with European networks. Having said all the above, it is essential that the country includes elements of green infrastructure in its project. It is quite necessary when it comes to the railway, because the railway is always seen as a harsh/significant physical intervention on the environment during construction.

On the other hand, the code itself and its by-Laws, as in the case of the road code, again do not put much emphasis on the elements of green infrastructure. Focuses primarily on safety issues and standards, using/imposing buffer zone measures to support it.

There is still a list of strategic documents and studies that have been drawn up at the national/regional level that have not been legally adopted, but which serve as a good basis for policy making by central and local representatives.

All of the above will be further analyzed and elaborated during the implementation of the project.

Table 6: Elaborated by E. Shkrela

Nr.	Planning instruments	Level of implementation	Responsible enforcement institutions
1	National General Plan 2030	central	National Planning Agency Territory
2	Integrated Cross-Sector Plan of Coast	central	National Planning Agency Territory
3	Integrated Intersectoral Plan of the Tirana -Durres Region	central	National Planning Agency Territory
4	Law No. 107/2014 on Territorial Planning and Development	central	National Spatial Planning Agency/ Ministry of Infrastructure & Energy
5	Local General Plans	Local	National Spatial Planning Agency / Municipalities
6	National Environmental Monitoring Plan (annual)	central	National Environment Agency

In many cases the Plans include the concepts and approaches of GI, but not directly as a term. For example, referring to GNP 2030 it is quoted: „In any case, the nodes and corridors are traversed by the capillarity of the green infrastructure, which guarantees the connection of the habitat and the longevity of the ecosystems, despite the strength of the urban structures and the risk of fragmentation, which they can carry...“¹⁰

¹⁰ <https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=5154&token=da636af1a1a4ffe0d0973a5cfc7edbca62f49cc>

COMPLIANCE OF ALBANIAN ENVIRONMENTAL LEGISLATION WITH GREEN INFRASTRUCTURE

Law no. 155/2020 „On climate change”

General considerations

Law no. 155/2020 „On Climate Change“, approved on 17.12.2020 and announced by decree no. 11893, dated 5.1.2021, of the President of the Republic of Albania, Ilir Meta, consists of 40 Articles organized into 7 Chapters. It is also accompanied by 4 Appendices.

The Law defines the goals, national objectives and principles, relevant terminology, fields, bodies and ways of its implementation, institutionalizing the commitment of the Republic of Albania in the global effort against climate change.

Compliance with the elements of Green Infrastructure

In general, the Law „On Climate Change“ is permeated by the spirit of predicting, preventing and mitigating the negative effects of climate change, emphasizing a series of complex measures to protect the environment and reduce the negative impact of human activity on the environment.

Addressing the elements of Green Infrastructure

Although it is not a specified law for GI, the Law „On Climate Change“ directly addresses some issues related to elements of GI at the national level, such as protected areas, ecosystems, agricultural areas, etc., also attaching relevant actions for the protection/conservation/development of these elements. Examples of this are addressed in Articles 18 and 29 of the Law. **The complete Law „On Climate Change“ can be consulted at this link:**



<https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=6169&token=315e59243494e327627828afe0a5ab6d591d48>

Law no.9587, DD. 20.7.2006,“On the protection of biodiversity”, amended

General considerations

Law no. 9587 „On the Protection of Biodiversity“ was first approved by the Assembly of the Republic of Albania on 20.7.2006. Subsequently, this Law was amended three times. The first changes were made with the Law no. 37/2013, dated 14.2.2013, the second amendments with the Law no. 68/2014, dated 3.7.2014, and recently with the Law no. 41/2020, dated 23.4.2020.

In its final version (Law no. 9587, dated 20.7.2006 „On the Protection of Biodiversity“ [Amended by Law no. 37/2013, dated 14.2.2013, no. 68/2014, dated 3.7.2014, no. 41/2020, dated 23.4.2020] [updated]) and announced by decree Law no. 11471, dated 30.4.2020, of the President of the Republic of Albania Ilir Meta, consists of 57 articles. organized in 15 chapters.

The completed version of this Law, which we will refer to in this review, aims to:

- (1) Ensure the protection and preservation of biological diversity.
- (2) To regulate the sustainable use of the components of biological diversity, through the integration of the main elements of biodiversity in strategies, plans, programs and decision-making of all levels.
- (3) To ensure the establishment of the network for the conservation of natural habitats and wild flora and fauna in the territory of the Republic of Albania.
- (4) To determine measures to maintain or restore to a favorable conservation status the natural habitats and species of wild fauna of Albania and of interest to the European Community.
- (5) To ensure that the measures undertaken, pursuant to this Law, take into consideration economic, social and cultural requirements, as well as regional characteristics.

After explaining the specific terminology, the Law defines the fields of action, which include all elements of GI. Reference to Article 3.

In the following, the other Articles and chapters of this Law define very clearly the institutions for the preservation and protection of biodiversity; whether they are state, public, social or private; and biodiversity planning instruments, such as strategy, inventory and emergencies.

Since the Law is effective for ecosystems and biodiversity not only within protected areas, it also foresees the principles of work for the conservation, identification and management of stocks and ecosystems, habitats and landscapes, located outside the representative network of protected areas. As one of the strictest Laws for the protection of nature, the Law „On Protection of Biodiversity“ mandates the Council of Ministers to approve the list of types of natural habitats, plants, animals and birds, as well as enforces protective measures for terrestrial, aquatic and marine species, while emphasizing the principles for the conservation, development and protection of autochthonous breeds and varieties, important for food and agriculture, as well as defining the criteria, measures and practices of relations with foreign species and invasive alien species.

The frequent amendments and additions have significantly improved the Law, focusing part of the attention on research-scientific work with biodiversity, the collection and use of Albanian in-situ and ex-situ genetic resources and related traditional knowledge.

It is to be appreciated the comprehensive character of this Law which - in addition to recognizing the rights and responsibilities of the responsible national authorities, as well as defining the procedures for the request for access, for the transfer and ownership of materials obtained from genetic resources and their data - also takes into consideration the knowledge, innovations and practices of local communities, stimulating public participation in biodiversity issues.

Finally, as in any Law of this nature, economic and financial measures in support of biodiversity are defined, as well as sanctions for violators.

Compliance with the elements of Green Infrastructure (see Annex 2)

Being one of the fundamental Laws of the package of Albanian environmental legislation - together with the Law „On Protected Areas“ - the Law „On Protection of Biodiversity“ stands out for significant compliance with local, regional and international (EU) elements of Green Infrastructure. Thus, the Articles of this Law find answers and solutions to several problems in Green Infrastructure, such as biodiversity, ecosystems, landscapes, natural, national and regional parks, traditional areas of sustainable use, etc.

An important aspect of the compliance of the Law „On the Protection of Biodiversity“ with the elements of GI is the spirit of international cooperation of the Republic of Albania. Within the obligations arising from the country’s membership in international initiatives, institutions and organizations (especially in the Nagoya Protocol, approved on October 29, 2010 in Nagoya, Japan and ratified by the Republic of Albania with Law No. 113/2012, dated 22.11.2012), through Article 4 (State Institutions), the Republic of Albania undertakes to cooperate with states and international organizations for the preservation of biological diversity and for the sustainable use of its components, especially for:

- (I) common or transboundary components of biological diversity;
- (II) the cross-border impacts of the activities carried out in its territory;
- (III) coping with emergency situations;
- (IV) fulfillment of obligations arising from international agreements to which it is a party.

As in other Laws (environmental legislation and not only), the same spirit of responsibility of the Republic of Albania continues in the following Articles of the Law, such as 10, 11, 34 and 44/4 (see Annex 2).

Addressing the elements of Green Infrastructure

As it was established in point 2.2 of this chapter, intuitively, the Law „On the protection of biodiversity“ directly addresses many issues of related to the elements of GI, and especially in those L. Articles that determine the degrees of intervention/action for the conservation/development/protection of biodiversity, i.e., nature, without which Green Infrastructure cannot be understood. In addition to dealing with the objectivity of certain natural elements of the GI, since it was drafted with the aim of regulating human activity and the consequences of the impact of this activity on nature - the Law sanctions a series of concrete actions for the management of places to maintain or improve their conservation status, actions related to mining and then the continuous management of the land after it has been restored, actions related to the restoration and the transition to sustainable use, with features of the implementation of the natural and artificial connection and then the continuous management of land etc.

Detailed through the DCM and the relevant Ordinances, these actions serve to lay the groundwork for the transition to a specific package of Laws for Green Infrastructure in Albania. In this Law, such actions are foreseen in Article 4, partially cited above, in Article 8 and then in Articles 14-17, 19-26 (cited above), 27, 28, 32, 35, 37-39, 41-44, 46, 49-53, not counting the concluding Articles of the Law, which sanction the manner and extent of punishment. imitation of offenders (see Annex 2).



All Law „On the Protection of Biodiversity“ can be consulted at this link:

<https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=5164&token=65229812e2b53448c10aa790727d8a7006b500b9>

Law 81/2017 „On protected areas”

General considerations

The Law on protected areas is among the basic Laws of environmental legislation. Since even in the world, the term „protected area“ has been evolving, in Albania in the 1990s, human activity in these spaces was regulated by Laws such as „On forests and the police of the forest service“, „On the protection of wild fauna and hunting“, etc.

The first Law on protected areas as such, with no. 8906, dated 6.6.2002, was announced by decree no. 3380, dated 24.6.2002, of the President of the Republic of Albania, Rexhep Meidani. Six years later, this Law was amended and supplemented, which were approved as a separate Law with no. 9868, dated 4.2.2008 by decree no. 5623, dated 18.2.2008, of the President of the Republic of Albania, Bamir Topi. The increase in global awareness of nature in the last decade, and consequently the great boost that the concept of protected areas received, was also reflected in Albania. Therefore, in the early 2000s, the need to draft a new Law arose.

In the following analysis, we will refer to this new Law „On protected areas“, no. 81/2017, dated 4.5.2017, announced by decree no. 10335, dated 18.5.2017, of the President of the Republic of Albania, Bujar Nishani. As it is written in Article 72 of this new Law:

- (1) Upon entry into force of this Law, Law no. 8906, dated 6.6.2002, „On protected areas“, amended, is abolished.
- (2) By-Laws, pursuant to Law no. 8906, dated 6.6.2002, „On protected areas“ as amended, remain in force as long as they do not conflict with this Law.

This Law consists of 75 L. Articles organized in 11 chapters, and is partially aligned with Council Directive 92/43/EEC, dated 21 May 1992, „On the conservation of natural habitats and of wild flora and fauna“, amended“, CELEX number 31992L0043, Official Journal of the European Union, Series L, No. 206, dated 22.7.1992, page 7 -50.

Although the current Law „On protected areas“ was drafted on the skeleton of the previous Law, it gave power to the National Agency of Protected Areas, the institution responsible for the management of these areas, which, although it was created in 2015 on the basis of the old Law, was the promoter of the need for the drafting of the new Law „On protected areas“ - if not the drafter of most of the draft Law. And it is precisely thanks to the work of NAPA (National Agency of Protected Areas) in the period 2015-2021 that Albania is close to the average of the EU and on the way to the new objective of the Union for 30% of the surface protected area. Having over 20% of its territory declared a protected area, Albania leads all the countries of the Western Balkans (Montenegro, Bosnia-Herzegovina, Serbia, Kosovo, North Macedonia), as well as at least 5 EU countries (Finland, Ireland, Sweden, Belgium, Denmark), and is comparative to 6 other EU countries (Hungary, Portugal, Czech Republic, Italy, Estonia, Latvia, Lithuania).

Compliance with the elements of Green Infrastructure

It is logical that a Law like „On protected areas“ has maximum compliance with the concepts and elements of GI, compared to other Laws of the country's environmental legislation package. By accurately formulating the concepts of the constituent elements of protected areas - some of which are also part of the GI - this Law takes their treatment to another level. Another reason why this Law is compatible with the GI is that part of Albania's protected areas, coincide with the European Green Belt, which includes the entire land border of the country. Thus, from Albania's 778 km land, lake and river border line, circa 449 km (about 58%) passes through protected areas of all five IUCN categories. In total there are 11 protected areas directly within the borders of the European Green Belt, and about 10 other protected natural areas and monuments within a

distance of less than 30 km from the track of this Belt. While beyond it, the system of protected areas of Albania is quite diverse and more distributed in the territory of the country.

Therefore, the Law „On protected areas“ is among the most important within this project for paving the way for Green Infrastructure. This Law starts with the updating of Albanian culture with the contemporary concepts of caring for nature as a good not only of a country, but of a wider community, such as point 10 of Article 3, Article 4-5-6, Article or categories and criteria for declaring protected areas, in Article 11, 14 (see Annex 3).

Addressing the elements of Green Infrastructure

Preliminary evaluation of the compatibility of the Law „On protected areas“ with the GI in point 3.2. of this document, it is hinted that the addressing that this Law makes to the issue and the elements of Green Infrastructure is among the most appropriate in the package of environmental legislation of the Republic of Albania. Starting from the ownership of protected areas, which this Law categorizes as national property in Article 52, whether in public or private ownership, it is clear that the Law „On protected areas“ is a good start on the basis of future circulation dedicated to Green Infrastructure. The categories and typologies of the GI are fully compatible with the categories of protected areas, according to Article 15,16,17, 20, 22, 23, 24, 25, 26, 33, 63, 64, 10, 43 and 46 (see Annex 3).

The complete Law „On protected areas“ can be consulted at this link:

https://turizmi.gov.al/ep-content/uploads/2018/05/Liqj_81_2017_04.05.2017-Per-Zonat-eMbrojtura.pdf

Law no. 111/2012 „On the integrated management of water resources“

General considerations

Law no. 111/2012 „On the integrated management of water resources“, is an amended version of the Law no. 111/2012, dated 15.11.2012 and announced by decree no. 7845, dated 3.12.2012 of the President of the Republic of Albania, Bujar Nishani. The process of changing the Law was approved in the Parliament of Albania with Law No. 6/2018, dated 8.2.2018, on some changes and additions to the Law no. 111/2012 „On the Integrated Management of Water Resources“ and was decreed by the President of the Republic of Albania, Ilir Meta. It should be noted that in contrast to the previous Law, the current Law in force has transferred part of the powers from the National Water Council to the Prime Minister.

However, in the note at the bottom of the first page of the Law, it is written that the Law is fully aligned with: Directive 2000/60/EC of the European Parliament and of the Council, dated 23 October 2000, „Establishment of a legal framework for community actions in the field of water policy“. CELEX number 32000L0060, Official Journal of the European Union, Series L, No. 327, dated 22.12.2000, page 1-73. The Law is organized in 20 chapters, with a total of 105 Articles.

Compliance with the elements of Green Infrastructure

As it was found in this paper, most of the laws of the package of environmental legislation have partial alignment with the relevant EU environmental legislation. While the law „On the integrated management of water resources“ is fully aligned with the Directive „Establishment of a legal framework for community actions in the field of water policy“. As such, this law also

aligns with the main principles of GI, such as: connectivity, multi-functionality, integrability, governance, continuity.

These principles are reflected in the previous Articles of the law (Article 1 Purpose; Article 2 Fields of Action; Article 3 Object of the Law). It then continues with Article 6 with the Principles of Water Management, Article 18, 19, 20, 21, 22 where it emphasizes management relations at cross-border and international levels, i.e., interconnection (see Annex 4).

Addressing the elements of Green Infrastructure

Despite the general spirit of the law „On the integrated management of water resources“ in full alignment with the relevant European legislation, some chapters of this law address in a very direct way the issues related to Green Infrastructure, namely those related to access to natural resources and their use, economy, ecology, landscape. Of these chapters, especially Chapter V Use of Water Resources, Article 38, 39, 40, 41, 42, 43, 44, 45, 46, 47 (see Annex 4).

In the following chapters, the law regulates human activity in water resources, including curative, mineral, thermo-mineral and geothermal ones, focusing on the specifics of protected water bodies and surfaces, prone to pollution, dangerous to health, etc. Taking into consideration the terrain and the history of floods in the country, of course also the frequency of this phenomenon as a result of climate change, the law deals extensively with these „harmful effects of water“, while other chapters are dedicated to works and water facilities, permits and authorizations for discharges of polluted water, monitoring of this process, as well as the right of local communities and the public in general, to participate in the various stages of the working management processes of water resources. In the end, the creation of a National Register of Water Resources, as well as the National Register of Authorizations, Permits and Concessions for the Use of Water Resources seems to be an indicator of the spirit of transparency with which the law obliges all actors to cooperate during the use of this national asset.

The complete law „On the integrated management of water resources“ can be consulted at this link:

<https://planifikimi.gov.al/index.php?eID=dumpFile&t=f&f=3870&token=b5f4c69b90d931a5e2fe8fab409d754635d1a85f>

Law no. 57/2020 „On Forests“

General considerations

No. 9385 „On forests and the forest service“, initially approved on 4.5.2005, has undergone continuous changes and additions to Law no. 9533 approved on 15.5.2006, Law No. 9791, approved on 23.7.2007, Law No. 9989 approved on 15.9.2008, Law No. 10 137 approved on 11.5.2009, Law No. 15/2012 approved on 16.02.2012, Law No. 36/2013 approved on 14.02.2013 and the most recent amendments with the Law No. 48/2016, approved on 05.05.2016 under the decree of the President of Albania Bujar Nishani. The latter is repealed with the approval of the new law no. 57 „On forests“, on 30.4.2020, to which we refer in the following overview. This law is partially aligned with:

- Council Regulation (European Commission) no. 2173/2005, dated December 20, 2005 „On the establishment of a FLEGT licensing scheme for the import of timber into the European Community“, amended, CELEX number 32005R2173, Official Journal of the European Union, Series L, no. 347, dated 30.12.2005, page 1-6.

- Regulation (European Union) no. 995/2010 of the European Parliament and the Council, dated 20 October 2010 „On the determination of the obligations of operators who place timber and timber products on the market“, amended, CELEX number 32010R0995, Official Journal of the European Union, Series L, no. 295, date 12.12.11.2010, pages 23-34.
- Implementing Regulation of the Commission (European Union) no. 607/2012, dated July 6, 2012 „On detailed rules regarding the due diligence system and the frequency and nature of controls on monitoring organizations, as provided for in Regulation“ (EU) no. 995/2010 of the European Parliament and of the Council „On determining the obligations of operators who place timber and timber products on the market“, CELEX number 32012R0607, Official Journal of the European Union, Series L, no. 177, dated 7.7.2012, pages 16-18.

The Law „On Forests“, whose purpose focuses on the preservation of forests as part of an ecosystem of national and international value, the contribution to the sustainable development of this sector as an essential influence on the natural environment and the preservation of the increase of their surfaces, contains 8 chapters and 34 articles.

Compliance with the elements of Green Infrastructure

The connection between local and central institutions, the relevant structures established with powers and responsibilities, as well as those of other sectors such as protected areas, the environment, tourism, other stakeholders and especially that is or is not related to the ownership that contains parts of the forest fund, is among the priorities of this law.

Article 12 expresses the rights and obligations on forests. Article 16 defines the local structures responsible for forests, while Article 17 defines the responsibilities of the local structures responsible for forests.

Article 17, and that their activity is further regulated in Article 20 on „Research scientific in the national forest fund“. Such a legal framework is closely related to the strengthening of the preservation of the diversity of „genetic resources“, the forest and natural ecosystem, and therefore the incentive for the generation and implementation of natural „green“ practices, management and enrichment of the forest fund.

Article 5 defines the Limits and changes in the national forest fund, while Article 25 defines the Benefits from the use for economic activity in the national forest fund.

Addressing the elements of Green Infrastructure

On the basis of the established administrative and responsible structures for the management of the forest fund, according to the relevant areas, which are dealt with in the fourth chapter of this law, plans for the improvement of the national forest fund are drawn up. The law directly addresses the areas of action closely related to GI, for the services to the forest fund previously described as a national asset, evidencing measures for its maintenance, protection, rehabilitation and regeneration, dealt with in Articles 29, 30, 31, 33.

A special attention is given to the regulation of control mechanisms for the responsible structures, but also the levels of punitive measures against violations, the actors who lead to

them are detailed, leading to a criminal record. Among the aspects to be mentioned in this context, apart from fines, the amount of which goes to the relevant institutions serving the fund, are the obligations that come with its use.

Aligned with Green Infrastructure, where it is based on the preservation of the values of the national forest fund, but also more concrete acts, which, as discussed above in the framework of the use and benefit of this asset, are combined as a preventive and punitive practice.

Standards

The field implementation of Green Infrastructure projects, and even the design of these projects itself, cannot be understood without addressing the complex issues related to GI, whether in the preparatory phase, during implementation or even the effects of GI interventions on the environment.

Fortunately, for more than a decade, Albania has had a commendable environmental legal framework, largely fully harmonized with EU directives. Among the Decisions of the Council of Ministers (DCM) approved by the Government in implementation of the Constitution of the laws in force, is DCM no. 1189, dated 18.11.2009 „On the rules and procedures for the design and implementation of the National Environmental Monitoring Program“.

DCM consists of 6 parts and Annex 1, which define the terminology used in this document, the rules, procedures and drafting and implementing institutions of the National Monitoring Program Environment, including the collection, submission and processing of environmental monitoring data and of course, also the financial aspect.

Pursuant to the law on environmental protection, DCM assigns the Ministry of Environment and Tourism the responsibility for drafting the National Environmental Monitoring Program, the implementation of which - like many others - the ministry carries out through its agencies: the National Environment Agency, the National Forestry Agency, the National Coastal Agency, the National Agency of Protected Areas.

In the case of the National Environmental Monitoring Program, the responsibility lies with the National Environmental Agency, which cooperates with the field ministries, local government bodies, monitoring institutions, etc. For its part, the Program itself is annual and defines „the main indicators of the condition, impact and pressure in the air, surface and underground water, land, coastal area, seas, forests and biological diversity“.

Due to the wide range of elements included in the measurements defined in Annex 1, DCM charges several ministries (of Health, of Infrastructure and Energy, of Agriculture, of Defense) as well as natural persons to carry out the monitoring of certain indicators and to report them electronically in the relevant registry of the National Environment Agency (NEA).

As can be seen from the attached table, provided by NEA, the list of indicators that are monitored by the above entities through the structures in their dependencies is quite extensive. According to the provisions of Annex 1 of DCM No. 1189, the list summarizes three broad categories of environmental indicators:

- (a) State of the environment
- (b) Impact on the environment
- (c) Stress on the environment

Meanwhile, each of these categories is divided into subcategories and separate items, which make the monitoring of the environment in our country complete, with a total of over 200 items (indicators) that can be continuously monitored.

GREEN INFRASTRUCTURE MODELS

Although the list is comprehensive, these indicators, due to the financial mechanisms available to carry out monitoring either by public institutions with their internal capacities or even private ones through public competition, cannot be measured and recorded, not being part of the Environmental State Report, drawn up and published by NEA.

For a broader understanding of the concept of GI, some clarifications and definitions of key terms should be given, such as, what is GI, what are the main spatial elements, how to distinguish them and its functions of GI.

Implementation of GI must, of course, be in accordance with the legal order and procedure, especially in the field of strategic and spatial planning. The different administrative and spatial levels of legal regulations must also be taken into account, from the local level to the central level and beyond, of the European community and beyond.

This is the reason why this study is also carried out, to advance with the prediction of the legal starting point. Because these are extensive, the legal bases and recommendations to support the implementation of the GI are presented in detail in the annex of the manual for the EU Strategy on the Adriatic-Ionian Region (EUSAIR).

CASE STUDY

MACRO

Macro level - Mura-Drava-Danube transboundary biosphere reserve¹¹

In 2011, the Environment Ministries from Austria, Slovenia, Croatia, Hungary and Serbia signed the declaration for the creation of a five-region Mura-Drava-Danube (MDD) biosphere reserve in Budapest in 2011, at the initiative of the World Wide Fund (WWF). Its length of 700 km should serve as a kind of European Amazon river, connecting the most valuable environmental and natural resources in an alluvial zone near the three rivers. The MDD Biosphere Reserve includes 300,000 ha of central and protected areas and approximately 700,000 ha of transitional areas. According to the GI concept, the entire area is known as an GI, mainly because of its rich biodiversity and diverse habitats, water, shoreline and land. In recognition of other Ecosystem Services, this area is found to be a massive floodplain with water retention functions that mitigate the threat of downstream flooding and allow the recharge of aquifers for drinking water downstream from the MDD biospheric reserve. The area itself can also provide several other ecosystem services with its sustainable use, from fishing, hunting, use of wood raw materials, humus formation, to research and educational activities and sustainable tourism (boating, relaxation, etc.).

Recognizing and preserving the functions of macro blue and green corridors requires cross-border cooperation. For successful cooperation, it should be emphasized that the migrations of organisms, the flows of materials and energies and the supply of Ecosystem Services, are not determined by an administrative border. As a core area, representing MDD bio-spheric reserves, additional blue and green corridors can be created, thus successfully increasing biodiversity and the stock of other Ecosystem Services and beyond. For example, by recognizing the inland blue corridor downstream of the Danube River to the mouth of the Sava River and then upstream to that river, the story can be successfully linked to the International Sava Commission and its activities related to flood protection, management, water resources, achieving good water status and harmonizing with possible cross-use, such as navigation and non-sustainable hydropower. The recognition and preservation of corridors allows the connection between macro-regions as well, for example between the Adriatic-Ionian and Danube macro-regions.

11 https://issuu.com/emigma_lab/docs/prirocnik_eng





Figure 6: The urban reservoir built according to ecohydrological principles, stormwater retention, purification, improves the microclimate, aesthetics and quality of life (Source: Zalewski, Mankeiwicz-Boczek, Katarzyna Wagner. 2012)

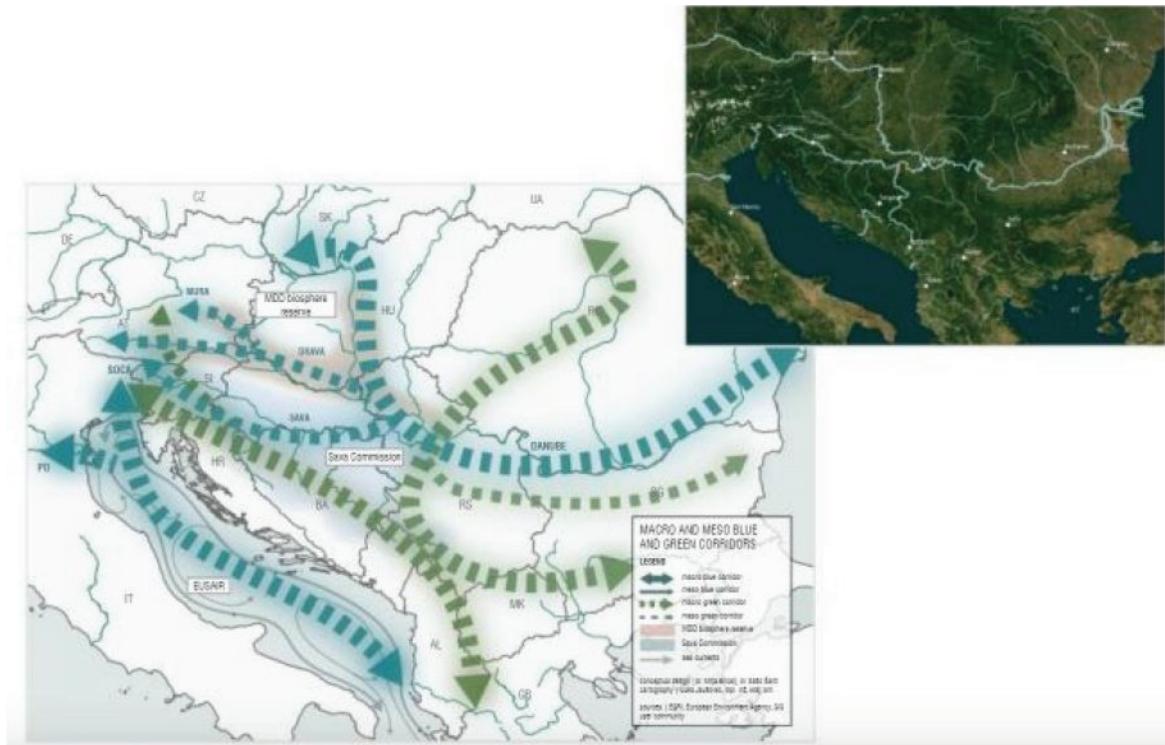


Figure 7: Blue and green corridors, as lifelines for sustainable development and connectivity at the macro regional level and beyond (Source: <https://www.adriatic-ionian.eu/event/6th-annual-eusair-forum/handbook-for-recognising-and-planning-green-infrastructure/> Pg 34)

MEZZO

Łódź becomes a blue-green city - Poland¹²

The city of Łódź is located between the basins of the Vistula and Oder rivers. Most of the rivers in the area were channelized and integrated into sewage systems as a result of the rapid development of industry in the nineteenth century. To face the environmental challenges, Łódź aims to develop and implement the so-called blue-green network, which aims to harmonize the functions of urban rivers by restoring the valley's potential for self-regulation and integrating the planning and management of green and blue areas. The project involved the re-naturalization of rivers resulting in healthier populations of aquatic plants and animals and numerous other benefits. The cost of the project is 2.3 million euros.

The benefits of this project include:

- Improving the quality of life and health of residents (recreation, environmental safety);
- Contribution to environmental management and reduction of its costs (stormwater management: vegetation maintenance, flood protection, operating costs of wastewater treatment plants, re-investment in infrastructure);
- Contribution to the city's redevelopment and integrated revitalization;

¹² https://www.researchgate.net/publication/284778863_Blue-green_city_for_compensating_global_climate_change/ link/573ef7eb08ae9f741b321020/download



Figure 9: During the works on the Drin River, Lezhë (Source: www.shqiptarja.com)

- Contribution to sustainable development (increasing system flexibility, adaptation of GCC¹³ sustainable transport);
- Improving the attractiveness of the city, retaining potential talent and capital, by attracting professionals and creative individuals who tend to choose attractive places to live and work.

MICRO

Wildlife crossings, Holland¹⁴

The Netherlands has over 66 wildlife crossings, including overpasses and eco-channels, to protect the endangered European badger and other species such as wild boar, red deer and roe deer. The Veluwe, a 1000 km² natural area in Northwest Europe, has 9 eco-channels, on average 50 meters wide, that allow wildlife to cross highways. The first two eco-ducts in The Veluwe were built in 1988 along the A50 motorway, and another five were built on existing motorways, one on a two-lane road.

Nearly 5,000 deer and wild boar used the two eco-channels on the A50 over a one-year period. The longest overpass in the world, Natuurbrug Zanderij Crailoo, is located in the Netherlands. Completed in 2006, this massive 50 wide and 800 long structure includes a railway line, business park, road and sports complex. Monitoring is underway to assess the effectiveness of combining wildlife protection with urban development. The oldest wildlife crossing in the Netherlands is Zeist West-A 28, opened in 1988.



Figure 8: Aerial view of the Ecoduct wildlife crossing in Dwingelderveld National Park, Beilen, Drenthe, The Netherlands Photo by: depositphotos.com

Case studies of practices in Albania

Since the concepts of GI are relatively new and still evolving, the practical application of the standards stemming from this approach is also in its infancy in the countries of the Western Balkans and beyond. In Albania, for example, specific elements of GI appear from time to time in

¹³ GCC - Georgetown Climate Center. Programi i Përshtatjes në Qendrën Klimatike të Georgetown është një nga burimet kryesore të kombit të strategjive praktike për përgatitjen dhe reagimin ndaj ndikimeve të ndryshimeve klimatike.

¹⁴ <https://unusualplaces.org/natuurbrug-zanderij-crailloo/>

different projects, mostly local and still treated with infrastructure terminology, or still suffer from approaches dictated by more than 30 years of infrastructure practice. However, beyond the name, some projects can be identified with positive marks for elements used to provide solutions to certain problems.

Of course, in addition to these two projects mentioned below, other elements of GI can be encountered in a smaller scale and with a rarer scope throughout the country, such as the rehabilitation of sand dunes¹⁵⁾ at the mouth of the Buna River (Shkodër) on the border line Albania-Montenegro, afforestation, green roofs, etc., but still these good examples should now be amplified with the new framework of Green Infrastructure.

Drin-Lezhë River

Among the first that can be mentioned is the rehabilitation project of the Drin Promenade in Lezhë¹⁶⁾, completed in 2014. Since a branch of the Drin River passes near the city, the project of nearly 250 thousand dollars aimed at disciplining both banks of the river in a length of 2 km, as well as planting about 3600 different tree seedlings. Of course, the project also included paving sidewalks, placement benches and lighting, but the elements of GI applied are not only the planting of trees, but also the systemization of the riverbank using only natural materials. Thus, on both sides, the banks were isolated from the river by embedding thousands of wooden piles, creating a wall of logs with a diameter of about 30 cm, which, being placed next to each other, do not allow the sliding of soil and stones on the riverbed, but at the same time allow the filtering of surface water flow towards the river. The benefits of the project:

- The city has been created an outdoor promenade, safer for people with fresh air;
- Improved land and soil management/less soil erosion;
- A cleaner water corridor remains a habitat for more life;
- The riverbank in that area is an attraction for residents and visitors;
- The micro area has undergone economic development from businesses.

Pogradec, Parku Drilon

Another GI that is being undertaken is the rehabilitation of Drilon Park, in Pogradec¹⁷⁾. The 5.5-million-dollar project that has started to be implemented foresees the rehabilitation of the entire park of Drilon up to the sources of Zagorçan (Guras). Also, with the support of the Albanian government through the Albanian Development Fund, a fund worth 4 million dollars has been approved and is currently in the process of procurement for the implementation of the project of the „Promenade of Tushemisht from the bridge of Drilon to the customs point of Tushemisht“. In the absence of more extensive information on the project, we cannot present the concrete benefits. In the meantime, we can present only one of the environmentally friendly interventions, which is the systematization of all the banks of the canals that pass through the Park. The banks of these canals have begun to be insulated with trines woven from tree trunks. The trines are also fixed with wooden beams (logs with a diameter of about 10 cm).

15 https://issuu.com/go2albania/docs/vija_27

16 <https://shqiptarja.com/lajm/koka-reabilitimi-i-sh-euml-titores-br-bregu-i-drinit-lezh-euml-gati-n-euml-2014>

17 <https://www.balkanweb.com/drilon-tushemisht-prefekti-i-korces-jole-3-projekte-per-transformimin-e-zones/>





Figure 10: Drilon canals with embankments made of natural materials, not concrete (Source:www.balkanweb.com)

Dew ponds – Shkrel, Shkodra Region¹⁸

Dew ponds are man-made ponds that provide drinking water for livestock during the dry season, and they are especially present in limestone plains, although their presence extends beyond such areas. They are usually built on a low point of the terrain, at the foot of the hills, to ensure that the rainfall from the surrounding mountains, as well as the surface water, fill it. The construction of a muck, in an area with little surface water, directly contributes to all the living species of the area.

The area of Shkrel, in Malësi i Madhe, is considered very dry, therefore it is quite rich with these ponds, counting over 70 of them. These elements of the landscape are found across almost the entire territory of the country - except for the Western Lowlands - and with a large spread in the South, especially the mountain of Nëmërçka, Përmet and Gjirokastër, and less in Labëri (Vlora, Tepelën). This GI is part of the rural cultural landscape, made with a tradition and construction technique with traditional materials, such as stone, clay soil, goat hair or straw, cattle excrement. In 2021, an initiative was taken to build a new dew pond, in the village of Bzhetë – a dew pond with dimensions 2R approximately 25m, with a volume of 300m³ of water, at a cost of \$10,000.

Project benefits include:

- Drinking water for livestock in the area;
- The water basin serves as a habitat for wild fauna;
- Farmers experience economic growth by breeding and increasing their cattle population;
- Work and maintenance are carried out by the local community, as a form of solidarity.

The approach to GI is mainly based on the analysis based on two components of the concepts that make up the very term „INFRASTRUCTURE + GREEN“ referring to the legal package on Spatial Planning (Planning Law, Road Code), as well as a significant part of the environmental legal package (Environmental Law, Protected Areas Law, Biodiversity Protection Law, Climate Change Law, Forest Law, Water Law), etc. The Spatial Planning package has about 10-15% compliance with the concepts of GI, while the environmental package has about 85-90% compliance since a large part of them have been drafted and changed in the last 10 years, adapting them to EU directives.

In addition, the applied methodology considered the analysis of the aforementioned legal package, as well as the comments and semi-structured interviews with the relevant experts mainly in the fields of spatial planning (NATP), the environmental expert (NEA), as well as the expert of protected areas (NAPA).

From the formal point of view, it has been evidenced the fact that Law 107/2014, dated 31.7.2014 “On Planning and Development of the Territory” (amended) and Law 8378, dated 22.7.1998 Road Code in the Republic of Albania are „partially aligned“ with certain directives of the European Union, mentioning only in some articles 1, 4 related to green systems, such as the system natural and agricultural system. Article 16 clearly defines the objectives for the National General Plan (NGP) to create the conditions for the preservation of ecosystems, biodiversity, natural resources above/underground, as well as natural and cultural assets, through socio-economic balances and the protection of green ecosystems.

¹⁸ https://issuu.com/go2albania/docs/lerat_e_shkrelit



Figure 11: Construction of a dew pond in the village of Bzhetë, Shkrel, Malësi e Madhe, Albania (2021) (Source: GO2Albania, photo by Liridona Ura)

While the law „On the integrated management of water resources“, the drafters consider it to be „fully aligned“ with „Directive 2000/60/EC of the European Parliament and of the Council, dated October 23, 2000, „Establishing a legal framework for community actions in the field of water policy“.

This is an easily ascertainable fact in the laws analyzed below, where although the phrase „Green Infrastructure“ is never mentioned, the general spirit and concepts of this new and challenging approach are present even for the European Union itself. Thus, Law no. 155/2020 „On climate change“; Law no. 9587, dated 20.7.2006, „On the protection of biodiversity“, amended; and in particular Law no. 81/2017, dated 4.5.2017 „On protected areas“ and Law no. 111/2012 „On the integrated management of water resources“ deal with the respective issues in the spirit of contemporary concepts on which the idea of Green Infrastructure is built, based on the principles of sustainable development, integration, connectivity, functionality, governance, continuity, etc. These laws address with constructiveness and long-term vision issues related to Green Infrastructure, such as biodiversity, ecosystems, landscapes, natural, national and regional parks, traditional areas of sustainable use, etc.

Another important aspect of the laws discussed below is the responsibility with which the Republic of Albania recognizes the responsibilities arising from the country's participation and membership in the relevant international initiatives, organizations and institutions, and the spirit of interstate cooperation with neighboring countries for the management of the goods it shares with them. However, as a conclusion, it is worth emphasizing the need to draft a legal pact for Green Infrastructure in Albania, where a special law for Green Infrastructure could be included, supported by the harmonization of existing laws with this new law. There is a marked lack of data, figures to convince the decision-makers about the possibilities of the GI, therefore it is necessary to work strategically in this matter.

CONCLUSIONS

Based on the problems arising from the implementation of the legal package on the ground, as well as from the experiences of the development and implementation models in other similar EU countries related to the GI, as well as from the analysis carried out on the legal packages, we offer the following recommendations:

To have a more effective GI, a better implemented spatial planning is needed, since the compatibility of the concept of the development and implementation of the GI in Albania with the laws exists: partly related to the Planning Law and almost entirely with the environmental legal package, especially those drafted and approved in the last 10 years, as they have been adapted in full compliance with EU directives.

Participatory planning should be a key principle in the process of creation, development, implementation and monitoring of GI and many stakeholders should be involved: spatial planners, urban planners, decision makers, political representatives, administrative and public representatives, cities, NGOs and other civil organizations, associations working in environmental protection, social aspects, economic development, local self-government units, fishing, forestry, hunting associations, farmers, recipients, etc. For this we recommend three scenarios:

VO assessment criteria 1-10 (very negative-very positive)

SCENARIO 1 NEW LAW ON GI Applicability of the law 10/10 (because there are many possibilities of rejection) Match in aspect 8/10 Financial aspect 1/10	From the evaluation of the legal packages and considering the commitments and costs involved in the drafting and especially the implementation of a Law, we think that the drafting and approval of a new Law on GI is not necessary. The existing legislation relatively fulfills this goal about which we speak.
SCENARIO 2 NEW NATIONAL STRATEGY ON GI Applicability of the law (4/10) because there is an overlap with the National Strategy of Territorial Planning). Match in institutional aspect 4/10 (because there is an overlap of competences from the Ministry of Environment, Tourism and the Ministry of Infrastructure and Energy). Financial aspect 4/10	The compilation of a new Strategy on GI would be quite valuable and would give it a significant focus, but on the other hand it overlaps with the National General Plan „Albania 2030“, which is the highest territorial planning instrument in Albania, and which addresses territorial planning issues in an integrated manner. Therefore, this whole initiative would cause high (overlapping) costs and confusion in the implementation instrument. Even the EU reports have drawn up a Strategy in 2013 specifically on GI ¹⁹ , while in the European Green Agreement 2020-2050, as a package of policy initiatives, on the way to a green transition, with the ultimate goal of achieving climate neutrality, GI is no longer a separate component, but integrated into different sectors.

<p>SCENARIO 3</p> <p>GI COMPLIANCE IN THE NATIONAL GENERAL PLAN AND IN RELATED LEGAL PACKAGES</p> <p>Applicability of the law 8/10 (because it is integrated into legal packages that have applicability and are familiar already at institutional levels but not only)</p> <p>Compliance in the institutional aspect 4/10 (because there is an overlap of competences from the Ministry of Environment and Tourism and the Ministry of Infrastructure and Energy)</p> <p>Financial aspect 8/10</p>	<p>The compliance of the GI with the legal packages mentioned above, mainly in the packages related to the infrastructure, i.e., the Law of Territorial Planning and Road Codes, would be an efficient step. In addition, it should be integrated into the National General Plan 2030. GI as an integral part of territorial planning, as cited by the EC directive, nature-based solutions should be part of the Law. This whole initiative must carefully review the STANDARDS, referring to those of the National Environment Agency, as well as new standards that can be compiled based on a wide multidisciplinary group of experts and references from different countries that have compiled them. Another complementary element remains the MANUAL, which will be able to guide the implementers, for whom it remains a challenge. This manual will have examples of GI in different typologies and scales (see GI matrix). The responsible institution that can best coordinate the GI can be the National Territorial Planning Agency, which has over 13 years of experience in drafting plans for territorial development at the local and central level. Special attention should be paid to the implementation of monitoring and the relevant competencies should be strictly divided between the relevant ministries: the Ministry of Environment and Tourism and the Ministry of Infrastructure and Energy. If we really want to pay attention to nature, the Ministry of Environment and Tourism should be the primary one in which we travel, since there the approach and knowledge of policy makers and decision makers are more sensitive to the natural element, and this could be a positive influence on this initiative.</p>
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RECOMMENDATIONS

General recommendations:

Information and training

- (1) To undertake an information campaign on the basic concepts of GI at all levels of government through engaging a working group from AKPT and the media.
- (2) At a later stage (medium-term, long-term plan) an information campaign can be undertaken for the communities as well, in order to encourage and push them to be part of participatory planning processes and to lobby in decision-making.
- (3) Promotional efforts will emphasize the benefits of socio-economic growth in GI, and not only the environmental one.
- (4) To include GI the education of young professionals (urban planners, architects, transport engineers, environmental engineers) as a curriculum in the universities.
- (5) Capacity building, training, education for current experts in public and private institutions on the concept of GI to advance the transition towards integrated spatial and territorial planning based on pro-environmental standards.
- (6) Capacity building and training of the relevant stakeholders are necessary to improve the interaction between disciplines and sectors so important for the, inclusion' of GI.
- (7) Compilation of a manual with development models (successful and failed) of GI in EU countries only for the purpose of raising the awareness of professionals and the general public.
- (8) Promotion of a network of scientific research institutions, local communities, Local Action Groups (LAG), etc.

Implementation and development

Local, national level

- (1) To fully and rigorously apply the methodologies and techniques (existing standards) referring mainly to environmental expert components (see Annex 1), but not only.
- (2) To allocate funds to GI to have financial incentives related to the implementation of GI.
- (3) Banks, as lending institutions can apply facilitation support schemes for GI.
- (4) Implementation of GI to be added as a criterion in granting government funds to local units.
- (5) The law enforcement institution can and should be the National Territorial

Planning Agency (NTPA) because it has skills and experience in drafting and implementing General Local Plans/National Strategy Plans related to territorial planning, as well as being the key coordinator of the Territorial Planning Law. The problem that can be encountered remains the acquisition of overlapping competences between the Ministry of Infrastructure and Energy and the Ministry of Environment and Tourism. Creation of a working group within the NTPA that follows the implementation - this by coordinating with the Agencies (National Environment Agency, National Agency of Protected Areas, National Coastal Agency) and relevant inspectorates in the field.

- (6) Creation of a more up-to-date data system related to all these standards, with the aim of better planning in the future and avoiding fragmentation of the landscape and stronger interconnectedness of the ecosystem. The lack of data, the lack of access to them means that there is no information on what is currently happening on the ground and it is not properly coordinated and planned correctly.
- (7) Monitoring and reporting the implementation of these laws more rigorously.

International level

- (1) Cross-border, interregional coordination and interaction for the design and implementation of joint projects for GI.
- (2) Involvement of public, private and civil society institutions in EU funding schemes related to GI, in partnerships with EU countries or candidate and crossborder countries, such as: Instrument for Pre-accession (IPA) III, LIFE program, INTERREG programs, etc
- (3) Involvement of public, private and civil society institutions in EU funding schemes related to GI, in partnerships with EU countries or candidate and crossborder countries, such as: Instrument for Pre-accession (IPA) III, LIFE program, INTERREG programs, etc

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