



Operational plan for IMMP – Grmoščica II– Zagreb, Croatia



Imprint

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Background

OP (operational plan) is a basis for multi-use management in urban forests. OP includes elements of tactical and operational plan. The framework for it is a strategic plan for integrated multi-use forest management for the whole area of urban forests of certain urban centres. The perimeter of OP is a rounded area within a wider area of urban forests. OP is the basis for the implementation of the activities and measures in urban forest for providing desired ecosystem services. Additional detailed operational plans (projects, sketches) for carrying out the activities and measures defined in OP can be elaborated.

This template is a draft; based on your comments and improvements, the final version of the template of operational plan for integrated multi-use management in urban forests will be elaborated.

How to use the template

Use the template as a frame planning tool; it is expected that you adapt and modify the suggested template to provide effective planning in the social and natural conditions in your study area. This should, however, be previously discussed and agreed with the WP4 leader.

Writing style, maps, appendix

The OP is a tool for communication with various stakeholders, therefore a relatively short and understanding text in all sections of the plan is desired. The main text should contain crucial information and decisions about integrated management in urban forests in the next planning period; simple tables and understandable maps are desired. All additional information (text, tables, maps) relevant for the understanding of the main text of OP should be included in the appendix.

Participation of stakeholders

In the planning process, a participation of stakeholders is foreseen. The participation is important part of the planning process, even more important than writing the text only. Therefore, a big effort should be made to include stakeholders in the planning process.

Availability of data, legal conditions

A template is going to be used in various conditions with different availability of data related to the forests and the management in your study area. If there is lack of data on forest and forest management in your study area, then invest more time to gather data which are crucial for the planning. Anyway, the main effort should be focused on planning and decisions on management in the next period and not on collecting the data.

Planning system

The content of OP should be in accordance with the strategic plan and legal documents relevant for the individual study area. However, the OP can expose that changes of current planning/legal documents are needed.

1 INTRODUCTION

1.1 The aim and purpose of OP

- The aim of OP

The main goal of operational plan is implementation of selected strategies for urban forest development in the City of Zagreb, on the selected polygon park forest Grmoščica where are the all of the strategic development goals included. Operational plan will present the way of implementation and responsibility of different stakeholders in implementation of objectives pursued.

- The purpose of the plan
 - *The goals of the General urban plan in Zagreb (GUP) are protection of historic and natural values and continuous registration and restoration of endangered historical and other city identities like morphological diversity and park forests. City park forests could be improved with management that preserves their natural forest structure and with equipment in favour of recreational facilities as one of the non-wood forest functions. The plan for the focus area management is defined within city bodies' responsible for forest management and protection of specific nature protected areas in city area.*
 - *Operational plan is a basic document for the company Croatian forest Ltd., working unit Urban Forestry, and for the City department for agriculture and forestry, who will be in charge for the implementation of the Operational plan.*
 - *Main stakeholders are state forest company Croatian forests Ltd, City of Zagreb, local population (citizens) and Grmoščica Park Forest visitors.*

- Link to the strategic part of integrated multi-use management plan
 - *Operational plan is in line with selected aims in Strategic plan. There is a need to develop guidelines for urban forest planners and managers on how to implement new approaches with a connection of the environmental and social services in urban forests*
 - *Negative impact of climate change and influence of urbanisation and construction sector on urban forests, there is a need to establish financial needs (funds) and smart*

- regulation approach for reduction of many negative impacts.*
- *A need for improvement of urban forests benefits (products and services) and new innovative concepts (like art park, tactile park, education trails...), need to identify priorities for future research; revitalisation of existing recreation areas*
- *There is a need to increase understanding of the urban forest benefits together with science-based research and education as a tool for decision makers in the evaluation of the ecosystem services as benefits provided to the citizens*

1.2. The design of the plan, obligations and validity of OP

- Basis for OP
 - Forest management plan Park forest City of Zagreb, General urbanistic plan City of Zagreb and Spatial plan City of Zagreb.*
- Relation to forest management and other planning bases
 - Forest management plan Park forest City of Zagreb is valid from Jan. 01. 2014. until Dec. 31. 2023 year. Through that period it is necessary to take evidence and follow the prescribed realisation. In case of the specific circumstances, procedure of exceptional revision should be provided according to the Forest Law and Ordinance of forest management. According to the proposals from the OP, forest management plan could be revised, if responsible Ministry of Agriculture accept the changes.*
 - *Different institutions have influence on decision making process regarding management of urban forests. On the city level there is a state forest company Croatian forests which is responsible for the implementation of forest management plans. On the city of Zagreb level, there is a City department for the agriculture and forestry, and City department for strategic planning.*
 - *At the national level, different ministries are involved in implementation of the development measures, like Ministry of Agriculture (approval of forest management plans for state and private forests) and Ministry of Environment and Energy (implementation of Natura2000 and biodiversity protection and mapping).*
- Obligation
 - Operational program is a basis for the participation of the city administration in forest management plan.*

According to that OP has direct and indirect influence (obligation) on work in Croatian forests Ltd. Working unit Urban Forestry USP Zagreb, who is responsible for forest planning, management and monitoring.

Gudelines defined with this OP are not directly obligatory for the private forest owners, but could be used as an instrument and model for the communication with private forest owners about the forest management issues, basis for the projects/consultations/subsidies which support ecosystem services in private forests.

In the area of the park forest Grmoščica II, there are private forest owners and private parcels in surroundings.

- Preparation of the plan

Communication between the forestry administration and the city administration is important during the period of preparation of OP (City department for agriculture and forestry).

Before the creation and development of the OP II, different working groups are organised.

Target groups in Grmoščica area were invited in the workshops: local citizens, members of the Črnomerac and Kustošija City council, Kustošijana association, employees of the primary school Kustošija, members of the mountaineering association Vrapče, members of the bicycling club Vrapče, members of the rollerblade club, and Ministry of Agriculture.

- Time validity

- *Time span for implementation of operational plan is 2 years with surveillance next 3 years.*
- *Responsibility for the plan revision is Working unit Urban Forestry Croatian forests Ltd.*

- Implementation and operational planning

- *Operational planning and implementation of the planned activities is responsibility of the Working unit Urban Forestry Croatian forests Ltd.*

- OP area

- *The area included in the OP II is 23,97 ha*
- *The map of OP area **Appendix Picture 1.***

2 THE IMPORTANCE OF URBAN FORESTS AND MAIN MANAGEMENT OBJECTIVES

2.1 Purpose of UPF

- Ecosystem services/ forest functions/ importance of UPF

Ecosystem services are defined according to the Forest Law (Official Gazette 68/18)

*According to the applied methodology in the project, the main ES in this focus area are recreation and tourism, following air quality and local climate mitigation. Erosion protection and nature protection are also important in whole area. ES table Grmoščica **Appendix, Table 1.***

- Target groups / users

Target groups in Grmoščica area were invited in the workshops: local citizens, members of the Črnomerac and Kustošija City council, Kustošijana association, employees of the primary school Kustošija, members of the mountaineering association Vrapče, members of the bicycling club Vrapče, members of the rollerblade club, and Ministry of Agriculture. Besides the mentioned participants, future users of the area will be the tourists and other interested recreational visitors attracted with the new content.

3 STATE OF FORESTS AND FOREST USE

(2p)

3.1 State of forests and forest management

- Forest area
*Total area of the park forest Grmoščica is 53,3 ha, without private forests (10,79 ha). In Operational plan Grmoščica II, focus area has 23,97 ha (units 9 c, e, f, g, i). (Focus area map in **appendix, picture 2**)*
- Ownership of forests
Park forest Grmoščica II, has only state property managed by state forest company Croatian forests Ltd.
- Forests, site conditions, forest types, stand types
*Focus area Grmoščica II, is on the second quality site (soil productivity). According to the forest management classes there are mainly sessile oak stands from stump, black locust from the seeds and American pine wood culture (in 9c).
Dominate phytocenose is sessile oak and common hornbeam (13,57 ha in 9 f, g). Unit 9e (3,66 ha) phytocenose is sessile oak and sweet chestnut. Middle age mixed stand of sessile oak, common hornbeam, black locust, with sweet and horse-chestnut and cherry. Stand has middle quality, established from the seeds. Stand has middle density with some scares and dense tree groups, with heterogeneous age and thickness structure. In unit 9c there is a northern white pine tree coppice 55 years old. Unit 9i, is clearing area around the old clay pit. It is potential erosion area. All units have high forest fire risk (level 2-3). Crowns are medium developed and in good health conditions and vitality. Soil is covered with litter. Forest management goals prescribe thinning or sanitary cut in even age stands. Average growing stock in focus area is 250-450 m³/ha, with average increment of 10%.*
- Forest operations
*The management practice used for park forests and those for common forests should have different goals, taken into account multifunctionality of the urban forests. In order to stimulate carbon sequestration and the release of oxygen in the process of photosynthesis, a high productivity of the ecologically balanced forest stand should be sustained and adjusted to the purposes of the Park Forest.
In 10 years, period from 2014 – 2023, annual cut in Grmoščica focus area is prescribed with thinning regulation in Forest management plan “Park Forest City of Zagreb”, and it is 50 m³/ha in average.
Other annual cut directions are: sanitary cut, removal of dry and less vital trees in units where annual cut is not*

prescribed. To support natural growth trend silvicultural and protection works will be implemented in stand, filling with seedlings where natural regeneration is not possible.

*In focus area, in unit 9c thinning is 105 m³, or 46,05 m³/ha. In unit 9e prescribed thinning is 173 m³, or 47,27 m³/ha. In unit 9f prescribed thinning is 204 m³, or 28,05 m³/ha. In unit 9g prescribed thinning is 202 m³, or 32,06 m³/ha. There are no planned activities in unit 9i. Map in appendix, **picture 3**.*

- Wood production

Because of the protection of the stand and decrease of the stand damage, natural regeneration and trees, in forest exploitation small eco track and mini forwarders will be used. In specific cases like hard inaccessible areas or specific protected areas (water protection area, child playground etc), animal force (horse) will be used.

In some specific situations, work on cutting and pruning in tree crowns climbers or car ladders are used.

For the establishment of the forest stand order, besides the collecting the branches in some cases wood chipping machine is used.

- Forest accessibility

Existed forest paths are used for the accession in the forest. After the forest works, roads are maintained on previous condition (aligned and rearranged soil paths or filling with gravel). The small eco track and mini forwarders will be used.

- Impacts, problems

According to the strategy of City of Zagreb (Zagrebplan, ciljevi i prioriteti razvoja Grada Zagreba do 2020 godine), the main problems are: insufficient sensibility of public about the ecosystem services.

Main problems in Grmoščica are creation of additional land slides, depriving property from the local population, uncontrolled visitors' entrance by walk in forest land, waste disposal.

Climate changes through the wind brakes have already influenced the stand. Unsolved waste water and rainwater drainage could cause additional problems.

Inefficient cooperation and overlapping of responsibility from different institutions on city and state level could cause development of potentially very attractive green urban areas and improvement quality of living for the citizens.

3.2 Visit to UPF and infrastructure

- Visit to forest
 - *Grmoščica forest annually has 5000 visitors in average, mainly from the local population and occasionally bicyclists. It results with cca 160 users/ha.*
 - *Main structure of visitors in focus area are recreational visitors and walkers from the local population (surrounding settlements Vrapče, Kustošija, Ilica street). There are no organised visits from the kindergarten or schools.*
 - *Visitors are attracted in the forest because of the relaxation, escape from the city noise pollution.*
 - *The main potential conflict is among the bicyclists and walkers. There is a need to split and mark different zones in the park to avoid possible injuries and clashes among the visitors. Additional possible conflict is poor communication between local NGO, local city authority and public. There is a need to improve communication and transparency between the authority and interested groups of users.*
 - *In OP II, different recreational zones for the different users will be marked to avoid contact points and conflicts.*
 - *After the conducted workshops during project development, and because of the interest of the local population, educational paths will be established.*

After the implementation of 1st phase of Grmoščica Operational plan, whole area has more bicycle and recreational visitors who are using new trails.

- Already available infrastructure
 - o *accessibility to the park through existing forest path and Ilica street.*
 - o *Map with the existing paths (Picture 4)*

3.3 Important objects in UPF

- Nature conservation
 - Cultural heritage
- There are not nature conservation categories in the park*

There are not cultural heritage categories in the park
NO

- Other objects

3.4 Assessment of use, changes and influencing factors

- Damages, risks

Potential treats in the Grmoščica II, are landslides in section 9 f, i, noise pollution, wind brakes and waste disposal.

- Issues of forest use

In Grmoščica II forest area is close to the houses and private forest owners, what need sensitive approach in forest management.

4. GUIDELINES FOR FOREST MANAGEMENT

4.1 Subordinated guidelines

- Forest management plans

According to the forest management plan for Management Unit Park Forests City of Zagreb, multipurpose forestry will be provided to preserve ecosystem services, natural stand regeneration, biodiversity and stability of forest ecosystems with their positive influence on wider area.

On the forest management unit level main work will be sanitary cut with thinning, and replacement with autochthonous vegetation.

- Spatial plans

Strategic goals about the management of urban forests should be in line with National strategy of environment protection, Strategy about the water management, Strategy of sustainable development of Republic of Croatia, Strategy and Action plan about the protection of biological and landscape diversity of Republic of Croatia, and Strategy of energy development of Republic of Croatia.

- Strategic plan for UPF

Strategic priorities are: 1. Sustainable urban forest management, 2. Mitigation of negative impacts on forests, 3. Integrated forest management, 4. Recreation/aesthetic function, 5. Education

Spatial plans are defined on the city of Zagreb level.

General urban plan city of Zagreb is in line with regulations of Spatial plan. In article 54. Grmoščica is defined as city park forest. Management is provided is defined in articles 66 and 78:

- 1. Management should be in harmony with forest management plans*
- 2. Management goals are primary for silviculture and protection, with sustainable management, biological and landscape diversity, ecosystem protection*
- 3. Maintenance of the forest infrastructure, building for the forestry use, paths, roads, viewpoints, shelters, hygienic-sanitary facility and other equipment will be defined with project documentation, taking in account to protect close to nature structure and other non-wood forest functions*

In city of Zagreb, non-wood forest products and services should be thoroughly investigated for their quantification in terms of planning forest protection (soil treading, tree damage, etc.). Considering the

extremely unfavourable chemical impacts from pollution, the damage degrees on the selected bio-indicative points should be established before deciding about the appropriate measures.

4.2 Fundamental/basic concepts

- Forest land, forest area

Forest area in focus area Grmoščica II, will remain the same, there will be not conversions or changes in land use.

- Structure and forest composition

Guidelines for the development of forest stands:

- *silvicultural systems*
- *harvesting*
- *selection of tree species*
- *monitoring of forest regeneration*
- *salvage cutting after damages/disturbances*
- *management of forest edges*
- *stability of forest stands*

This management unit belongs to the Pannonia sector Illyrian provenience, middle Europe vegetation region. Main characteristic is expressed height vegetation zonation. In sections 9 b, c, f, there is a phytocenoses: Sessile oak and common hornbeam forest (national classification: Epimedio- Carpinetum betuli (Ht.1938) Borhodi 1963).

Section 9e phytocenose: Sessil oak and sweet chestnut forest (National classification: Querco- castanetum sativa Ht.1938). Unit 9c is management class of American pine wood culture with common and black pine, acacia, cherry and other trees.

The main goals in forest management are replacement of dry and weaker vital trees, natural regeneration with introduction of seedlings where natural regeneration is missing. In sections where annual cut is prescribed, prescribed thinning will be provided. Management goals are prescribed with silviculture measures following close to nature management principles. Maintenance of the forest infrastructure should be defined with project documentation, following Forest Law and Law on Environment protection.

Forest edges should be monitored because of the usurpation and possible waste disposal.

After the natural disasters additional thinning and pruning should be made to protect stand quality and vitality.

- Technology of wood production

Because of the stand protection and decrease of the stand damage, natural regeneration and trees, in forest exploitation small eco track and mini forwarders are used. In specific cases like hard inaccessible areas or specific protected areas (water protection area, child playground etc), animal force (horse) were used.

In some specific situations, work on cutting and pruning in tree crowns, climbers or car ladders are used.

For the establishment of the forest stand order, besides the collecting the branches in some cases wood chipping machine is used.

Forest work will be maintained during the spring or autumn cutting period.

Before the planned work, citizens and stakeholders will be informed via email and public information panels. Beginning of work and duration will be defined, as well as fences for working area, for the smooth forest work performance and assortments transport.

- Nature conservation

There is no nature conservation area, monitoring for the invasive species appearance is provided, and suppression if it is needed.

Integral protection measures are divided on: preventive, biologic, integral.

Preventive measures include: conduction of regular forestry-hygienic measures (forest stand order especially in the conifer stands), lifting and maintenance of mixed structure, fauna protection, conduction of preventive measures in aim to decrease possibility for forest fire. Repressive measures are provided when some disease or pest occur. There is a need to provide most relevant diagnosis and forecast about the length and intensity of the disease. Biologic suppression methods were used only in harmful insects, like biological insecticides on fungi basis. Also, bird population should be maintained in the stand. Integrated methods are used in pest suppression with forest silviculture and technical measures to increase natural factors for pest's mortality.

- Areas with emphasized ES (or forest functions) in the UPF area

The focus area Grmoščica II, beside the wood production, the highest importance has climate protection, air pollution decreasing, erosion protection, recreational and aesthetic functions. The UPF area is not included in nature protection category. The main goals in forest management are replacement of dry and weaker vital trees, natural regeneration with introduction of seedlings where natural regeneration is

missing. In sections where annual cut is prescribed, prescribed thinning will be provided.

- The use of forests

Because of the recreational visitors which are coming from the settlements on the border (in vicinity) with the park forest, the improvement of recreational use of this urban forest is in line with the established strategy for recreational use of focus area.

According to the strategic goals, new entrances will have information point about the educational, recreational, bicycle and walking paths, forest ecosystem services and playgrounds.

There is a need to mark and arrange accession for different kind of users in park forest, according to the selected strategies.

- Infrastructure in the forest area

*Infrastructure map is in **appendix, picture 4.***

Informational board with a map should be on entrance points. Wooden stairs, tables and benches.

Educational path should be separated with bicycle trails.

Maintenance of the dry and dangerous branches in crowns with pruning.

Creation of visual signs with directions for users.

- Communication / Informing the public

According to the project development plan, communication manager is selected in Croatian forests company, and one representative from the City of Zagreb. They are responsible to present the plan and development to the public with the institutional support (official spokesman and journalist's network).

The City of Zagreb has PR service and established protocol for the organisation of the public conference for wider audience. Croatian forest Ltd company will continue with the public and journalist's education in monthly level as they arranged before with the support from the company headquarter.

There is a need to create of communication plan with media, journalist education, education through social networks, and training/education of trainers.

- Cooperation between stakeholders

During the project development process, different stakeholders were included. Beside the local citizens on the workshops participated members of the Čnomerec and Kustošija City council, Kustošijana association, employees of the primary school Kustošija, members of the mountaineering association Vrapče, members of the bicycling club Vrapče, members of the rollerblade club, Green

action NGO and Ministry of Agriculture, Faculty of Forestry University of Zagreb, City of Zagreb representatives from City department for Agriculture and Forestry, Department for spatial planning, Croatian forest representatives.

(2p)

4.3 Guidelines for allocations with priority ES

- Allocations for priority ES

Authors, Matic, S., Prpic, B., (Šumarski list 5-6, 1997), have ranked ES in park forest Grmošćica with grades of importance (1 =min, 10=max). The most important value is established protected area.

1. Ecological functions: Hydrological -4, Anti-erosion – 3, Climatic – 3, Fighting air pollution -3, Windshield-road protective -2, Protected forests - 9

2. Social forest functions: Tourism-3, Aesthetic functions-3, Recreational functions-3, Medical functions-3

*Non-wood forest functions table 2 with national methodology in **appendix table 2.***

- Other multifunctional forests
- Overlapping of allocations

There are no other multifunctional forests in the area. According to the strategic planning in the project, recreational and aesthetic functions have overlapping through the whole focus area. Hydrological and protection from erosion have strong correlation in many management sections.

4.3.1 Allocations for priority ES

<i>Ecosystem services</i>	<i>climate protection</i>	<i>air quality</i>	<i>Waste water treatment</i>	<i>Recreational and tourism</i>
<i>Importance</i>	<i>high</i>	<i>medium</i>	<i>medium</i>	<i>high</i>
<i>Surface (ha)</i>	<i>23,97</i>	<i>19,51</i>	<i>11,73</i>	<i>23,97</i>
<i>Guidelines</i>	<i>Protection measures: preventive, biologic, integral. Sustainable forest management principles should be implemented with mitigation of negative impacts, selection of autochthone species.</i>	<i>To stimulate carbon sequestration, a high productivity of the ecologically balanced forest stand should be sustained and adjusted to the purposes of the focus area.</i>	<i>Hydrological and erosion protection should be integrated in forest management plan.</i>	<i>New infrastructure will be established for the development of educational and recreational zones. There is a need to avoid contact points and conflicts between users.</i>

4.3.2 Other multifunctional forests

- *There are no other multifunctional forests in the area.*

4.4 Detailed forest zoning

- *Zoning regarding the forest land use* *Different forest land use zones are defined according to the future use of the park forest.*
Education and recreational zones are defined.
Appendix, picture 5, map with two forest zone activities.
- *Management regime*

<i>Zone</i>	<i>Education area</i>	<i>Recreation area</i>
<i>Importance</i>	<i>high</i>	<i>medium</i>
<i>Surface (ha)</i>	<i>0,66</i>	<i>23,31</i>
<i>Guidelines</i>	<i>The new educational path will be established, marked on the maps, following infrastructure connection from park entrance. Before the forest work, users should be informed via email or public information panels. Beginning, duration and work area will be defined and marked.</i>	<i>Integral forest management, mitigation of negative forest damages, waste disposal, dry and potentially dangerous trees surveillance. Controlling of visitor's number and possible devastation. In time information about the future forest maintenance work.</i>

4.5 Activities

Planned activities in Grmoščica are:

- 1) *arrangement of entry points, recreational paths, marking, wooden equipment, educational panel, swing, tables and benches for visitors. To include new forest recreational area information in city maps*
-

4.5.1 A detailed plan for each of activities listed above

- Area and map

*Informative map with location(s) for activities in the UPF area is in **Appendix 1, picture 4.***

4.5.1.1. Arrangement of entry points, recreational paths, marking, wooden equipment, educational panel, swing, tables and benches for visitors. To include new forest recreational area information in city maps
- Condition / problems

At the moment there are no marked formal entrance points and info points. Also, there is no organized public transport to the site and parking place close to the focus area. Additional information about the forest are missing in city maps and touristic offices.
- Target state

Visible entrance points with relevant information about the focus area, accessibility for the different category of users, maps in touristic offices with distances and services. New entrance points will be established: Đuretki (entrance 1), Vranji dol (entrance 2) and Debanićeva street (entrance 3)

A) Implementation of "Best idea" competition:

 - 3 pcs - educational board in the form of a leaf*
 - 1 – pollinator hotel*
 - 1 - swing "Fly like a bee"*
 - 3 pcs- wooden furniture*
 - 1 – Photo frame*

B) Equipment in forest zones:

 - 2 pcs – information panel*
 - 20 pcs -bench "Tuškanac"*
 - 5 pcs – wooden furniture*

8 pcs – way mark

55 pcs – wooden chairs

1 pc - swing

2 – wooden shadow tent

- Purpose *To increase recreational function of the park forest, to promote protection role of the forest and attract new visitors.*
- Priority *This is high priority level, better visibility will attract new and traditional users, and inform the citizens about the new project implementation.*
- Most important ES *recreation and protection function (noise reduction, climate protection)*
- Possible activities
- Unwanted or prohibited activities *-waste disposal, illegal use of forest, fire ignition, devastation of park infrastructure and nature*
- Silviculture measures *- stand cultivation with thinning, outgrowth cultivation after final cut
- Other works which increase aesthetic and productive value of the trees and stands in park forest (like pruning, crown formation...)*
- Measures for wood production *Before the beginning of the work in the forest, main stakeholders should be informed about the start and length of the planned work. Area should be protected from the uncontrolled access (especially recreational users and bikers) with implementation of the work safety measures.*
- Infrastructure measures *In valid forest management plan for Park forest City of Zagreb (2014.-2023.) there are no plans for the road's construction.*
- Additional plan/sketch, if needed
- Costs *-Planned costs for these activities are 50.750,00 EUR.*
- Financiers *Project is funded with 15% EU support, and 85% of the Croatian forests Ltd budget.*
- Coordinators *Ninoslav Matošević, B. sc. Forest – director Working Unit Horticulture Hrvatske šume d.o.o. UŠP Zagreb*
- Stakeholders *The main stakeholders in Grmošćica are primary local citizens, members of the Črnomerac and Kustošija City council, Kustošijana association, employees of the primary school Kustošija, members of the mountaineering association Vrapče, members of the bicycling club Vrapče, members of the rollerblade club, and Ministry of Agriculture club. Besides the mentioned participants, future users of the area will be the tourists and other interested recreational visitors attracted with the new content.*

- Legal basis
- Notes

Forest management plan is based on the Forest Law (Official gazette 140/05, with last amendments in 2018), and Forest management regulations.

Other laws and bylaw acts are included in the preparation of the management plan:

Law on nature protection - (Official gazette 80/13)

Law on forest reproductive material (Official gazette 75/09, 61/11, 56/13, 14/14);

Law on game management (Official gazette 140/05, 75/09.,153/09, 14/14)

Law on fire protection (Official gazette 92/10)

Law on water (Official gazette 153/09.,63/11.,130/11, 56/13, 14/14)

Law on roads (Official gazette 84/11, 22/13, 54/13, 148/13)

Law on spatial planning (Official gazette 153/13)

Law on state measurement and cadastre (Official gazette 16/07, 124/10, 56/13)

Law on waste management (Official gazette 94/13)

Regulation of tree marking, wood assortments, transport document and forest order (Official gazette 116/06, 74/07, 55/0925/11)

Regulation on fire protection (Official gazette 33/14)

Regulation on forest protection (Official gazette 121/06, 25/11)

Regulation on land cadastre (Official gazette 84/07,148/09)

5. GOVERNANCE

5.1 Implementation/ responsibility

During the project implementation, responsibility for the planned activities have City of Zagreb, Department for agriculture and forestry, and company Croatian forests Ltd Working unit Urban Forestry branch Zagreb

Maintenance after the project will continue Working unit Urban Forestry Croatian forests branch Zagreb

- A list of main managers/coordinators of activities and their responsibilities

*Sergej Šimpraga, UrbForDAN project coordinator, Grad Zagreb Department for agriculture and forestry
Ninoslav Matošević, Bsc. forestry – director working unit Urban forestry Hrvatske šume d.o.o. UŠP Zagreb*

- Subsidy system

- *There are no subsidy models in this case*

No forest owner's association.

5.2 Forest owner association

6. MONITORING

6.1 Indicators of monitoring and control

The all stakeholders in the process of preparation and project implementation will be informed about the new possibilities which park forest Grmoščica II will offer. Implementation and supervision of defined activities Working unit Urban Forestry branch Zagreb will put in action, together with communal staff City of Zagreb.

After the project duration survey among the users will be provided to evaluate their satisfaction with new products and services of urban forest.

6.2 Revision of the plan

In case of the unexpected and extraordinary situation on the field (landslides, natural disasters.), management plan revision will provide Working unit Urban Forestry, Croatian Forests Ltd. Branch Zagreb

7. COSTS AND FINANCING

*Assess the overall costs of the plan implementation.
Costs must be shown separately for the duration of the project URBforDAN and after the end of it.*

7.1. Implementation costs during the project duration

Activity	Name	Type	Results, Outputs & Deliverables	STAFF COST	ADMINISTRATIVE COST	TRAVEL AND ACCOMODATION	EXTERNAL SERVICES	EQUIPMENT	TOTAL
A6.1	Implementation of "Best idea" competition project winners	URBforDAN project outputs & deliverables uptake	R: 1 cognitive path developed and established O: UPF areas equipped for multi-purpose use D: Reports on activities implemented in selected UPF areas	4,000.00 €	600.00 €			5,000.00 €	9,600.00 €
A6.3	Equipment purchase and instalation on the 2nd UPF focus area	URBforDAN project outputs & deliverables uptake	R: 2nd UPF focus area - Grmoščica 2 west side (cca 25 ha) equipped for multi-purpose use O: UPF areas equipped for multi-purpose use D: Reports on activities implemented in selected UPF areas	18,000.00 €	2,700.00 €		3,000.00 €	12,500.00 €	36,200.00 €
A6.4	Additional expert-level dissemination and capitalization activities	Other activities whose relevance is justified with regard to the original project objectives	R: Improved dissemination and capitalization of project results O: Presentation of the URBforDAN project on an international expert forestry conference EFUF D: URBforDAN project EFUF presentations	1,000.00 €	150.00 €	1,100.00 €	400.00 €		2,650.00 €
A6.5	Additional Project Communication & Dissemination activities				500.00 €	75.00 €			575.00 €
M	Additional Project Management	/	D: Technical, financial and quality report	1,500.00 €	225.00 €				1,725.00 €
				25,000.00	4,175.00 €	1,175.00 €	3,400.00 €	17,500.00 €	50,750.00 €