



Regional Fire Monitoring Center (RFMC)



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
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Swiss Agency for Development  
and Cooperation SDC

## WORKSHOP

### CLIMATE CHANGE AND LANDSCAPE FIRE MANAGEMENT IN THE WESTERN BALKANS

6-7 February 2020, Skopje

## REPORT

In accordance with the agreement between the Federal Department of Foreign Affairs (FDFA) – Swiss Agency for Development and Cooperation (SDC) and the Regional Fire Monitoring Center (RFMC)<sup>1</sup>, signed on 13 January 2020, the workshop Climate Change and Landscape Fire Management in the Western Balkans was organized by the RFMC in close collaboration with the embassy of Switzerland in Skopje and the Global Fire Monitoring Center-GFMC.<sup>2</sup> The workshop was held from 06 to 07 February 2020 in Skopje (ANNEX I: Workshop Agenda).

Countries invited to attend the workshop included Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, North Macedonia and Serbia. The main objective of the workshop was to assess the needs and the potential for developing a regional wildfire management program in the Western Balkans by bringing key stakeholders and representatives together.

In addition to the overall objective, the contributions and discussions of the workshop addressed:

- Impact of climate change on landscapes and landscape fire regimes in the Western Balkans region
- Socio-economic and demographic drivers of landscape fires in the region (land use, land-use change, rural exodus)
- Current situation, policies, cross-sectoral cooperation in fire management, climate change awareness within countries
- Landscape fire management
  - Policy coordination issues (governance, political issues)
  - Forestry, agriculture, conservation, human health and security, civil protection and civil society (cross-sectoral approach)
  - Cross-boundary cooperation (early warning and suppression)

In order to achieve the main objective of the project, representatives of institutions were contacted by RFMC, based on previous collaboration between the RFMC and the countries concerned, as well as through the Regional SE Europa / Caucasus Wildland Fire Network, which is coordinated by RFMC. As a result, the list of participants included the key institutional stakeholders responsible for landscape fire management in the participating countries – representatives from forestry services, ministries of internal affairs and emergency services.

Before the beginning of the workshop a background material was prepared (ANNEX II: Workshop Background).

The workshop was attended by 50 representatives of relevant institutions from Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, North Macedonia, Serbia, GFMC and SDC. There was just one

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<sup>1</sup> <http://www.rfmc.mk/>

<sup>2</sup> <http://gfmc.online/>

"last minute cancelation" of the participation, on the arrival day 5<sup>th</sup> February (participant from Albania – Mr. Ylli Hoxha).

The venue of the workshop – Hotel Aleksandar Palace, Skopje – provided an enabling location. The presentations by the Workshop conveners, Pierre-André Cordey (SDC), Prof. Johann G. Goldammer (GFMC), Jelena Markovic (BHF) and Prof. Nikola Nikolov (RFMC), provided the framework and introduction of the topics. Through the unified country reports, each country represented the current situation of the landscape fire management. Following the presentations of the delegates from the attending countries and discussions the participants of the workshop were split in three working groups to discuss different topics:

**Group I:** Climate change and Landscape Fire Management – Policy

**Group II:** Climate change and Landscape Fire Management – Forestry / Agriculture and Adjacent Sectors

**Group III:** Climate change and Landscape Fire Management – Cross-boundary Cooperation

Following the presentations of the main results of the working groups intensive discussions were held, which are summarized as follows:

- Within all countries, there is a variety of laws and by-laws that tackle landscape fire management, which incompletely address the issue in a comprehensive holistic manner
- Abandoned agricultural, pastures and other rural land, remains a big issue on all aspects, though not regulated at all
- Main stakeholders remain within their vertical competences and duties, and there is a lack of cross sectoral, horizontal coordination and harmonization
- Sectors that deal with land management (forestry, agriculture, including pastures and adjacent sectors) don't work enough with local governments, local communities, firefighters, including volunteers, game management concessionaires, private landowners, on landscape fire management, especially on prevention measures
- Investments and implementation of measures in preparatory phase are lacking:
  - Early warning system such as [MKFFIS](#) (Macedonian Forest Fire Information System) can be used as a good example, to be replicated into the region (with appropriate adaptations)
  - Regional exchange of experiences and collaborations (conferences, seminars, workshops, projects joint exercises and actions etc.)
- There is still lack of coordination, adequate standard operating procedures, interdepartmental cooperation during suppression phase among all stakeholders
- Climate change awareness is lacking, consequently integration of climate change issue within sectoral strategic and management planning at almost all fire associated sectors is not done at all
- There is a need for more studies on the impact of climate change on forest ecosystems, job operations, silvicultural measures, and with that also on the economy and quality of life of the rural population
- Forestry and adjacent sectors need to build upon regional initiatives and bilateral agreements (better connectivity, joint response, incentives and procedures to move forces from one country to another)
- All participants agree that major obstacles for cooperation remain political will for changes, weak state administration capacities, non-harmonized procedures for receiving assistance from abroad, non-regulated duty/tax free procedures on landscape fire equipment, etc.
- Also, there is a lack of cooperation with main regional and international organizations dealing with landscape fires, among others. Yet ones see substantial supportive role within different international organizations for knowledge transfer:
  - Regional Fire Monitoring Center (RFMC) and Global Fire Monitoring Center (GFMC)
  - Disaster Preparedness and Prevention Initiative in South East Europe – DPPI SEE
  - EU Civil Protection Mechanism (aside EU, 6 participating states take part: Iceland, Norway, Serbia, North Macedonia, Montenegro, and Turkey)
  - NATO Disaster Assistance (applicable to Partner countries).

The next day participants were split in four working groups and having on mind the findings of the previous session they discussed what kind of actions or measures are needed to improve landscape fire management in the future (on national and regional level).

## **Discussion**

The participants of the workshop discussed the regional wildfire management challenges and the experiences and opportunities for co-operation among the countries of the region. Also, they identified needs for action and recommended to explore potential synergies with other organizations and institutions that are active in the region.

After presentation of the results of each working group, they were discussed and summarized in the Final conclusions of the workshop.

Before the SDC / GPCCE's concluding remarks and presentation of the Final conclusions and further steps done by RFMC, each country expressed their appreciation about the role and initiative of the SDC and RFMC for organization of the workshop. Also, they expressed willingness to continue with the collaboration at the regional level with support of SDC, RFMC and GFMC.

## **Final Conclusions**

- There is a need for revision of laws and national landscape fire protection systems across the region (using the regional good practices, European experience on institutional harmonization and system integration)
- There is a need for better cross-border cooperation to deal with landscape fires and climate change (exchange of information, joint projects and planning, training, exercises)
- To define the status of the rural abandoned land (agricultural land, pastures etc.) in terms of landscape fire management, since the issue of abandoned land is recognized as an important and significant in all aspects (definition, legal i.e. property rights, land cover changes, ecology, fire potential, institutional competence etc.)
- Due to Regional rural exodus there is a need to create new approaches for landscape fire management (especially in fuel management and fire suppression in places where the population has moved out) – a regional problem – immediate and long-term measures
- Related with the previous conclusion and the fact that the stubble and agricultural waste burning is one of the major cause of landscape fires there is a need of change in approach and strategy on their burning
- There is a need for establishment of a regional landscape fire early warning system as a precondition for fire prevention, preparedness and efficient fire suppression (using the experiences of the existing Macedonian Forest Fire Information System – MAKFFIS)
- There is a need for development (in collaboration with the local government) of way for an active involvement of the civil society in the landscape fire protection using the "community based landscape fire management" approach
- There is a need for improvement of the collaboration between fire fighters from the forestry sector and professional fire fighters at municipality level in order to ensure a prompt and efficient fire suppression
- There is a need for well organised volunteer fire protection organizations as a way of civil society engagement
- To organise activities to exchange good practices on all stages (prevention, preparatory/pre-suppression and suppression) on landscape fire management is also crucial
- With aim climate change and landscape fire management be properly treated there is a need for adaptation of the management plans and work techniques in all land management sectors (especially forestry and agriculture)
- There is lack of specialized fire trucks and other equipment and tools
- There is a need for valorisation of forest functions/services, and its inter-relations with investments in protection of forests, including on landscape fires protection

- There is a need for regional scientific projects in terms to climate change and landscape fire management with involvement of the practice and real problems
- There is a need for stronger cooperation with international organizations (GFMC, RFMC etc.) and using their knowhow and capacities

Skopje, 20 February 2020

Prof. Dr. Nikola Nikolov  
Head, RFMC

**Annexes**

- Annex I: Workshop Agenda (attached)
- Annex II: Workshop Background (attached)



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## ANNEX I

### WORKSHOP

### CLIMATE CHANGE AND LANDSCAPE FIRE MANAGEMENT IN THE WESTERN BALKANS

Dates: 6-7 February 2020, Skopje  
Venue: Hotel Aleksandar Palace

#### Agenda

05 February 2020 (Wednesday)	
15:00 – 19:00	Arrival of participants ( <i>coming outside of Skopje</i> ) and registration
20:00 – 21:30	Welcome dinner
06 February 2020 (Thursday)	
Opening Session	
08:30 – 09:00	Registration
09:00 – 10:30	Welcome remarks and presentation of the agenda Prof. Dr. Kiril Sotirovski, Dean of the Faculty of Forestry in Skopje  Representatives of the Ministry of Agriculture, Forestry and Water Economy and Ministry of Environment and Physical Planning of North Macedonia  Swiss Embassy representative

	<p>Project introduction: Pierre-André Cordey, SDC, Global Programme Climate Change and Environment</p> <p>Keynote statement: Climate change and landscape fire management – global and regional challenges Prof. Dr. Johann Georg Goldammer, Director, Global Fire Monitoring Center (GFMC)</p> <p>Presentation of fire management policy and coordination in Switzerland Jelena Markovic (prepared by Jürgen Blaser and Marco Conedera)</p> <p>“Forest Fires” in the Western Balkan Region – An overview Prof. Dr. Nikola Nikolov, Regional Fire Monitoring Center (RFMC), Skopje</p>	
<b>Session 1: Current Status – Climate Change and Landscape Fire Management in the Western Balkans Region (Country Reports)</b>		
10:30 – 11:15	Overview of national landscape fire management situation: Current situation, policies, cross-boundary cooperation in landscape fire management, climate change awareness (15 min per country)	Albania Bosnia and Herzegovina Kosovo*
11:15 – 11:45	Questions and Answers / Discussion	
11:45 – 12:15	Coffee break	
12:15 – 13:00	Overview of national landscape fire management situation: Current situation, policies, cross-boundary cooperation in landscape fire management, climate change awareness (15 min per country)	Montenegro North Macedonia Serbia
13:00 – 13:30	Questions and Answers / Discussion	
13:30 – 15:00	Lunch	
<b>Session 2: Breakout Group Work – The Current Situation</b>		
15:00 – 16:15	<p><i>Group I: Climate change and Landscape Fire Management – Policy</i></p> <p><i>Group II: Climate change and Landscape Fire Management – Forestry / Agriculture and Adjacent Sectors</i></p> <p><i>Group III: Climate change and Landscape Fire Management – Cross-boundary Cooperation</i></p>	Mixed groups with country representatives, stakeholders from North Macedonia and experts from outside the region
16:15 – 16:30	Coffee break	

16:30 – 17:30	Presentations from the working groups Discussion	Group moderators All participants
19:00 – 21:00	Dinner	
<b>07 February 2020 (Friday)</b>		
<b>Session 3: Breakout Group Work – Regional Challenges for the Future</b>		
09:00 – 10:30	<i>Group I: Climate change and Landscape Fire Management – Policy</i> <i>Group II: Climate change and Landscape Fire Management – Forestry / Agriculture and Adjacent Sectors</i> <i>Group III: Climate change and Landscape Fire Management – Cross-boundary Cooperation</i>	All participants Group moderators
10:30 – 11:00	Presentations from the working groups Discussion	Group moderators
11:00 – 11:45	Coffee break	
<b>Closing Session</b>		
11:45 – 12:45	Open discussion, open questions Final conclusions and further steps: <ul style="list-style-type: none"> <li>• Countries' statements</li> <li>• SDC / GPCCE concluding remarks</li> <li>• Regional Fire Monitoring Center</li> </ul>	All participants Moderator of the discussion
12:45 – 14:15	Lunch Departure of Participants	



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## **ANNEX II**

### **WORKSHOP**

### **CLIMATE CHANGE AND LANDSCAPE FIRE MANAGEMENT IN THE WESTERN BALKANS**

6-7 February 2020, Skopje  
Venue: Hotel Aleksandar Palace

#### **Background**

The Western Balkans is a region in Southeastern Europe with a great climatic variability which ranges from coastal subtropical to temperate continental. There are several studies that have been focusing on landscape fire issues on 6 non-EU member states, namely Albania, Bosnia and Herzegovina, Kosovo\*, Montenegro, North Macedonia and Serbia.<sup>3</sup> The region has a total land area of over 20 million hectares and is inhabited by almost 18 million people. 47% of the diverse landscapes consists of forests and other wooded lands.

The average temperature of the region has increased over the past 20 years from 9.7°C to 10.9°C and is expected to further increase by 4°C to 5°C until the end of the century (based on business-as-usual scenario RCP 8.5). The already scarce precipitation throughout the region is expected to decrease further, by 20% and even more than 30% in the Southern part of region (RCP 8.5). Particularly in the Mediterranean part of the Western Balkans, rainfall is expected to increase in winter, but severe droughts are predicted in summer. Such changes in weather extremes are expected to increase in occurrence and severity over the coming years. Further to the variability in rainfall and temperature, it is expected that wind strengths will increase (RCC 2018). It is expected out of such changed climate scenarios, that the risk and severity of landscape fires that occur naturally in the region since centuries will increase in future, in both, frequency and intensity.

In addition to climate change, the change in land use, particularly over the past 25 years is increasing the risk for landscape fires. This is due on one hand by the abandonment of agricultural crops and regulated pasture, due to a move of rural population to urban centers, but also through unregulated housing development and unregulated land and forest use.

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<sup>3</sup> See: Nikola Nikolov (2015). Forest Fires in South Eastern Europe. Regional Report prepared by the Regional Fire Monitoring Center. Regional Environmental Center for Central and Eastern Europe, Working Paper, 114 p. - Oliver Wolf and Joris Weber (2019). Feasibility study for a regional landscape fire management program in the Western Balkans. BSc thesis, Bern University of Applied Sciences, School of Agricultural, Forest and Food Sciences, 209 p.



Due to poor public awareness and lack of knowledge about landscape fires, people build houses in high-risk areas. These factors, in combination with unsustainable land use practices, increase the risk for landscape fires. Landscape fires are rarely initiated by natural causes such as lightning or extreme heat. The main reasons for ignition are anthropogenic. Like elsewhere in Europe, the known origins of landscape fires in the Western Balkans in more than 90% of the cases are due to human activities, either accidental or deliberate.

For effective suppression measures, countries largely lack special trained personnel (professionals and volunteers) and equipment. Also, institutional and political hurdles often prevent to develop and implement effective prevention and suppression measures of landscape fires. Landscape fire early warning systems are largely missing. Furthermore, one of the challenges in the Western Balkans, where all six countries concerned are relatively small in surface, are cross-border landscape fires. Therefore, bilateral and sometimes multi-lateral cooperation is important to exchange knowledge, experience and mutual assistance for enhancing the capabilities of prevention, preparedness and suppression of landscape fires. National policies are needed to increase the resilience of the landscapes of the Western Balkans to fire. National and regional early warning systems are required to enhance the preparedness for large landscape fires difficult to control.

A particularity in the Western Balkans region is that landscape fire intervention measures can be extremely difficult or even impossible due to the threats of because of remnants from past armed conflicts, i.e. unexploded ordnance and particularly undetected land mines in forests and grasslands.

To deal with these kinds of issues globally there are some international exchange mechanisms regarding landscape fire management have been developed. The United Nations International Strategy for Disaster Reduction (UNISDR), now the UN Office for Disaster Risk Reduction (UNDRR), provides the umbrella for the UNISDR Global Wildland Fire Network (GWFN) with its 14 independent Regional Wildland Fire Networks. These networks are coordinated by the Global Fire Monitoring Center (GFMC), a facility of the Max Planck Institute for Chemistry and the University of Freiburg, and five Regional Fire Monitoring Centers / Regional Fire Management Resource Centers. In the Western Balkans the Regional SE Europe / Caucasus Wildland Fire Network and the Regional Fire Monitoring Center (RFMC), established in Skopje, North Macedonia, has been serving the Western Balkans since 2010. In Europe the work of the GFMC and the RFMC is supported by the Council of Europe through its Major Hazards Agreement and the Organization for Security and Cooperation in Europe (OSCE) by advising countries and multilateral organizations in building national, regional and international policies regarding landscape fires and the reduction of their negative impacts. The Interreg Balkan-Mediterranean Forest Monitoring System for Early Fire Detection and Assessment in the Balkan-Med Area (SFEDA), funded by the European Regional Development Fund and terminated in October 2019, was an additional project to the European Forest Fire Information System (EFFIS), which provides regional fire danger rating and monitoring for the member states.

Although there are some international approaches, the Western Balkans is still missing a functioning regional cooperation to solve the large list of significant issues concerning landscape fires. In 2016, the accumulated total burned area of the region was almost 53,000 hectares. The trend line for the countries (except Albania) and the whole region of Western Balkans has an increase over the past 15 years in the burned area. The current circumstances with the increasing danger due to climate change and change of land use in connection with the regional issues are alarming. In order to mitigate possible disastrous impacts of landscape fires on environment and society, creating the capacities to conduct a functional regional wildfire management program in Western Balkans that reduces the risks of landscape fires and in particular forest fire to reduce vulnerability to social systems and ecosystems in the 6 countries of the Western Balkans is a must.

## Aim of the workshop

This workshop focuses on an assessment of the needs and the potential for developing a regional wildfire management program in the Western Balkans by bringing key stakeholders and representatives together.

Issue areas to consider in the workshop are:

- Impact of climate change on landscapes and landscape fire regimes in the Western Balkans region
- Socio-economic and demographic drivers of landscape fires in the region (land use, land-use change, rural exodus)
- Current situation, policies, cross-sectoral cooperation in fire management, climate change awareness within countries
- Landscape fire management
  - Policy coordination issues (governance, political issues)
  - Forestry, agriculture, conservation, human health and security, civil protection and civil society (cross-sectoral approach)
  - Cross-boundary cooperation (early warning and suppression)

Reference is made to the Statement of the 7<sup>th</sup> International Wildland Fire Conference “Building Sustainable and Fire-Resilient Societies and Landscapes” of 1 November 2019.<sup>4</sup> The participants of the conference confirmed that in many regions of the world, wildfires are a growing threat to communities and to natural, cultural, rural, urban and industrial landscapes. The problem is increasing due to the consequences of social, economic and ecological change (land-use change, demographic change, ecosystem degradation), as well as climate change. This is impacting human health and security and resulting in the loss of public and private assets, including critical infrastructure. Current risk governance and institutional arrangements are inadequate to cope with this growing trend. Cross-sectoral approaches are required.

The paradigm of addressing the problem through individual and disconnected services and actions in fire prevention or suppression should be reframed. Unified and integral planning must ensure and strengthen societal, environmental and economic resilience to landscape fires by addressing:

- Risk governance and ownership
- Dialogue of knowledge, including local knowledge
- Socio-economic innovation in rural landscapes, favoring nature-based solutions
- Strengthening local action
- Gender, diversity and inclusion
- Creation of resilient ecosystems and local communities/municipalities

Decision-making must be evidence-based and supported by monitoring and evaluation systems. Implementation should be coherent, cohesive and coordinated.

The integrated cross-sectoral approach described above supports the Sustainable Development Goals, the goals of the Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015-2030. This approach would be further strengthened by an appropriate United Nations instrument.

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<sup>4</sup> <https://gfmcc.org/wp-content/uploads/IWFC-7-Statement.pdf>

## **Expected outcomes from the workshop**

Outcomes from the workshop, aligned with previously accomplished feasibility studies, will initiate development of a regional landscape fire management program in the Western Balkans.

The program will aim to

- increase the resilience of the Western Balkans landscapes and the people living therein to wildfire by significantly enhancing landscape fire prevention and suppression capabilities through innovative cross-sectoral / interagency / horizontal approaches
- build up regional cross-boundary cooperation in landscape fire management
- strengthen national adaptation and mitigation measures in climate change
- raise public awareness
- create a robust Science-Policy-Practitioners Interface (SPPI) through building of a coalition / constituency of partners in the Western Balkans countries representing all sectors concerned with land management, climate change mitigation and adaptation, disaster risk reduction, environment protection and public health and security