Forest Fire Country Studies

Kosovo*













FOREST FIRES COUNTRY STUDY KOSOVO*

2015

Produced by the Regional Fire Monitoring Center (Key expert: Nikola Nikolov)

Editor: Aniko Nemeth Regional Environmental Center for Central and Eastern Europe (REC)

Contributors: Bruno Mesquita, Cecile Monnier and Danko Aleksic (REC)

Table of Contents

| Abb | reviati | ons | 3 |
|------|---------|---------------------------------------------------------------------------|----|
| l. | The f | orestry sector, forests and fire history | 4 |
| | 1.1. | Forest characteristics | 5 |
| | 1.2. | Major forestry stakeholders | 8 |
| | 1.3. | Fire history | 11 |
| II. | Legal | framework and institutional set-up in the field of forest fire management | 14 |
| III. | The | e impact of forest fires on the environment, economy and human health | 21 |
| IV. | Spe | ecial issues | 23 |
| V. | Need | s for improvement in forest fire management | 24 |
| Lite | rature | | 25 |

Abbreviations

FAO Food and Agriculture Organization

dbh Diameter at breast height

MAFRD Ministry of Agriculture, Forestry and Rural Development

DoF Department of Forestry KFA Kosovo Forestry Agency

UNMIK United Nations Interim Administration Mission in Kosovo

MESP Ministry of Environment and Spatial Planning
KEPA Kosovo Environmental Protection Agency

JRC Joint Research Centre
MIA Ministry of Internal Affairs

EMA Emergency Management Agency CCFS Climate Change Framework Strategy

^{*}This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

I. The forestry sector, forests and fire history

1. Overview of the forestry sector

According to Article 2 of the Law on Forests (2003/3), forests and forest land in Kosovo* are defined as follows: A forest is land registered as such in the cadastral records; while forest land is land that is being managed for the production of wood or other forest products or whose best use, given its natural characteristics and economic conditions, involves the growing of trees.

Although the terms "forest" and "forest land" are defined in the Law on Forest, the national forest inventory was carried out using the respective definitions provided by the United Nations Food and Agriculture Organization (FAO). All data for forest resources in Kosovo* are taken from this inventory and are in accordance with the FAO definitions:

A **forest** is land with tree crown cover of more than 10 percent and an area of more than 0.5 ha. The trees should be able to reach a minimum height of 5 m at maturity in situ.

The forest may consist either of closed forest formations, where trees of various storeys and undergrowth cover a high proportion of the ground: or open forest formations with continuous vegetation cover in which the tree crown cover exceeds 10 percent. Young natural stands and all plantations established for forestry purposes which have yet to reach a crown density of 10 percent or tree height of 5 m are included under forests, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention or natural causes but which are expected to revert to forest.

Forests include: forest nurseries and seed orchards that constitute an integral part of the forest; forest roads, cleared tracts, firebreaks and other small open areas within the forest; forest in national parks, nature reserves and other protected areas such as those of special environmental, scientific, historical, cultural or spiritual interest; windbreaks and shelterbelts of trees with an area of more than 0.5 ha and a width of more than 20 m.

Forests exclude: land predominantly used for agricultural practices.

Other wooded land is land either with a tree crown cover of 5 to 10 percent of trees able to reach a height of 5 m at maturity in situ; or a crown cover of more than 10 percent of trees not able to reach a height of 5 m at maturity in situ (e.g. dwarf or stunted trees) and shrub or bush cover.

It excludes: areas with the tree, shrub or bush cover specified above but of less than 0.5 ha and 20 m in width, which are classed under "other land"; and land predominantly used for agricultural practices. [1]

1.1. Forest characteristics

According to the 2012 national forest inventory, the total forest area in Kosovo* is 481,000 ha. Forests are dominated by broadleaved tree species, covering 93 percent of the forest area (449,400 ha; Table 1). Coniferous forests cover almost 5 percent of the forest area (23,800 ha). More than half of the total forest area comprises what are considered as even-aged forests.

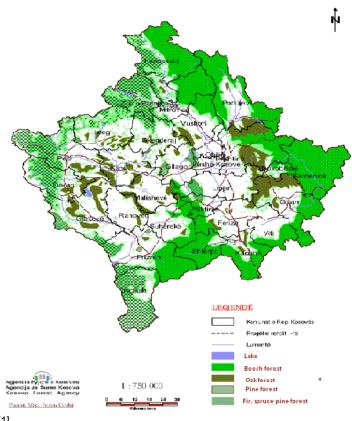
Table 1. Forest area by forest composition and stand structure (ha)

| Forest | | Total | | | |
|-------------|--------------|-----------|-------------|-------------|---------|
| composition | Regeneration | Even-aged | Two-storied | Uneven-aged | iotai |
| Coniferous | 2 200 | 6 600 | 6 200 | 8 800 | 23 800 |
| Mixed | 0 | 400 | 3 200 | 4 200 | 7 800 |
| Broadleaved | 45 400 | 236 000 | 123 600 | 44 400 | 449 400 |
| Total | 47 600 | 243 000 | 133 000 | 57 400 | 481 000 |

Source [1]

Map 1. Forest cover in Kosovo*

FOREST COVER IN KOSOVO



Source [1]

As shown in Table 2, 180,800 ha (38 percent) of forests in Kosovo* are classified as privately owned, while 295,200 ha (62 percent) are classified as public forests. Coppice forests cover 84 percent of the total forest area. This is the result of extensive harvesting, in particular of short rotation coppice forestry for firewood production. Forests that regenerate naturally are mostly beech (Fagus spp.), mixed beech and conifers, and pure coniferous forests located at higher elevations.

Table 2. Forest area by stand origin and ownership (ha)

| Sanual activity | | Total | | |
|---------------------------------|---------|---------|---------|---------|
| Stand origin | Public | Private | Unknown | Total |
| Natural seeding | 58 400 | 13 600 | 1 000 | 73 000 |
| Planting and artificial seeding | 2 000 | 800 | 0 | 2 800 |
| Coppice | 229 000 | 164 800 | 4 000 | 397 800 |
| Coppice with standards | 5 800 | 1 600 | 0 | 7 400 |
| Total | 295 200 | 180 800 | 5 000 | 481 000 |

Source [1]

Table 3. Forest area by forest composition and age class (ha)

| Forest composition | Age class (years) | | | | | | | |
|--------------------|-------------------|---------|---------|--------|---------|---------|---------|--|
| rorest composition | 0-20 | 21-40 | 41-80 | 81-120 | 121-160 | 161-200 | Total | |
| Coniferous | 4 600 | 3 600 | 11 400 | 3 400 | 800 | 0 | 23 800 | |
| Mixed | 200 | 1 000 | 4 600 | 1 200 | 600 | 200 | 7 800 | |
| Broadleaved | 139 600 | 157 200 | 127 800 | 21 800 | 2 800 | 200 | 449 400 | |
| Total | 144 400 | 161 800 | 143 800 | 26 400 | 4 200 | 400 | 481 000 | |

Source [1]

Table 4. Growing stock in forests by main tree species (dbh >= 7 cm) (1,000 m³)

| Tree species | 2002 | 2012 | | |
|-----------------------|--------|--------|--|--|
| Quercus cerris | 5 170 | 4 282 | | |
| Querus petrea | 4 276 | 3 669 | | |
| Other quercus sp. | 129 | 1 292 | | |
| Fagus sp. | 15 963 | 18 524 | | |
| Other broadleaves | 3 704 | 6 750 | | |
| Undefined broadleaves | 5 983 | 0 | | |
| Abies alba | 1 577 | 1 573 | | |
| Picea abies | 1 402 | 1 840 | | |
| Pinus sp. | 2 018 | 2 502 | | |
| Other conifers | 223 | 77 | | |
| Total | 40 445 | 40 508 | | |

Source [1]

1.2. Major forestry stakeholders

The Government of Kosovo* administers forests and forest land through the institutions described below.

Figure 1. Forest management structure



Source [7]

1.2.1. The Ministry of Agriculture, Forestry and Rural Development (MAFRD)

The MAFRD is the highest institution for the administration and management of forests in Kosovo*. The MAFRD administers forests through the Department of Forestry and the Kosovo Forestry Agency.

The Department of Forestry develops policies and sets the regulatory framework for forest management. It compiles the ministry's 10-year strategy for governing the forestry sector.

The Kosovo Forestry Agency (KFA) is the implementing body of the ministry. It acts as the administrator and manager of forest land (with the exception of the territory of the Ibar-Leposavić Forest Management Unit in northern Kosovo*, which is affiliated to the Srbijašume public enterprise based in Belgrade). The KFA, which was established in accordance with UNMIK Regulation No. 2000/27, carries out its functions through six regional offices in Pristina, Peja, Gjilan, Ferizaj, Prizren and Mitrovica. These KFA offices are responsible for drafting annual management plans, including the planning of permits each year; marking trees that are to be harvested on both private and public land; designing and implementing programmes for the protection of forests from diseases, pests and forest fires; and organising and monitoring the afforestation of degraded forest land. According to the Law on Forests (2003), the KFA is responsible for issues related to the regulation of forests and forest lands, and for the administration and management of public forest areas and forests in national parks in Kosovo*.

The Forestry Inspectorate: The inspectorate is a department under the KFA responsible for controlling forest activities in both public and private forests. In addition to conducting inspections in response to reports from different regions about forestry-related illegal activities, inspectors also conduct inspections in the forest and timber markets, often in cooperation with the police and the KFA. Although it is a relatively independent department under the KFA, some politicians have suggested that, due to its present inability to inspect other forest authorities and due to conflicts of interest, it should be an external and fully independent body.

1.2.2. Municipalities

Under the 2008 Law on Local Self-government (03/L-040), responsibility for protecting forests and issuing permits was transferred to municipalities. While municipalities collect revenues from the sale of confiscated wood, the revenue from permits is shared between the MAFRD and municipalities (70 percent to the central level and 30 percent to the municipalities).

Municipalities are obliged to send monthly reports about illegal logging, confiscated wood and other activities in the forests under their jurisdiction to their regional KFA office. Municipalities hire forest guards to patrol and secure forest land.

1.2.3. The Ministry of Environment and Spatial Planning (MESP)

The MESP is in charge of creating and implementing general management legislation in the field of environment, water, housing, spatial planning and construction. The MESP also has competences over national parks, covering around 25 percent of the total forest area in Kosovo*.

• The Kosovo Environmental Protection Agency (KEPA) is a government institution under the MESP, which focuses on maintaining the quality of air, water, soil and biodiversity; promoting the use of renewable energy resources; and ensuring the sustainable use of natural resources. There are two departments under the KEPA responsible for the management of national parks.

management of national parks.

Figure 2. Organisational structure of the KEPA

Kosovo Environmental Protection

Administrative office



Source: http://www.ammk-rks.net/repository/docs/Kepa_organisation_structure.jpg

The Directorate of National Parks is located in Prizren. According to its charter, the directorate is responsible for managing the entire territory of all national parks. However, as indicated in the Spatial Development Plan of the Sharr Mountain National Park, the directorate's management capacities only cover areas in Prizren and Suva Reka/Theranda municipalities. There is currently no entity equivalent to the directorate to oversee the other national park in Kosovo*: Bjeshket e Nemuna.

The Institute of Nature Protection issues cutting permits to private forest owners in the national parks based on a land ownership certificate and needs. The institute is also responsible for determining the boundaries of national parks and mapping them with the help of external experts. [7]

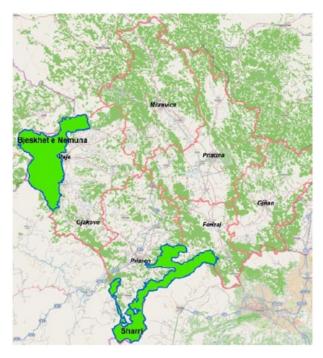
As already mentioned, there are two national parks in Kosovo*: the Sharr Mountain/Sharri National Park (Albanian: Malet e Sharrit; Serbian: Šar planina) in southern Kosovo*; and Bjeshket e Nemuna in western Kosovo*. Both national parks are located at high elevation in forested areas.

Table 5. Forest area and growing stock in national parks by forest composition (ha, m3)

| Notice of south | B | Fo | | | |
|-------------------|---------------------------------|------------|-----------|-------------|------------|
| National park | Resource | coniferous | mixed | broadleaved | Total |
| Sharri | Area (ha) | 2 000 | 600 | 15 000 | 17 600 |
| | Growing stock (m ⁵) | 410 000 | 171 000 | 5 335 000 | 5 916 000 |
| Bjeshket e Nemuna | Area (ha) | 17 600 | 5 400 | 19 000 | 42 000 |
| | Growing stock (m³) | 3 910 000 | 1 614 000 | 2 860 000 | 8 384 000 |
| Total | Area (ha) | 19 600 | 6000 | 34 000 | 59 600 |
| | Growing stock (m³) | 4 320 000 | 1 785 000 | 8 195 000 | 14 300 000 |

Source [1]

Map 2. Location of national parks in Kosovo*



Source [1]

1.3. Fire history

According to the national forest inventory, one of the most negative and detrimental factors affecting forests and forestry is forest fires. Forest fires (up until 2012) have affected around 12,200 ha of forest, or 2.5 percent of the total forest area (Table 6). It should be noted that areas where more than 25 percent of small trees were affected, or where more than 25 percent of the growing stock of measurable trees was affected, are taken into consideration and included in this table.

Table 6. Area of significant stand-level damage, by forest composition and cause of damage (ha)

| Forest | Cause of damage | | | | | | | | |
|-------------|-----------------|-------------------|--------|--------|---------|-----------------|------------------|--------|--------|
| composition | Insects | Disease/ fungi | Fire | Animal | Weather | Human impact | Suppres- sion | Misc. | Total |
| Coniferous | 200 | 200 | 2 200 | 0 | 400 | 800 | 0 | 800 | 4 600 |
| Mixed | 600 | 400 | 0 | 0 | 400 | 200 | 0 | 200 | 1 800 |
| Broadleaved | 3 000 | 10 200 | 10 000 | 1 800 | 2 400 | 7 800 | 5 200 | 11 400 | 51 800 |
| Total | 3 800 | 10 800 | 12 200 | 1 800 | 3 200 | 8 800 | 5 200 | 12 400 | 58 200 |

Source [1]

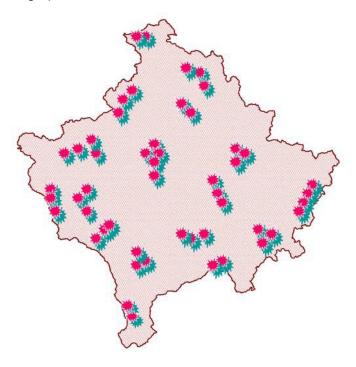
One of the most severe forest fire seasons (according to the JRC) during the last 10 years was in 2012, when 49 fires affecting over 40 ha were registered in Kosovo*, and around 8,376 ha of burned area was mapped using satellite technology. Of this area, 5,902 ha were burnt in forests and other wooded lands; 1,379 ha in other natural lands; 1,085 ha on agricultural land; and a small amount (10 ha) in other land cover. [2]

Photo 1. Area severely affected by forest fire in Radusha, Istog (234 ha burned in 2007)



Source [1]

Map 3. Regions with a high potential risk of fires



Source [4]

II. Legal framework and institutional set-up in the field of forest fire management

The most important legislative acts regulating the issue of forest fires in Kosovo* are:

Law on Forests (No.2003/3)

The main articles in this law concerning forest fires are Articles 26 and 27.

Article 26 (Protection of forests against fire) contains the following provisions:

- 26.1 No person may start an open fire in forests or on forest land without a permit.
- 26.2 For the purposes of this article, an open fire does not include a fire inside a building or inside a fireplace or device designed to contain the fire safely.
- 26.3 The Forest Agency may issue permits for starting open fires where such action is consistent with sustainable forest use.
- 26.4 The minister may issue rules governing the issuance of permits under this article.

Article 27 (Forest Agency protection and restoration authority) prescribes the following:

27.1

- (a) Upon finding that the condition of private land threatens to damage forests of other ownership, the Forest Agency may order the owner to ameliorate the condition.
- (b) Authority in this section includes the authority to order actions to reduce hazards or threats from fire, insects, disease and invasive organisms.
- (c) If an owner fails to obey an order under this section within a reasonable time, the Forest Agency may enter the property, take action to ameliorate the condition, and invoice the owner for the costs of such action.

27.2

- (a) Upon finding that the condition of private forests or forest land threatens to impair the sustainable use of forest resources, the Forest Agency may order the owner to take action to reduce the threat.
- (b) Authority in this section includes the authority to order actions to protect forest soils and waters, and the authority to order reforestation.
- (c) If an owner fails to obey an order under this section within a reasonable time, the Forest Agency may enter the property, ameliorate the condition, and recover the costs of such action from the owner. [9]

At this point it is important to mention that the MAFRD, on the basis of Article 1.3 (d) of UNMIK Regulation 2001/19 dated September 13, 2001, on the Executive Branch of the Provisional Institution of Self-government in Kosovo*, and Article 26, Paragraph 26.4 of the Kosovo Law on Forests 2003/3 dated March 20, 2003, has approved Administrative Instruction MA-No. 22/2007 on the Protection of Forests from Fire. This instruction determines technical, preventive and other measures for the protection of forests from fire that shall be taken by the owners or users of forests and forests lands in order to minimise the risk and rapid burning of fires in forests; detect and notify others of fires in forests; and to prevent and fight fires in forests. [10]

Law on Protection and Rescue from Natural Disasters and Other Disasters (No. 04/L-027)

This law regulates the protection of people, animals, property, cultural heritage and the environment against natural and other disasters, and their rescue in the event of such disasters. According to Article 3 (Definitions), fires (including forest fires) are considered within the category of "other disasters": "Other disasters — heavy traffic accidents, air and railway traffic, fire, mine accidents, damage from dams and other ecological and industrial disasters caused by the work or behavior of human beings, extraordinary emergency situations such as high temperatures, the technical collapse of the energy system, power supply, telecommunication and information technology, terrorist acts and other types of large-scale violence." [11]

Law on Firefighting and Rescue (No. 04/L-049)

The purpose of this law is to provide an effective response in the form of firefighting mechanisms aimed at rescuing people, property and the environment in emergency situations (Article 1).

The scope of this law includes the definition of the duties to be fulfilled by firefighting and rescue units established under this law (Article 2). [12]

Law on Nature Protection (No. 03/L-233)

This law regulates nature protection, the sustainable use of nature, and in particular the protection, conservation, renewal and sustainable use of natural resources, in a condition of natural balance. (Article 2)[13]

This protection includes protection against forest fires.

According to the laws referred to above, the main institutions authorised for forest fire protection are listed below.

- The Ministry of Agriculture, Forestry and Rural Development

As mentioned above, the MAFRD is the highest-level institution for the administration and management of forests in Kosovo*, working through the Department of Forestry and the Kosovo Forest Agency (KFA).

Through the KFA, the MAFRD implements legal regulations in terms of forest management in Kosovo*, while through the Forestry Inspectorate it ensures their implementation by all private and state entities in the forestry sector. The issue of forest fire protection is thus also regulated. Forest fire protection is part of all forest management plans (both annual and long term).

The issue of forest fire protection is treated in even greater detail at municipal level. The municipal branch of the KFA includes a forest protection office responsible for ensuring the implementation of regulations, and especially of Administrative Instruction MA-No22/2007 on Protection from Forest Fires. The obligations of all relevant natural and legal persons in this respect are described in Articles 2 and 3 of the instruction:

Article 2 contains the following provisions:

- (1) Natural and legal persons that manage forests and forests lands are obliged to register forests according to the risk of forest fires in harmonisation with the forest fire risk assessment provided in the appendices to the administrative instruction.
- (2) Registration includes the surface area of controlled forests ranked according to the forest fire risk level.

Article 3 prescribes the following:

- (1) Natural and legal persons that manage forests and forest lands are obliged to:
- 1. compile annual plans for the protection of forests and forest lands from fire;
- 2. organise a detection and notification service;
- 3. establish a service for the protection of forests from fire, or entrust this duty to a legal person specializing in this field;
- 4. prepare and train forest staff for intervention and equip them with the necessary tools for opening up paths to fight fires and stop their spread;
- 5. inform personnel of risk levels and enforce protection measures against fires; and
- 6. raise public awareness, particularly among tourists and children, about the importance of forest protection, and undertake preventive measures according to forest fire risk."

Director of Coordination Directorate with KFA Municipal Units Security Guard Driver Responsibilitie for Inventory Forests Management Officer Forests Protection Officer Silviculture Administrative Economic Officer funicipal Un Legal Officer Assistant Officer Chief and Managemer Plans General Administration Directorate Forests Management Directorate

Figure 2. Organisational structure of the KFA municipal units

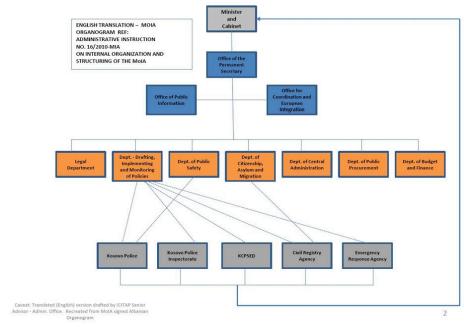
Source [15]

- The Ministry of Internal Affairs (MIA)

The main goal of the MIA is to build, preserve and increase the security of all citizens in Kosovo* and in cooperation with them.

The Emergency Management Agency (EMA) is established within the MIA. This agency is responsible, among other things, for forest fire protection.

Figure 3. Organisational structure of the MIA



Source [14]

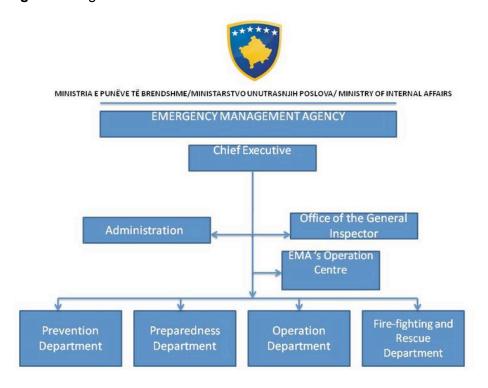
The main mission of the EMA, through the Department of Fire and Rescue, is to establish a solid foundation in the field of prevention, preparedness and response by providing leadership and ensuring the central coordination of firefighting services at all levels and within all structures.

Its functions are to:

- supervise, coordinate, direct and set standards for these tasks; serve as a community fire
 protection, firefighting, rescue and emergency response; and act as an advocate for the
 Department of Fire and Rescue in terms of the challenges facing community, private and
 voluntary firefighters;
- develop and deliver educational programmes in the field of prevention and fire protection in partnership with other agencies, the emergency response community, the media and other stakeholders;
- 3. support professional development, operational capacity and preparedness training for central, regional, local and private fire/rescue and emergency response structures;
- 4. support regional and local entities in the collection, analysis and dissemination of data and special reports regarding the occurrence, control and consequences of any fire, health incidents and other emergency activities; and

5. use and support the development of technologies for fire prevention, suppression and localisation; and support resource management studies and firefighting operations in the field.

Figure 4. Organisational structure of the EMA



Source [15]

According to Article 4 of the Law on Firefighting and Rescue (No. 04/L-049), the responsibilities of the EMA include:

- 2.1. Structuring, classifying and defining the operational methods of professional firefighting and rescue units and professional staff.
- 2.2. Encouraging the establishment of firefighting and rescue voluntary associations in accordance with the risk assessment and fire protection plan.
- 2.3. Establishing professional firefighting and rescue units in the territories of municipalities that lack a sufficient number of firefighting and rescue units.
 - Municipalities

In accordance with Article 4 of the law, municipalities play a role in fire protection (including forest fire protection). Municipalities are responsible for:

- 3.1. Encouraging the establishment of one or more firefighting and rescue voluntary associations.
- 3.2. Structuring, organising, classifying and defining the operational methods of firefighting and rescue voluntary association units in accordance with the requirements of the agency, as defined in Paragraph 2, Sub-paragraph 2.1.
- 3.3. Defining the tasks and the number of voluntary firefighting staff; and the assets and equipment necessary for firefighting and rescue voluntary association units in accordance with the municipality risk assessment and central fire protection plan.
- 3.4. Undertaking measures to establish firefighting voluntary units if they lack a sufficient number of firefighting and rescue units in their territory.

Controlled fires may be used on agricultural lands and pastures, and there is no law that either bans or permits their use.

III. The impact of forest fires on the environment, economy and human health

Economic losses, as a result of direct and indirect damage to infrastructure and structures in urban and rural areas, are significant, although no detailed data are available. The total timber mass burned in the period between 2003 and 2014 is estimated at 459,000 m3. [8]

Human fatalities and injuries have been registered, although there are no available statistics.

The impacts on the environment of emissions from burning vegetation are addressed only in the framework of the Climate Change Framework Strategy (CCFS) for Kosovo* (issued by the Ministry of Environment and Spatial Planning in 2014). There are data for annual carbon emissions in the period 2003 to 2020 (real and estimated) in two climate scenarios. Among other sources of carbon emissions, these scenarios also consider forest fires (Figures 5 and 6).

Figure 5. Estimated potential of a portfolio of mitigation activities across time (B1, lower bound)

Annual carbon emissions/removals 2003-2020 with lower bound mitigation activities (based on B1):

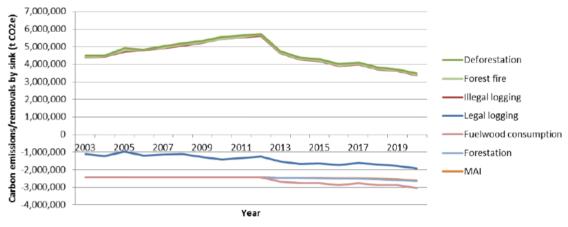
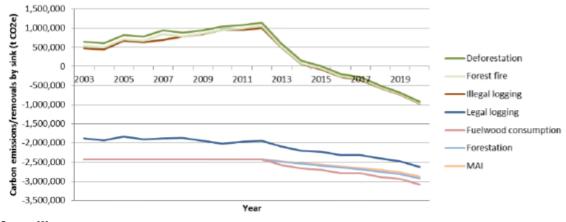


Figure 6. Estimated potential of a portfolio of mitigation activities across time (B2, upper bound)

Annual carbon emissions/removals 2003-2020 with upper bound mitigation activities (based on B2):



Source [6]

IV. Special issues

As a consequence of events that took place on the territory of Kosovo* in 1998, the risk of mines has been recorded.

The UN managed a large mine clearance programme in Kosovo* between 1999 and 2001, which resulted in a declaration by the UN in 2001 that Kosovo* was free of mines. Since then, thousands of mines and cluster munitions have been cleared by the limited capacity of all the agencies remaining in Kosovo*. A comprehensive joint survey carried out in 2013 by the HALO Trust (the oldest and largest humanitarian landmine clearance organisation in the world) and the Kosovo Mine Action Centre (KMAC) identified 130 minefields and cluster munition strikes remaining in Kosovo*. Minefields remain in rural areas in which impoverished communities rely on agriculture and woodcutting for their income. [16] This could be a significant problem during forest fire suppression activities, as well as during forest management activities.

There are no data available about transboundary/cross-border fires, or about bilateral or regional agreements.

There is no official national programme or training centre for special training in forest fire protection, although various international projects have improved forest fire protection capacities.

The first of these projects was the Establishment and Training of a Nucleus for Forest Fire Protection in Pec/Peje. This joint project of the Italian State Forestry Service (Corpo Forestale dello Stato) and the MIA was implemented in 2004 and resulted in the training of 250 people in forest fire protection.

The second was the participation of three people at a training organised in the framework of the Macedonian/FAO project Strengthening National Forest Fire Preparedness in the Former Yugoslav Republic of Macedonia (TCP/MCD/3201), held on November 14 to 17, 2011, in Skopje.

The third was the participation of three people at the Regional Fire Management Training for the South Caucasus and Western Balkans, held in Antalya, Turkey, on October 15 to 17, 2014.

V. Needs for improvement in forest fire management

The existing laws and legal acts that regulate forest fire protection need to be harmonised. The issue of forest fires is currently regulated by different laws implemented by different institutions, thus there are some overlapping competencies, uncertainties in procedures and a lack of tools for coordinating activities between institutions.

There are no specialised, well-trained forest firefighters, and no educational institutes for training decision makers, planners, command staff or firefighters. In order to improve this situation, a special programme should be created for training existing firefighters and new personnel. This is equally important for the KFA and the EMA and is also related to the previous findings regarding the current legal regulations.

There is also a lack of special vehicles for forest fire suppression. In particular, there are no first-response vehicles in the forestry sector and no off-road fire trucks in the framework of the EMA.

There is no voluntary fire protection organisation in Kosovo*. One of the ways in which members of the local population can be actively involved in fire protection (including forest fire protection) is through the establishment of voluntary organisations. Through the activities of such an organisation, people of all ages can be engaged in forest fire protection (i.e. in prevention, pre-suppression and suppression). This is one of the best ways to raise public awareness, increase the preparedness of local communities for forest fire suppression, and address the problem of the lack of personnel in the relevant institutions.

One of the preconditions for defining the level of preparedness of the institutions responsible for forest fire protection during the fire season is the existence of an appropriate early warning system. Such a system in Kosovo* would allow the institutions responsible for forest fire protection to be more efficient and better organised.

Literature

- 1. National Forest Inventory 2012, Pristina 2013
- 2. Forest Fires in Europe, Middle East and North Africa, JRC 2012
- 3. Forest Fires in Europe, Middle East and North Africa, JRC 2013
- 4. Forest Fires in Europe, Middle East and North Africa, JRC 2011
- 5. Agriculture, Rural Development, Forestry, Fisheries and Food Safety. Task Force on European Integration
- 6. Climate Change Framework Strategy (CCFS). Ministry of Environment and Spatial Planning, 2014
- 7. Losing the Forest for the Trees: Implications of Illegal Logging in Post-conflict Kosovo.

 Miriam Bensky, Tess Bone, Maricarmen Hinojosa, Abha Parekh and Jingchao Wu, 2013
- Questionnaire prepared for the UNECE/FAO Regional Forum on Cross-boundary Fire Management, adapted by the Regional Environmental Center (REC) Office in Kosovo*, 2014
- 9. Law on Forests, No. 2003/3
- 10. Administrative Instruction MA No. 22/2007 on the Protection of Forests from Fire
- 11. Law on Protection and Rescue from Natural Disasters and Other Disasters, No. 04/L-027
- 12. Law on Firefighting and Rescue No. 04/L-049
- 13. Law on Nature Protection No. 03/L-233
- 14. Ministry of Internal Affairs: http://www.mpb-ks.org
- 15. Emergency Management Agency: http://ame.rks-gov.net
- 16. The HALO Trust: http://www.halotrust.org/where-we-work/kosovo/problem