



# **INFORMATION AND AWARENESS ANALYSIS REPORT**

11/2022



REPUBLIKA E SHQIPËRISË MINISTRIA E MBROJTJES



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#### **Background & Rationale**

The TO BE READY project aims at facing common challenge shared among Italian, Albanian and Montenegrin Adriatic regions which, in the last years, are hit by various natural and man-made disasters mainly many wildfires and floods that have caused notable human losses, damages to environment and infrastructures than social warning. To this regard, the project overall objective is to enhance conditions to increase the safety of the Italian, Albanian and Montenegrin basin from natural and man-made disaster implementing cross border initiatives able to establish a bridge among participating regions in order to adopt common intervention strategies in case of wildfires and floods. The principal expected changes to be achieved is improving coordination and level of preparation of strategic key actors involved in the phase of prevention and management of the emergency in case of fires and floods hazards.

This project is implemented by Molise Region (Department of Civil Protection) in Italy - Project Leader, Puglia Region (Civil Protection Unit) in Italy; Ministry of Defence (AKMC) of Albania; Ministry of Interior (Department of Civil Emergencies) of Montenegro and Ministry of Interior of the Republic of Albania - Associate Partner.

Fires are a present phenomenon during the summer season in Albania and it becomes a serious threat when hectares are burned per year. The population is largely unaware of the risks and how to act in case of fire, and in turn, the need to protect people and infrastructures may compromise the resources available for fire prevention and suppression, especially near houses situated close by forested areas. Therefore, it is essential to raise individual awareness on the risk exposure and individual self-protection and prevention capacity, in order to reduce the social, economic and environmental costs of wildfire. A lot of resources are allocated towards fire suppression every year, but equal priority should be given to prevention efforts; when the fuel is reduced the fires will be reduced. Prevention needs to be done on the landscape level, and it is of the utmost importance to consider fire risk in landscape planning and to promote fire prevention education by running campaigns in order to raise awareness among all the different members of the population. The campaign should aim to provide information to the public which is as scientifically and technically accurate as possible, to improve planning and development of risk communication, both at a local and country level.



# 1. Introduction

### 1.1. Objectives

There is growing understanding that any information and awareness strategy should be tailored and based on prior research.

The perception society has of the risk of forest fire determines to a large extent people's response in emergency situations, as well as public support for forest management policies and actions which fire prevention and management services perform in the area. In general, this social perception determines thought and action, and affects all actions performed in the context of forest fire risk management, generally perceived as a catastrophic and random element, as well as its effects.

When communicating the risk, the communicator must provide the public with reliable information on the type of risk they are exposed to, as well as the possible effects at different levels (social, economic and environmental). Generally, risk communication will involve a discussion on the negative impacts as well as the probability that they occur, the effects they would have and the possible solutions to reduce the risk. All this should promote a greater understanding of the phenomenon and boost awareness on actual exposure to the risk, in parallel with orienting decision-making to reduce vulnerability.

Forest fires (and all wildfires) are perceived by society largely as a threat. The need to promote responsible behaviour and avoid ignitions, the inadequate use of traditional fire (stubble or pastureland burning) and the increasing danger this implies for the population, high-intensity forest fires propagating out of control, have motivated awareness campaigns which portray the forest fire as the enemy to combat using all measures available.

### 1.2. Methodology

To draft a tailored information and awareness strategy, we will inform the strategy based on a holistic research approach. Schematically it can be described as follows:

# **1.** Conduct a desk review and analysis of data related to previous natural disasters and fire disasters from relevant institutions.

Delivering data-driven communications involves collecting information about the previous fire disasters, what is the role of the citizens and how where they affected. On the other hand, it is important to collect data on the damage the disaster has done to the environment. Data and analytics have become very important in communicating messages both in private and in public sector. Data-driven communication it's a viable communication strategy that integrates public relations, data analytics, and intuition to produce a more thoughtful plan. The goal is to use data to inform everything you do from a media and communications perspective.

The framework of data driven communication strategies is presented below, as there are three components to its purpose.



What we are aiming through this process is the results achieved through the third component. The analytics and communication strategy provides a solid basis for robust policy advocacy. The message are effectively communicated, citizens are engaged in the process of preventing fires and preserving the environment, and at a larger scale there is community support and synergies with the public entities.



# 2. Conduct a desk review of documents, strategies and policies related to natural disasters and more specifically to fire disasters

We conducted a detailed desk review of documents, strategies and policies related to natural disasters that are relevant to fire disaster. The aim of the desk review is to align our strategy with these documents, work based on that framework and build upon their experience.

# **3.** Conduct a situation analysis to identify risk communication needs in the current context (environmental, social, economic, and related factors) using data collected from the desk review and consultations with relevant stakeholders.

There are two core ways of doing research in marketing communications, namely qualitative and quantitative. Qualitative research is envisioned to be used in for the needs of this assessment, in order to complement the quantitative research component. Both types of research have distinct characteristics, making each valuable for uncovering a certain, different view of managed communication while obscuring another view. Therefore, both qualitative and quantitative research are needed if we are to properly understand marketing communications needs as distinct phenomena and disciplines, and their respective role.

In order to acquire in-depth and fully inclusive input for the needs of the situation analysis, a series of mixed qualitative methodological approaches are planned to take place with different central and local level stakeholder groups, spread out between Tirana (the capital) and major municipalities throughout the country, while prioritizing the ones more susceptible to natural hazards.

The activities as portrayed in the scheme below will be conducted through the qualitative methodologies of "In-Depth Interviews" (with key stakeholder group representatives and actors from the central and local government levels) as well "Focus Group Discussions / Workshops" (with key Civil Society representatives as well as representatives from the general population, from various socio-economical profiles).

# 4. Conduct a survey with relevant stakeholders and municipalities to assess their needs for information and awareness raising reduce risk and prevent fire.

Levels of fire experience, fire risk awareness or preparedness vary considerably across and within communities. Literature suggests that residents of the urban fringe have less awareness of wildfire risk and greater faith in the ability of fire services to provide protection than people in more rural parts of the rural-urban interface do. An information and awareness strategy need to consider the current level of awareness, perception and knowledge of wildfire risk and its components. For this we will conduct a random nation-wide survey including 700 interviews.

The questionnaire will be focused on Knowledge, Perception, and Awareness of wildfire risk. Preliminary, we provide a group of topics which will be included in the questionnaire. Based on the thorough desk research we will further develop the instrument



# 2. Background Research on Fire Risk

# 2.1. Legal and Institutional Background

From a legal standpoint, and in accordance with the Sendai commitments, the Law "On Civil Protection" (45/2019) was adopted on 18.07.2019 in order to promote disaster risk reduction. This law introduces new concepts: disaster risk reduction (DRR), national & local strategies for DRR, harmonization of urban planning with DRR at local & national level, regional strategies for risk assessment, risk assessment certificates for development projects, civil emergency plans at all levels in line with National Plan for CE and list of critical infrastructure. According to it, disaster risk assessments and a national civil emergency plan, as well as a local emergency plan, must be prepared and adopted at least every three years. The National DRR Strategy and local DRR Strategies, on the other hand, must be updated at least every five years. This law divides the duties and responsibilities of institutions, private entities, civil society organizations and associations and citizens as a whole, along with specific obligations related to disaster risk reduction as described:

#### Parliament

- Approves the budget of NCPA, as part of the budget of the ministry responsible for civil protection.
- Exercises parliamentary control over issues related to civil protection.
- Ratifies international agreements on civil protection.
- Decides on the extension of the disaster situation beyond 30 days announced by the Council of Ministers.

#### **Council of ministers**

Approves and ensures the implementation of policies for risk reduction and civil protection in the Republic of Albania and has the following responsibilities:

- approves the National Strategy for risk reduction, the National Plan for EC, the evaluation of
- risk at the central level;
- can decide for a period of ≤30 days, the state of natural disaster in a part or throughout the country;
- informs the Assembly of the Republic of Albania about the situation created, the risks that arise and the measures taken for managing the situation, as well as seeking his consent for the prolongation of the disaster situation beyond 30 days.

**Civil Protection Committee** as a structure at the Prime Minister Office is responsible for the disaster risk situation. It is the highest, permanent body, responsible for the implementation of policies to reduce disaster risk and civil protection in the Republic of Albania

**Inter-Ministerial Committee on Civil Emergencies** within the declaration of the state of natural disaster is the highest body for the coordination and coordination of the actions of state institutions and private entities, as well as material and financial resources for coping with the natural disaster

- Coordinates the entire activity of civil protection institutions and structures
- Defines the ways and procedures for the use of material and financial resources
- Establishes the allocation of funds for recovery from natural disasters
- Appoints the central operations manager for natural disaster management

**National Civil Protection Agency (NCPA)** is the central institution under the minister responsible for civil protection and responsible for downsizing of disaster risk and civil protection, throughout the territory of the Republic of Albania.

NCPA exercises coordinating, coordinating, leading, technical, supervisory and controlling authority in the field of disaster risk reduction and civil protection.

- NCPA implements the strategic directions and objectives set by the ministry responsible for civil defense
- Coordinates and coordinates the work for drafting the National Strategy for risk reduction, National Plan for EC and Disaster Risk Assessment at central level;
- Cooperates with international organizations and international counterpart organizations in framework of risk reduction & civil protection.
- Through the Civil Protection Training Center conducts trainings of state structures, private and voluntary entities
- Enters into agreements with non-profit organizations, or other legal entities in connection with civil protection

**4 Civil Protection Regional Centers**, 4 regional branches which depends on NCPA that constitute

the specialized institutional network, which implements the tasks for disaster risk reduction and

civil protection in the county.

#### Prefect

- Carry out risk assessment in the territory of the respective region
- Approve and update the EC Plan in the region
- Establishment of DLD at county level
- Ensure the functioning of the monitoring system, early warning, notification and alarm in the territory of the county
- Coordinates the distribution of international assistance in case of disasters at the county level

- On coordinates operational forces at the county level in case of disasters and appoints the head of operation at the county level
- Monitors the implementation of measures taken by the municipalities of the region to reduce the risk by disasters and civil protection

#### Local self-government units

- Draft the disaster risk assessment,
- Draft and review the DRR Strategy
- Draft, approve and update the Local Plan for EC
- Establish the disaster loss database
- Ensure the functioning of the monitoring system, early warning, notification and alarm in their territory.
- Carry out the assessment of damages caused by various disasters in their territory

But, it is important to note that in the event of a natural disaster or other emergency situation, the law 45/2019 "On civil defense" also requires municipalities to raise public awareness and provide public information.

According to the Association for Local Autonomy's 2020 Report "On the Function of Civil Protection at the Municipal Level" some of the main findings are as follows:

- About 53% of municipalities have started the process of data collection and identifying risks throughout their territory, and 62% of municipalities have a level of know-how about the risk assessment methodology.
- Meanwhile, the civil protection legal framework should be enhanced in its fullest form through legislation, which is a useful legal tool to enable local authorities and state institutions to effectively execute the law 45/2019 "On civil defense." The most significant conditions for effective enforcement of the Law on Civil Protection are: preventive investments (39%), financial resources for civil protection (35%) %), drafting a comprehensive legal framework for civil protection (approval of bylaws 35%), establishment of efficient and qualified structures (31%).
- On the other hand, emergency plans are expected to be approved at the central, county and local level to identify and categorize risk, the distribution of resources and funding and other elements as the basis for actions and steps to prevent and address disasters.
- Updated local emergency plans have been prepared by about 38% of municipalities (written in 2017-2018); 38% are currently preparing local emergency plan, whilst 25% of municipalities are not yet operating with a local emergency plan but are monitoring case by case.
- Although the management and administration of the irrigation and water drainage network has improved since 2016, municipalities have highlighted again problems due to floods, dams and artwork. Main causes in the municipal jurisdiction include the

lack of a primary and secondary river protective system in the event of severe plummeting, informal buildings in river banks, etc.

- Only 49% of municipalities have a Community structure developed. The coverage of most impacted vulnerable groups and families through the creation of support groups and cooperation with the voluntary field service groups, cooperation with social services to identify needy communities and families is provided.
- While municipalities have no common model of the civil protection function/service, around 89% of municipalities have set up a civil protection structure comprising of the municipal, fire/rescue, and civil protection unit. Capacity-building of Civil Protection personnel at local level, however, needs to be continued in several fields such as the legal framework, the European quick response approach to natural disasters, training for earthquake management and rescue intervention and the use of technical facilities.

### 2.2. Forest Fire Emergencies

The risk of forest fires has taken on dimensions to the extent that it has raised a concern in all institutional institutions and interventions to stop them have become increasingly complex and difficult. All Albanian counties are interested in fires, although with different severity and at different times of the year. Environmental and climatic conditions favor the development of fire outbreaks mainly in the two seasons of summer and autumn, but other periods may also show problems as occurred during the winter of 2019 when mainly during the second half of February there were many outbreaks of fire in many prefectures. Territory as well as during 2021.

Forest fires is a phenomenon that is increasing in recent years in Albania and in the Balkans and as a consequence a consequence of two factors climate change and human actions activities.

The phenomenon of forest fires affects a large part of the Albanian territory, more than 70% of the municipalities have had at least 1 case of fire in the last 20 years. The extension of the fire emergency in the entire territory of Albania is starting the preparation of possible response scenarios, the preparation of scenarios according to the respective regions.

In forest fire development scenarios, the dynamics of spread, the size of the areas, the perimeter of the spread as well as the different intervention strategies depend on several parameters. For the analysis of the phenomenon of forest fires should be considered some parameters which have a significant impact on possible fire emergency scenarios.

#### Seasonal Tendency

From the analysis of fire data one of the parameters that must be taken into account in the development of scenarios is the seasonal trend of events. From the analysis of identified cases, forest fires have a seasonal tendency where they appear with a higher number of cases during the period June - September. The months that have a high number of identified fires

occur are mainly July, August clearly identifying the annual period in which the risk of fires is highest.

#### Topographic conditions

Topographic conditions of forest areas are important and are a parameter that affects the conditions of fire development by directly affecting their spread. In areas where we have topographic interruptions of forest areas the risk of spreading and expanding fires is lower than in the case of large forest areas which have no interruptions or restrictions from different topographic elements.

#### Human Presence

The presence of residential areas, parks, visited areas and campsites near forest areas create an increase in the level of fire risk. Many of the reported fires are directly related to the causes of carelessness and the presence in these environments of fire elements.

#### Climatic Conditions

During the development of the fire a very important element that must be taken into account in the interventions is the analysis of climatic conditions. During the development of forest fires, the direction of the wind and its intensity is one of the elements that can change the size of the fire and the way it spreads.

#### Potential Cause

The main damages caused by forest fires are related to fatalities, damage to houses, burned hectares, economic damages, etc. The greatest impacts from the analysed damages are mainly related to the burning of forest hectares and economic damages.

We can distinguish two types of fire scenarios:

- 1. *In the first scenario* are the cases of small fires which do not have the possibility of growth without having the favouring of elements such as atmospheric conditions, fuel, terrain conditions, etc. causing immediate interventions (direct attack) with appropriate means from fire brigades to fires manage to control the fire.
- 2. *The second scenario* is presented in cases when firefighting teams face extreme fire lines with high intensity, which make it impossible to quickly control fires with the technique of (direct attack), under special meteorological conditions, the presence of fuel and topographic conditions, the behaviour of fires becomes uncontrollable making the fire power significantly greater than the extinguishing power of group intervention.

In cases where the availability of material resources for firefighting along the required perimeter is slower than the increase in the perimeter of the spreading fire. Under these conditions the fire spreads at a speed greater than the power to stop it turning into a massive fire and the necessary measures must be clearly defined.

Based on different scenarios, preventive measures should be defined for each specific area with high fire risk, starting from education, training, law enforcement, establishment of necessary groups, engineering interventions, capacity building and intervention strategies.

# 2.3. Forest Fire Spatial Background

Forests cover 36.6 % of the land fund, while the pastures cover about 16.6 %, occupying half of the land fund in the Republic of Albania. The total area of the forest fund is 1,051 million hectares, and the area of pasture fund 478 thousand hectares.

The protected areas in 2018 are totally 801 and occupy an area of 523,831 ha, representing 18.2 % the territory of the country's surface, and more than 30.1 %t of the forest and pasture fund. Although a country of small size, Albania has a variety of species (rich biodiversity), a consequence of the diversity, geology and geomorphology, topographical conditions, and very different climate and hydrology by region of the country.

Owing to the geographic position and the diversity of ecosystems in our country there are 3,200 species of plants that account for about 30% of European flora. Fauna is mainly represented by the Eurasian element, but it is from the Mediterranean Hellenic element as well as the Balkan subversion and endemism. Albania also makes a bio corresponding movement of fauna from north to south of Europe, and further to northern Asia, small Asia and bilateral.

Key Statistical Definitions used by INSTAT are

- "Forestry fund" are all forest areas and non-forest small surfaces included forest resources on attachment, related infrastructure, including surface bare which create a harmonious environment with forests and forest land (openings, cliffs, dunes and sandbanks), forest belts defence, isolated groups of trees and shrubs.
- "Pasture Fund" is all area of natural pastures and meadows, trees and bushes within their surfaces used for grazing outside the agricultural land fund.
- "Protected area" are declared those lands, waters, marine and coastal territories set for the protection of biological diversity, natural and cultural assets, attachment, which are managed by legal and modern scientific methods. Protected areas are divided into 6 categories which are:
  - Strict nature reserve
  - National Park
  - Natural monument
  - Managed Natural Reserve
  - Protected Landscape
  - Protected area of managed resources.

Forest preservation is an important element, and the definition of specific risk areas provides information on preventive and information measures. The process of burning forests creates



as a result large areas of damaged forest and remain unrehabilitated, due to insufficient preventive measures or inaction in time.

The reasons for the fall of fires are various but based on the experience and knowledge so far in 99% of cases of occurrence of these fires as a cause is presented man (direct or indirect) evidence of fires for 2017 confirms the most well this fact. Lightning or forest self-ignition catches only 1% of cases. The fall of fires in forests / pastures where the cause is human occurs from carelessness, ignorance, pyromania as a disease or pure purpose.

Fires caused by negligence or ignorance, mainly include fires caused by people working in forests or pastures who perform operational work in these areas. These fires usually occur in early spring when the barren vegetation from last year is dry and the new vegetation has not yet started. Here as the cause of fires are collectors of forest fruits, medicinal plants, finders, ferrets or even tourists.

The following figure presents data from INSTAT for the recorded level of forest fires from 2012 to 2021. According to the data, the year 2012 saw the most forest fires with 584, followed by 2017 with 436. Meanwhile in 2014 there were only 13 fires. Between years, the number of fires varies between 30 to 120.



Figure 1: Number of Forest Fires (2012 – 2021)

Source: INSTAT, Fires in Forests and Pastures by Type and Year, (2022)

#### The table below shows in specific detail the typology of Fires

#### Table 1: Fires in forests and pastures by Type (2012 – 2021)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of fires in forest	584	71	13	118	61	436	53	32	55	36
Number of fires in pasture		23	34	35	0		19	4	14	6
Permeated area Forest and Pasture			60		1,322	18,161	1,974	279	447	2,545



-From which the surface burned in Forest and Pasture	4,756	814	50	250	181	14,805	238	42	339	18
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Source: INSTAT, Fires in Forests and Pastures by Type and Year, (2022)

#### Figure 2: Burned Area in Ha (2008 – 2020)



Source: Ministry of Defence, National Civil Defence Agency

The summer season of 2022 was accompanied by large increases in temperatures, greatly increasing the possibility of fires in forests, areas with bushes, pastures, etc., as a result of these high temperatures that have covered the entire region, they have appeared throughout the country 887 fires (81 during June, 358 during July, 335 in August and 113 during the first 15 days of September).

The most problematic fires are those that affected the prefectures of Shkodra, Vlora, Fier and Durrës. Graphically, the distribution of fires is presented as follows:

Figure 3: Fire outbreaks by county (June - September 2022)





Source: Ministry of Defence, National Civil Defence Agency, Analysis of the fire situation during the period June - September 15, 2022

The damage caused is significant in pastures, bushes, olive groves, forest areas and houses. According to the reports made by the local government structures, the damages caused by the fires according to the prefectures are presented according to the following table:

County	Humbje Jete	Lëndime Persona	Ndërtesa	Shkurre (ha)	Ullishte (rrënjë)	Pemëtari (rrënjë)	Tokë bujqësore (ha)	Kullote (ha)	Ahishte (ha)	Lis/Dushk (ha)	Pisha (ha)	Total rrënjë	Total hektarë
Berat	0	0	12	131	1462	365	15	12	2	2	61	1827	225
Dibër	0	0	2	35	0	0	0	2	8	12	3	0	59
Durrës	0	0	3	172	450	0	0	0	0	0	43	450	216
Elbasan	0	1	1	141	1282	10	0	0	6	32	25	1292	205
Fier	1	0	10	776	8579	1574	152	0	0	3	6	10153	937
Gjirokastër	0	0	6	284	60	300	38	0	0	53	1	360	375
Korçë	0	0	7	12	0	0	8	0	0	22	1	0	43
Kukës	0	0	1	3	0	0	0	1	7	8	0	0	18
Lezhë	0	0	1	276	0	0	1	0	0	111	37	0	424
Shkodër	0	0	13	459	696	262	33	1	0	26	41	958	560
Tiranë	1	11	11	93	2475	0	3	0	0	0	0	2475	95
Vlorë	0	0	14	717	6430	0	13	63	0	0	79	6430	872
Total	2	12	81	3100	21434	2511	261	79	23	269	297	23945	4029

#### Table 2: damages caused by fires (June – September 2022)

Source: Ministry of Defence, National Civil Defence Agency, Analysis of the fire situation during the period June - September 15, 2022

The prefectures with the largest burnt areas are Fieri, Vlora and Shkodra, prefectures which also had the largest number of fire outbreaks during the past year. Graphically, the burnt areas according to the prefectures are presented as follows.

Figure 4: Areas burned by county (June – September 2022)





Source: Ministry of Defence, National Civil Defence Agency, Analysis of the fire situation during the period June - September 15, 2022

According to expert assessments carried out on the ground, 4,029 hectares were reported burned, of which 3,100 ha of bushes, 261 ha of agricultural land, 79 ha of pasture, 269 ha of oak, 23 ha of beech and 297 ha of pine. 21,434 olive roots and 2,511 different orchard roots were also burned.

#### Figure 5: Burned Areas by type of vegetation



Ministry of Defence, National Civil Defence Agency, Analysis of the fire situation during the period June - September 15, 2022

From an overview at a prefecture level, it was noticed that the most problematic prefecture was Shkodra, with 178 fire outbreaks in total during the summer months, followed by Vlora and Fier, where the greatest damages were found in forest areas, agriculture and olive groves. In some areas, such as in Tirana and Gjirokastra, there has been a need of involvement of air forces.



In Shkodra prefecture, the total number of fires was 178, of which the municipalities that had the highest number of fire outbreaks are Vau Dejës with 67 fire outbreaks, Malësia e Madhe with 54 and Shkodra with 43. The most problematic fires in Shkodër prefecture, in which there was also greater commitment of forces, were Ura e Shtrenjtë, where there was 674 ha of burned area, 262 forces engaged, and Ndërlysaj, 419 ha.

In the prefecture of Vlora, there were a total of 170 fires, as a result of which the greatest damages were found in forest areas and olive trees. The most problematic areas have been in: Sazan Island, Çika Mountain, Lezhan, Dushkarak and Finiq, in which there has been a greater commitment of forces and means. In Fier prefecture, there were 123 fire outbreaks, which were mainly in agricultural and olive groves.

In the prefecture of Tirana, the largest number of fires, 95 in total, was in the municipality of Kavaja. The most problematic focus in which the capacities at the central level have been engaged, as well as intervened from the air with the Cougar helicopter, is the one in the village of Gjysylkane, Peze Administrative Unit.

In the prefecture of Berat, 59 fires, as a result of which, large damages were found in forest areas, but even greater in areas with olive trees. The most problematic outbreak was reported in Plasnik te Madh with 322 ha of burnt areas.

In the prefecture of Durrës, the number of fires in total was 59, from which the municipality of Krujë had the highest number of problematic fires outbreaks, but also the village of Shetaj.

In the prefecture of Gjirokastra, the most problematic focus in which the capacities have been engaged even at the central level by intervening from the air with the Cougar helicopter and the PZL M-18 planes that came from Greece, after the request for help to the ERCC. This hearth of fire involved the municipality of Dropull and Finiq, reaching the border of the municipality of Saranda.

Dibër Prefecture has had 30 fire outbreaks, 2 of which have required the engagement of capacities at the central level.

The prefectures with the least problems seem to be Kukës, Elbasani, Korça and Lezha.

During this summer season, unlike last year, Kukës Prefecture had a very small number of fires, 11 in total, which were managed by local government structures and did not require the commitment of capacities at the central level. Also, although two of the prefectures with the largest forest area, Elbasan and Korça prefecture have not presented any problematic situations during this summer. The most problematic fires have been in the municipality of Gramsh. Compared to last year, the prefecture of Lezhë has had a better situation, 23 fire outbreaks, of which the most problematic are in the municipalities of Mirdita and Kurbin.

### 2.4. Lessons from the Mediterranean Region

Most countries in the Mediterranean basin are facing the same emergency regarding rural fires. Their forest lands are burning out year after year through small fires, but ever more frequent the conditions are perfect for fire crises difficult to keep under control, resulting in major environmental and economic damages and severe risks for human life. The most recent



'megafires' have shown how the landscape, forests, current firefighting systems and society as a whole, are not prepared for these fires exacerbated by climate change and socioeconomic changes, as land use changes, urbanization or increase of forest flammability.

WWF's report, The Mediterranean burns 2019, analyses what is happening in the north Mediterranean region that causes it to burn in increasingly dangerous waves.

It shows that fires in the Mediterranean basin share a similar pattern, but not all the countries run the same risk. The following table shows the number of fires and the area burned per year in each Mediterranean country.

	Number of fires	Area burnt	% number of fires per forest area	% forest area of the country burned each year
Spain	12,174	96,406	0.05	0.35
France	1,645	7,032	0.04	0.18
Greece	9,222	50,202	0.14	0.77
Italy	7,855	72,945	0.07	0.66
Portugal	22,693	139,672	0.46	2.84
Turkey	2,397	6,665	0.01	0.03

#### Table 3: Average number of fires and area affected per year between 2009 and 2018

Source: WWF from the official statistical series of the Mediterranean countries and the European Forest Fire Information System (EFFIS)

Portugal has suffered the most from forest fires in the Mediterranean, with more forest fires and more hectares burned in the last 30 years. Every year, Portugal accounts for 35% of the region's fire incidents and 39% of the affected area. An average of 3% of Portugal's forests burn each year.

The analysis of fire disasters, defined as the number of fires per hectare of forest, lists Greece, Italy, and Spain as the countries with more fires, after Portugal. In terms of the percentage of forest area burned each year, Greece follows Portugal with 0.77%, Italy with 0.66%, and Spain with 0.35%.

The less affected countries regarding the number of fires and burnt areas, are France and Turkey which have some particularities with other northern Mediterranean countries that justify their lower risk. In France, the rural abandonment process happened few decades earlier, which means that their forests are becoming older so they are more resilient. Turkey



has a less flammable landscape, because planned forestry operations continue throughout the country.

#### **Burning Territory**

The flammability of Mediterranean landscapes is extremely high and increasing. There are four key explanations to understanding Mediterranean Europe's particularly complex situation:

#### 1. Rural abandonment and depopulation

The strong depopulation and ageing of the population have forced the abandonment of all traditional agricultural activities. The inefficient rural development policies of the entire region have proven ineffective for settling the population and generating jobs in rural area. Thus natural vegetation, shrubland, young pioneer forest stand, but also monocultural plantation colonizing the landscape are now increasing its combustibility and flammability.

While rural abandonment means fewer people living near forests who can start fires, the increasing flammability of these forests overrides this fact and causes fires to burn more intensely. Rural abandonment is a reality in most countries in the region, but its history and evolution is somewhat different from country to country.

#### 2. Agricultural abandonment

The continued abandonment of traditional land uses is drastically changing the vegetation. The end of herding and the abandonment of crops have contributed to an increase of forest areas and the disappearance of the traditional mosaic landscape. In some Mediterranean areas, the percentage of agrarian areas abandonment reach 30%. The main problem is that many countries do not have any effective forest management in those growing forests. Although agriculture should maintain some areas, this increase of forest area is not necessarily bad: with effective management and adapted silviculture to reach next stages of the dynamics, would be positive for biodiversity, climate change mitigation, water cycle or people.

#### 3. Lack of effective forest management

The overall lack of profitability of forest exploitations and the absence of a common European Forestry Policy focus to natural hazards prevention and climate change adaptation, has resulted in a drastic reduction of forestry management. In some Mediterranean territories today, barely 30% of the net annual forests growth is exploited. In between 1950s and 1970s, some northern Mediterranean regions were reforested. Monocultural plantations were quite important to increase the economy of some rural regions, fundamentally for the wood and cellulose exploitations or to avoid erosive phenomena and to decrease flood risks.

#### 4. Territorial chaos: a continuum mixing houses and trees

The drastic increase of areas where forest land is in contact with constructed areas, the socalled wildland-urban interface has made fire hazard increasing and fires to spread today with the same ease through forests, plantations, crops, gardens, houses or urban developments in many countries. The continues movement of people along roads and the intense use of natural space for recreation increase fire incidence due to negligence or accidents. The exact same situation emerges in the suburbia of large cities. Fires in interface areas are more dangerous and pose a growing problem with severe social and economic consequences. Fires jeopardize the safety of people, houses, infrastructure and even firefighting - services.

There are two interface situations in the Mediterranean region. On the one hand, towns or isolated houses in rural areas in the interior. In much of the region, the end of herding, the extraction of firewood and the cultivation of small orchards have erased the ancestral mosaic landscape that protected towns in case of fires. On the other hand, the chaotic urban planning process of the coastal strips and peri-urban areas of large cities has caused housing to invade forests. All coastlines are potentially very dangerous: from Pontevedra (Spain) to Nice (France), and the coastal areas of Italy, Greece and Turkey, and the Balearic Islands, Canary Islands, Corsica, Sicily or Sardinia. The coast for the most part lack prevention or self-protection plans.

Albania, as a country with similar geographical and climatic features, is affected by the same factors that explain the particularly complex situation in the abovementioned European areas. Rural depopulation and ageing have forced the abandonment of all traditional agricultural activities, increasing the landscape's combustibility and flammability. Another issue in Albania is that there is also no effective forest management in abandoned agricultural areas that are now growing forests. This makes these areas more flammable in the event of a future fire. Furthermore, as urban areas expand rapidly, there is an increase in the number of areas where forest land comes into contact with constructed areas. This has made fire hazard increasing and fires to spread today with ease due to negligence or accidents.

#### The Coming Fires: Megafires and Climate Change

The Intergovernmental Panel on Climate Change (IPCC) warns that Mediterranean ecosystems are among the world's most vulnerable. The expected temperature increase during this century will surely worsen the extreme climate episodes in this region: more pronounced droughts and more and longer intense heat waves that will result in dry vegetation ready to burn. Most surely, summer fire periods will intensify or expanded.

A recent scientific study led by researchers of the University of Barcelona, published at the end of 2018, suggests that even if the Paris Climate Agreement is observed and the temperature increase remains at less than 1.5° C, the burnt areas of the Mediterranean region will be 40% higher than today. Moreover, at the worst climate scenario with a temperature increase of 3°C, this would duplicate.

However, the effects of global warming are already evident, with the region becoming warmer and drier. These effects of climate change can be summarized in three points:

**1. Alteration of fire patterns.** The way in which the territory is burning, and flames are spreading has intensified. The combination of long heat waves, accumulated droughts, low humidity in the air and very strong winds in some places, together with a very dry vegetation and very flammable forests, is the perfect cocktail for much quicker fires with unseen

virulence. Climate change predictions confirm the trend of growth of frequency and intensity in the future.

**2. Longer and less seasonal risk periods.** Climate change has altered the distribution of fires throughout the year. The high fire risk season is no longer limited to July to September. Summers last an average of five weeks more than 40 years ago. In 2017, the most critical months for extreme fire episodes were June and October, when deadly fires devastated Portugal and the north of Spain.

**3. Expansion of the risk areas.** Last summer, for the first time in history, Europe was simultaneously burning from north to south and from east to west. The impacts of climate change have transformed the summers of temperate regions, traditionally mild and humid, into long hot and dry periods. The areas that currently are less humid will extend to the north from the current Mediterranean areas, and the size of the high humidity area that surrounds the Alps and other mountain ranges will be reduced.

#### Lessons Learned

In countries that are still not affected by the situation, with large forest extensions and little experience in forest fires, forestry services haven't had the chance to address the problem and to develop tactics and strategies. WWF report lists the lessons learned, since it is believed that climate change will bring future climate conditions that will make the Mediterranean ecoregion current exposure expand.

#### - Fires are a social problem

Forest fires are primarily caused by human activity. The WWF believes that only by understanding the causes of fires will it be possible to reduce the number of incidents. In the Mediterranean region, 30% of the causes of fire incidents are unknown. Furthermore, the causes of more than half of all intentional fires are unknown. WWF believes that governments should examine their respective social contexts and rely on ambitious social prevention policies based on a study of the causes and motivations.

#### - Suppression is important, but not the solution

The current fire management policy, based in many countries solely on an advanced firefighting system, is obsolete and ineffective for combatting mega fires. Governments are addressing fire problems as they did 40 years ago, but the problem has undergone a radical change. This policy was effective under normal climate conditions and when the territory was used but they are clearly insufficient for avoiding extreme events with the current landscape and climate conditions.

Each time, outbreaks are fought sooner, but when an outbreak is defiant due to certain fuel loads and extreme climate conditions, it is impossible to put it out, inspite of having more means to fight them. Statistics show that irrespectively of how effective we are in early suppression we fail to reduce overall fire risk. Indeed, in the lack of proper forest management and fire prevention measures, the putting out small or medium size fires, could even aggravate the problem as suggested by the "suppression paradox." There is only one effective way to counter the growing risk of forest fires and that is to treat suppression as a "last resort" and refocus the energy and investments in the prevention of forest fires through active forest management, risk planning and vegetation/infrastructure management at the landscape level, social mobilization and ultimately climate resilient spatial planning. Meanwhile, firefighting services will continue to play an important role in civil protection and fire management.

#### - The problem is the actual landscape

The current fires are not the problem, they are the consequence. Flames are only the visible part of a deeper problem: the Mediterranean landscape has become a large powder barrel. Today, much of the north Mediterranean arc is a flammable forest landscape due to current ecological stage of forest/shrub land, the lack of land management and a growing interface with urbanization. WWF is convinced that the only way to avoid that large fires keep devouring whole districts each summer is to work for a territory that is less risky due to true urban and landscape planning and with forest less flammable and more resilient to climate change, recreated through active forest management and long-term multi-purpose spatial planning. The core idea is to create landscapes to reduce emergencies, more than defending them from emergencies.

#### - In view of limited resources, prioritize: High firethreat areas

The large forest areas of the European Continent and the Mediterranean region, the limited financial Resources assigned to the forestry sector and the succession of recurring fires always in the same areas force governments to prioritize their prevention tasks.

In Spain, WWF has been defending for years the idea that identifying the High Fire-Threat Areas (HFTA) based on the frequency and hazard levels, and prioritizing prevention plans in these areas, could result in a major decrease of the effects of large fires. This was developed in France for both fire-fighting infrastructure and day-by-day information of the general public on forest risk. In Turkey, high-fire threat areas have been prioritized and accordingly, more resources have been allocated to fire management.

For this, governments must focus on having deep knowledge, for each region, of the areas where fires are more likely to start and which landscapes are most vulnerable to extremely severe consequences from a social and environmental standpoint, paying special attention to determining the areas that are potentially beyond extinguishment capabilities.

#### - The need to actively manage vegetation and forest flammability

In the search for landscapes more resistant to megafires, there raises the need to start planning for measures that will reduce forest fuels and promote the resilience of settlements, productive space and infrastructures. The active management of vegetation with the aim of climate resilience is also an important tool that needs to be developed. Such measures should become an inherent part of fire prevention designs and should be actively promoted by local authorities and central services.

Prescribed and planned burnings, as well as the controlled management of low-intensity fires, are other potential tools. Although national legislation and know-how on the use of this toll vary across the Mediterranean, it should be considered as a possibility for both reducing fire

risk and easing tensions surrounding the use of fire as a traditional land management tool. Their use, however, should not be generalized because they may be incompatible with certain ecosystems or competent services may lack the technical capacity to use them. In the short term, prescribed burning might be helpful, but in the medium and long run, boosting the demand for biomass as energy might encourage better forest management and harvesting.

Overall, WWF believes that European forestry administrations, civil protection authorities, and local governments must actively promote the creation of resilient ecosystems through the implementation of measures aimed at reducing forest fuels, recreation of the landscape, and fire vulnerability in high-risk areas. Such interventions can coexist with forest conservation as long as they are part of a landscape planning process that ensures they are implemented in a systematic manner. The WWF report states that it is past time to stop fighting fires and start managing them.



# 3. Situation Analysis

### 3.1. Delivery of Communication

Based on the findings from both community and general public, as well as stakeholder consultations, the question of why wildfires continue to break out, is of considerable concern, especially within a context of increased incidence of the phenomenon, as well as a likely extended fire season, when looking at the incidence rates of the last three years. From a communication perspective past initiatives to attempt to tackle the problem have had very limited impact and have not made any real difference for the intended beneficiaries. A critical issue is the lack of facts about the technical, social, economic, and ecological implications of wildfires. This is likely due to general lack of data collected, analysed or used to design strategies to address fire issues. Consequently, publicity and prevention initiatives to deal with the problem are being launched with unclear policy and legal frameworks, an absence of any clear profile of the issues involved and no clarity about the political commitment at various levels of government to deal with the wildfire problem. It is difficult to be clear, motivated and effective in the absence of facts, insights and knowledge. This in turn creates challenges when it comes to identifying appropriate communications actions, recommending technical contributions, establishing training, suggesting policy/legal changes, measuring progress or the impact of existing initiatives or selecting useful alternatives. To date the general approach has been to conduct campaigns, most of which have not been outcomebased; rather they have been conglomerations of activities without indicators on achieving desired behaviour change. According to stakeholder as well as general public input it is indicated that materials created for recent campaigns (i.e. posters) may have "missed the mark" in several extents, being either seen as "meant for somebody else" or incomprehensible to the intended beneficiaries. Some villagers described particular imagery as "scary" while others remarked that a poster lacked any real "human" connection.

Perhaps the most critical issue for effective communications initiatives is the model of delivery. To date, the tendency has been to structure communications components of development initiatives around traditional "campaign" models. Herein can be found a core weakness that helps explain why many well- intentioned "communications for development" (CD) initiatives in all sectors fail to change perceptions and understanding, deliver strong positive results or help bring about change for people, particularly those residing in areas with a high incidence of the phenomenon.

When looking at the desk review findings, consultations as well as data gathered by the survey, it is suggested that little impact has been made and little of direct benefit has been delivered to communities by following the "same-old" campaign practices time and again. At some point the model itself has to be assessed and on three critical levels the "same-old" campaign model fails to engage the intended beneficiaries, which is an essential ingredient in helping people understand the benefits of accepting change;



It should also be noted that in most campaigns beneficiaries are regarded as "target audiences", consumers, whose role is to accept what is being delivered from the top, and to act upon it accordingly – i.e. in ways intended by those sponsoring, creating and delivering the campaign. The only opportunity for interaction in this approach is for the target audiences to "buy into" what they are being told. Manifestly they are failing to do so. Input from consultation with stakeholder groups suggests that communication strategies on fire management (and on environment preservation in general) have by and large adopted the traditional power-holders model based on "creating awareness" in and delivering messages to "target audiences." It is the expectation of the power-holders and planners that as a result of their campaigns, targeted audiences will learn "what they need to know" and change their perceptions, behaviours and practices accordingly and as expected. While this approach may "sell" beer, soft drinks and cell phone services it is doing little to bring about substantive and sustainable change at the community level.

Governments, donor agencies and other stakeholders directing awareness campaigns too often simply assume that they "know" what is needed and what is best – despite the fact that for the most part they never truly consult with those for whom they are planning. Campaigns are, for the most part, designed in an ad-hoc manner, mostly following standard generic principles. They mostly seem to determine beforehand, based on the priorities and mandate of their projects, what they want to deliver and consequently have little inclination to listen first to what intended beneficiaries may have to say or to respond to what they may want to know. Little consideration is given to facilitating active and effective engagement on the part of potential beneficiaries, to help them begin to participate directly in dialogue about issues that are important to their well-being and improvement of their lives.

In the case of wildfire mitigation, some past campaigns were designed and delivered with little or no sensitivity towards or even awareness of the geographical setting, without considering that reasons for burning fields are not the same across the country. People living in concentrated woodland regions have quite different views on why they burn bushes compared to pastoralists who reside in grassland regions. The danger time for wildfires also differs from one zone to another.

Therefore, running an identical campaign for the same period of time in every region, ignoring local knowledge and structures cannot be expected to be effective when there is failure to utilize local knowledge or connect with local beliefs to communicate new information and imprint symbols. Consequently, messages often do not "connect" with the public or raise awareness levels or challenge core beliefs, all of which is required for change to be adopted.

The evidence suggests that to date in Albania, most communications initiatives and materials produced related to fire management have been designed and launched with little thought given to intended audiences' knowledge about fires. There has been no analysis of the perceptions and understanding of why and how fires occur or of why village people believe they are using fire for legitimate purposes but may lack understanding of the impact burning and re-burning may have on their lives and livelihoods. Stakeholders also pointed out that often information materials are not "audience friendly;" for example, brochures, flyers and

posters are frequently produced without much consideration of intended audiences' education or literacy level or their reading culture.

Community and stakeholder consultations also indicate that that traditional communication channels are becoming to extent outdated with several target group profiles and the means used to reach them. In example the use of "branded" messages on pens, clothing, or in flyers, posters and brochures has a low impact on awareness-raising. Also, print-based media tools have low receptivity among adults who regards these as materials for school children, that are much more focused towards digital media nowadays.

It has also been observed that while communicators may use a variety of media such as movies, printed materials, radio and to a lesser extent television programmes, they seldom build in evaluative components and hence are unable to demonstrate that their campaigns are having any impact on audiences' or are contributing to mind-set change. Typical communication for development strategies are rooted in the ineffectual paradigm of talking and disseminating information first without listening to intended beneficiaries or those who might be engaged as partner stakeholders. Consequently, communications interventions are launched without any real knowledge of the characteristics of those for whom the interventions are intended.

### 3.2. Narrowing down the Campaign Model

Upon narrowing down of a campaign model, it is important to pick the right influencing personalities to effectively address the public. The discussion approach should be personal and involving and persistent, in order to engage audiences and convince them to take action-which should be the main objective of the initiative. Campaign managers should also succeed in identifying and engaging local opinion leaders, to help promote behaviour change in face-to-face settings, thus leveraging the opportunity to use them as role models for interventions or to provide some motivation to help change social norms and accelerate behavioural change.

A campaign is also important to include behavioural enforcement, with however added support from competent institutions, such as the state police, prosecutor's office and judiciary. Generally speaking, it is very unlikely for perpetrators to be identified and even more so punished by respective institutions, through fines or incarceration. Older community members observed that during the communist era regime, arsonists were punished and neighbours acted actively in reporting the perpetrators. If they failed to do so, they as witness to the act would be held responsible and would face punishment. Today, say villagers, there are almost no bylaws or procedures to encourage such citizen engagement. In fact, most commonly there is expressed uncertainty about who or what actually causes a fire – and whether it is the result of accident or arson. Even when arsonists are known, they either go unpunished or the punishment is not severe enough to convince the public that lighting fires is a crime. What environmental policies and laws there may be are not known to people or

they are contradictory. Feedback from community consultations indicates that the absence of law enforcement directly contributes to low receptivity for anti-fire messages and leads to citizens regarding fires set illegally as none of their business. Campaigns fail to integrate messages with actions; simply put, a change in perception is not enough to change fundamental behaviour.

Throughout the country there is a lack of a sense of "ownership" of forest resources by those who live adjacent to them, and this has serious implications for fire management. A rather slow and unstructured democratization process after the nineties, his has led to the gradual erosion of self-reliance within communities, a loss of traditional knowledge and the elimination of customary laws that "enforced" environmental conservation. The growing dependency of rural communities on government brought with it top-down communication approaches. The entwining of fire with day-to-day living declined and communities lost environmental values such as biodiversity to the point that today these are little recognized in many places.

Regrettably, the very important concept of incentive has also been lost. It is a normal human response to raise the question 'what is good for me?' when asked to adopt any new behaviour. Urbanization according to the community is not helping either, with a high incidence of depopulation affecting areas with a high incidence of the phenomenon, making it particularly difficult to engage the community, not just by raising awareness, but through actual contribution when it comes to signalling or actual fire-fighting if required. Beyond that engagement of remaining population is difficult due to old age; As well as mentality for the able bodied ones, that seem to engage mostly when the fires comes close to their land or house; Indicating a certain level of detachment with more traditional notions of caring the land and surroundings.

## 3.3. Coordination Between Stakeholders

Lack of coordination among stakeholders sends mixed and often confusing signals to those trying to implement campaigns. Content is critical in communication interventions. Problematically, campaigns in Albania against fires have sent different messages – both negative and positive. Furthermore, they have not successfully addressed different uses, perceptions and contexts across the country. For example, while the forest sector calls for a total prohibition on wildfires, the agriculture sector wants to allow some burning so farmers can clear land for farming and to control pests; the wildlife sector also encourages certain levels of prescribed fire to generate new vegetation for both wild and domestic animals. Such unclear and sometimes contradictory policies create confusion and this in turn contributes to inefficient and ineffective inter-agency roles, harmonization, coordination of planning, methodology and implementation or resource mobilization.

Duplication of efforts among various CSOs can also be a problem. Partnership between public and private sectors is often not optimal. Actions are often primarily based on "what



will I get or do" regardless of whether or not the same thing is being done by other agencies. How fire is used can be viewed similarly to how technology is used – both have good or positive uses and bad or negative uses. For example, controlled burning can be used to eliminate or control future hazards. On the other hand, uncontrolled fires cause loss of life, destruction of valuable timber resources and other property and contribute to a decline of species. However, this dual aspect of how burning forest and vegetation can be either positive or negative is not being communicated in a coordinated manner to help village people understand how to adopt appropriate fire uses that are environmentally friendly.

While there may be some reference to controlling wildfires in strategic plans of the line ministries, it is not a priority for most of them. When campaigns are undertaken they are sporadic, usually being run one month or so before the hottest seasons. On a local level not all municipalities seem to proceed on a similar manner, prior to fire season, a product likely to either lack of coordination or limited budgeting. There also seems to be a lack of a strategic communications plan focused on wildfires that includes identified indicators and goals. Some municipalities such as Vlora and Fier implement added measures prior to fire seasons, such as hiring of signallers and activities in schools; Not the case with municipalities such as Durres or Lezha. Volunteering also seems to be more active in the municipality of Fier, in contrast to i.e. Vlora, which was faced with a large number of wildfires this year, however sensitization of local population was very limited.

Considering also that national or local media do not usually report incidences of wildfires except in the cases they get out of hand and political implications are present, in terms of management for such fires. Consequently, there is little nation-wide public understanding of the impact forest, bush and grassland fires have on the environment and the life of people, or how much damage they do to these precious natural resources (physically, economically and socially). It is not surprising therefore that there is little or no public pressure to set an agenda to address what is a critical national challenge.

### 3.4. Reinforcement Approach

One striking aspect of the campaign materials created for past campaigns that were surveyed is the predominance of hard negative messaging. Posters and slogans that are mainly "don't do" messages likely do not offer the most productive approach, especially when messages from different sources may be confusing, sometimes even contradictory. This point was reinforced by community consultations in each of key municipalities included in this study. As a result of, and in response to, community feedback, positive engagement finds ready response and demonstrates potential to support the objectives of the initiative both directly and indirectly. As an example, to support farmers' concern about decreasing yields from the acres they worked input was sought from knowledgeable agriculturalists. The premise being that if farmers can produce more on existing acreage through implementing practical suggestions, the need to slash and burn to clear land to replace the diminishing production from land cleared previously will be reduced. Over time this should contribute to reducing burning.

Rural representatives made a strong case that when visuals had been designed for previous campaigns, nobody even asked them what they thought; the final product just showed up. Reviewing those posters, they offered numerous specific criticisms and offered interesting ideas for messages and images that they felt would prove more effective. Based on this input, particular experimenting should go towards developing creative presentations by community members – including youth and children.

It was also as a result of community input that a "soft" approach should be adopted and hard, negative messaging should be limited, into only some specific scenarios (such as arson), where the first is not an alternative. Social media as well as local TV stations are the primary medium considered for this approach, followed by community meetings in high risk areas. Other topics of interest should be included such as changes that have occurred and are occurring in agriculture, concerns about health care and education and economic needs. The stories should be also told by the people themselves, with the discussion spontaneously to gradually shift towards the topic of environmental damage caused by burning.

The approach should focus is particular rural population that shows little to no interest in the topic of burning amongst villagers. Particular effort should be made to help the villagers feel that the programmes being produced belong to them – and accurately express their concerns and interests. People should be enabled to communicate positively with stakeholders who could provide information and assistance and help open new dialogue with village leaders and other government levels to begin to address issues such as by-law enactment and enforcement.

While addressing the problems caused by burning, there was considerable discussion about fire within the stakeholder consultation groups in the respective municipalities. According to them care should be taken into ensuring to emphasize a positive rather than negative reinforcement scenario wherever relevant, with a strong focus on how rural population can contribute to a more sustainable environment rather than telling them what they should not do. These communities should be inspired to achieve notions such as living in a greener and sustainable environment.

## 3.5. Targeting the Broader Public

According to the stakeholder findings, over 95% of wildfires are either intentional, or unintentional by rural population and land owners, with small such fires getting out of hand. Even though this is the main group for intervention and behavioural change, other target groups from the general public should be targeted with broader messages involving the adaptation of green practices in everyday life, as well as care for the environment through direct or indirect engagement.

Stakeholders do emphasize that climate change has indeed affected the incidence of wildfires, with an expansion of the traditional fire season due to the increase of temperatures. Littering is seen as another, if not starter of fire, likely a facilitator for its spread within a forest area.

Both stakeholder as well as community groups emphasize that education is necessary at early age, both in terms of awareness of the phenomenon, but also as a means towards learning how to function through environmentally friendly means of living.

Majority of participants believe that it is through such education especially during young age that change can come and affect older population too, that at this stage is mostly perceived to listen negative messages about enforcing the law upon them, that however it is hard to enforce due to week law enforcement institutions and a generally weak record track of identification and punishment of offenders.

A particular focus should also be given to touristic areas, with tourism becoming a main drive for these local economies, as well as one of the country's more sustainable economic drives with future potential. A sense of care and responsibility for the land that facilitates living conditions and sustainability for the local population should be part of the behavioural change effort through this and future campaigns.

# 4. Information and Awareness Assessment

The information and awareness assessment is conducted through a survey of 700 nation-wide respondents, containing several modules to test the level of information and awareness about the fire risk and prevention. Together with the previous analysis, the data is then used to form the information and awareness strategy.

# 4.1. Demographics Profile of Respondents

The survey firstly consisted in general questions about the respondents, which are presented in Figure 6, 7, 8 and 9. Specifically

- 53% of the respondents were male and 47% female (Figure 6);
- 29% of the respondents were from age 26 to 35 years old, 23% of them were between 36-45 years old, 20% 46-55 years old, 17% were 55+ years old and just 10% were from age 18 to 25 years old (Figure 7);
- The majority of respondents were from Tirana, 28%, followed by Lezha, Durres, Shkodra, Fier, Elbasan, Korca, Vlora, Dibra, Berat, Kukes, and Gjirokastra (Figure 8);
- Almost half of the respondents had graduated with a master's degree, 30% with a bachelor's degree, 15% had received a secondary education, while 6% held the title as a PhD and just 1% were attending a primary education (Figure 7).

#### Figure 6: Gender of respondents



Source: Fire Risk Information, Perception and Awareness Survey

### Figure 7: Age of respondents





Source: Fire Risk Information, Perception and Awareness Survey



#### Figure 8: Region of respondents

Source: Fire Risk Information, Perception and Awareness Survey



#### Figure 9: Education level of respondents

### 4.2. Information about the Phenomenon

The second part of the survey, consisted in questions about the respondents' information on the phenomenon.

When asked about their information on the wildfire phenomenon, half of the respondents claimed that they had some information on the subject, while 20% of the respondents were neutral, and 20% of them had a lot of information. 9% of the respondents had a little knowledge and just 1% had no knowledge on the subject.

Figure 10: How familiar are you with the phenomenon of fires (specifically in the case of forests, bushes, pastures, etc.)?



Source: Fire Risk Information, Perception and Awareness Survey

In Figure 11 below are presented different ways of which the respondents get informed about the wildfire phenomenon. As shown in the figure, TV appears to be the mean by which the respondents were informed the most, 41% of the respondents, followed by conversations with friends and family, at 37%; social media, at 29%, news web portals at 25% and 19% responded that they were informed in other ways.

# Figure 11: Where did you get the information about the fires? Where do you usually get information about this phenomenon? (Multiple Answer)



Source: Fire Risk Information, Perception and Awareness Survey



Even though TV appears to be the information channel from which most of the respondents get informed, differences can be noticed between age groups. As shown in the figure below, the respondents from 18-25 years old mainly get informed concerning this issue by TV, 66% of the respondents from 18-25 years old. More than half of the respondents from this age group, 55%, also choose social media as a source of information, followed by news web portals (42%) and conversations with friends/family (37%). 45% the respondents from 26-35 years old also choose TV as their main information channel, followed by conversations with friends/family, social media and lastly news web portals.

The figures change when accounting for the respondents from age 36-45 and above. They mostly get informed about fires from conversations with friends/family and TV (38% of the respondents from 36-45 y.o, 42% of the respondents from 46-55 y.o and 34% of the respondents 55+ y.o). However, TV appears to be at a lower lever compared to conversations with friends and family for the respondents from 46-55 years old (33% compared to 42%).

Social media counts also as an information channel for the respondents from 36-55 years old, around 25%, followed by news web portals, around 20%. A considerable amount of 55+ year-old respondents, 29% have answered that they get informed for fire issues in other ways. The least chosen information source from this age group is social media.







Rating their perception on how much our country is affected by this phenomenon from 1-10, where 1 represent 'Not affected at all' and 10 'Very affected', at average, the respondents' perception was rated at 7.32 points out of 10, as presented in the figure below.

Figure 13: To what extent do you think our country is affected by this phenomenon?



Source: Fire Risk Information, Perception and Awareness Survey

The figure below presents how the perception changes in between regions. It can be noticed that respondents from Shkodra think that our country is affected by this phenomenon at a rate of 7.85 points out of 10, while respondents from Gjirokastra, rate this at 6.36 points.





Source: Fire Risk Information, Perception and Awareness Survey



The following figure shows how this perception differs between respondents with different academic backgrounds. Respondents with an educational level above the primary education, rate that wildfires affect our country at 7-7.6 points out of 10, while respondents with a primary education rate it at a lower level, 6.22 points out of 10.





When accounting for the responses from different age groups, not a lot of differences can be observed. Their perception varies within a small interval, from 7.2 to 7.4 points out of 10.

Figure 16: To what extent do you think our country is affected by this phenomenon? (by age group)



Source: Fire Risk Information, Perception and Awareness Survey

Source: Fire Risk Information, Perception and Awareness Survey



When asked about the last time they heard about the phenomenon, the majority of the respondent expressed that they had heard about wildfires within the last three months. 34% of the respondents answered that it has been less than a month since they heard about it, 26% answered one month and 33% three months. While the percentage of the respondents who heard about the phenomena six months ago was 4%. Respondents that heard about it a year ago or even more than a year ago, were at an inconsiderable percentage (1%).





Source: Fire Risk Information, Perception and Awareness Survey

Then, the respondents were asked about how long has it been since the last time they or the area where they live has been effected by fires. As presented in the figure below, 26% of the respondents stated that it has been three months since the last time they or their area has been affected by fires. Respondents who have been affected by fires one month ago were at a lower percentage, 17%, followed by 15% of the respondents who have been affected within the last month, 14% more than one year ago, 11% since a year and lastly 9% that were affected 6 months ago.



Figure 18: Have you personally or the area where you live been affected by fires in recent years? How long has it been since the last time?

Source: Fire Risk Information, Perception and Awareness Survey



The respondents were then asked about their awareness on the causes of the fire that has affected their area. While around 99% of fires are caused intendedly or not intendedly by humans, the respondents from the survey say that only 57% are caused by humans (29%+28%) and 13% by natural cause. A considerable amount of respondents, 29%, stated that they are not aware of what caused the fire.





#### Source: Fire Risk Information, Perception and Awareness Survey

From the figure below, it can be noticed that male respondents are more aware that the fire has been caused by humans (32%+29%) of males), while a slightly smaller percentage of female respondents believe that (26%+28). 31% of the female respondents say that they do not know what caused the fire, compared to 26% of male respondents.





Source: Fire Risk Information, Perception and Awareness Survey



The table below presents what respondents from different regions think of the causes of fire in their area. More than 40% of the respondent from Berat, Elbasan, Korca think that the fire that has affected them or their area has been caused unintendedly from negligence of humans, while 30-39% of the respondents from Gjirokastra, Kukes, Shkodra and Vlora think that the fire has been intended for personal interests. Respondents from Durres, respond at the same level for both of these fire factors caused by humans, 29.2%.

On the other hand, 32-36% of the respondents from Dibra, Fier and Tirana are not aware of the causes of the fire that has occurred in their area.

	Yes, natural causes	Yes, non- intended fire from negligence	Yes, intended fire for personal interests	No, I don't know
Berat	15.6%	43.8%	25.0%	15.6%
Dibër	23.5%	20.6%	23.5%	32.4%
Durrës	15.4%	29.2%	29.2%	26.2%
Elbasan	12.2%	42.9%	20.4%	24.5%
Fier	11.3%	24.5%	28.3%	35.8%
Gjirokastër	13.6%	27.3%	31.8%	27.3%
Korçë	22.2%	42.2%	13.3%	22.2%
Kukës	11.5%	26.9%	38.5%	23.1%
Lezhë	11.8%	34.2%	19.7%	34.2%
Shkodër	19.4%	19.4%	32.3%	29.0%
Tiranë	9.7%	27.2%	30.8%	32.3%
Vlorë	4.9%	22.0%	51.2%	22.0%

#### Table 4: Do you know what was the cause of the fire? (by region)



The following figure shows the differences on how aware are the respondents on the cause of the fire, sorted by their educational level. Firstly, it can be noticed that the higher the educational level, the lower is the percentage of the respondents who state that the fire is caused because of natural causes, and the higher is the percentage of respondents that chose that the fire was caused from the human factor, either unintended or intended. However, this does not apply to the respondents who have a primary education, 78% of which say that the cause of the fire is the human factor.

#### Figure 21: Do you know what was the cause of the fire? (by education)

- Ves, natural causes Yes, non-intended fire from negligence
- Yes, intended fire for personal interests No, I don't know

Primary education	11.1%	44.4%	D	33	3.3%	11.1%
Secondary education	24.5%	23.5	5% 18	8.6%	33.3%	
Undergraduate, Bachelor's Degree	14.4%	33.7%		22.6%	29.3%	0
Postgraduate, Master's degree	10.0% 28.2%		34.1%		27.6%	%
Postgraduate, PhD	7.3%	29.3%	34.1	%	29.3%	0

#### Source: Fire Risk Information, Perception and Awareness Survey

As presented in the figure below, there cannot be noticed any significant difference between age groups of the respondents. Respondents from 18-15 years old responded equally for both of the human factors, 30.1%, while 28.8% did not know the cause of the fire. 31.6% of the respondents from 26-35 years old, were not aware of the cause, followed by a slightly smaller percentage, 28.2% that responded that the fire has been intentional. The other age groups, from 36-55+ years old, responded at a higher rate for the unintended human factor to be the cause of the fire. Lastly, the percentage of respondents from all age groups remains smaller when accounting for the natural factors, compared to the other factors, and additionally the percentage of respondents who do not know the cause of the fire is at a considerable level

#### Figure 22: Do you know what was the cause of the fire? (by age group)





Responsible for managing the fires there are two levels of authorities, local ones which include: Fire Protection and Rescue Local Directorates, Municipality, Prefecture, and the central ones which are: National Agency of Civil Defence and Ministry of Defence. Asked about their opinion on how the situation has been handled by these competent authorities, 40% of the respondents evaluate that local authorities have managed the situation relatively good and 28% evaluate it to be very good. While a higher percentage, 34%, evaluate that the situation has been managed very good by the central authorities and just a smaller percentage of the respondents, 31%, say that the central authorities have managed the situation relatively good. Around 20% of the respondents are neutral on the effectivity of the management of local and central competent authorities, 6% say that the management has been relatively good and just 3% say that the management has been very bad.



# Figure 23: In your opinion, how was the situation managed by the local and central authorities?

#### Source: Fire Risk Information, Perception and Awareness Survey

In the tables below, it is presented the opinion of the respondents of each region on how the situation was managed by the competent authorities. Respondents from Berat, Gjirokastra, Korca and Kukes evaluate the management from competent local authorities to be very good, 45-55% of the respondents from each of these regions. While, respondents from Durres, Elbasan, Fier, Lezha, Shkodra, Tirana and Vlora evaluate the local authorities management relatively good. Lastly, a considerable percentage of respondents from Dibra, 38%, have evaluated the management to be neutral (the same amount of respondents from Dibra, 38% have evaluated it to be very good.

Table 5: In your opinion, how was the situation managed by the competent local authorities? (by region)

	Very Good	Relatively Good	Neutral	Relatively not good	Very Bad	l don't know
Berat	53%	38%	3%	0%	6%	0%
Dibër	38%	21%	38%	3%	0%	0%
Durrës	32%	38%	23%	2%	3%	2%
Elbasan	24%	47%	24%	2%	0%	2%
Fier	28%	43%	17%	8%	0%	4%
Gjirokastër	50%	23%	27%	0%	0%	0%
Korçë	44%	24%	13%	11%	0%	7%
Kukës	46%	42%	8%	4%	0%	0%
Lezhë	20%	42%	24%	8%	5%	1%
Shkodër	27%	58%	15%	0%	0%	0%
Tiranë	13%	40%	22%	12%	6%	8%
Vlorë	41%	44%	15%	0%	0%	0%

Source: Fire Risk Information, Perception and Awareness Survey

Accounting for the competent central authorities, respondents from Berat, Dibra, Gjirokaster, Korca, Kukes, Shkodra, Tirana and Vlora have stated that they have done a very good job, while respondents from Durres, Elbasan, Fier and Lezha have evaluated their management to be relatively good.

	Very Good	Relatively Good	Neutral	Relatively not good	Very Bad	l don't know
Berat	34%	25%	22%	6%	6%	6%
Dibër	59%	26%	12%	3%	0%	0%
Durrës	28%	40%	25%	3%	3%	2%
Elbasan	29%	37%	31%	2%	0%	2%
Fier	28%	36%	21%	8%	0%	8%
Gjirokastër	45%	27%	23%	0%	0%	5%
Korçë	47%	20%	13%	11%	0%	9%
Kukës	50%	23%	27%	0%	0%	0%
Lezhë	26%	36%	20%	9%	8%	1%
Shkodër	39%	37%	23%	0%	0%	2%
Tiranë	27%	26%	22%	10%	6%	9%
Vlorë	44%	37%	15%	0%	0%	5%

Table 6: In your opinion, how was the situation managed by the competent central authorities? (by region)



Respondents were then asked about how endangered would they consider their municipality from fires. 39% of the respondents consider their area to be relatively endangered and 30% of them are neutral and 6% very endangered. While the percentage of respondents who consider their municipality to be relatively or very little endangered is much lower, 24% (17%+7%).





Source: Fire Risk Information, Perception and Awareness Survey

	Very endangered	Relatively endangered	Neutral	Relatively not	Very little endangered
				endangered	
Berat	6.3%	50.0%	25.0%	12.5%	6.3%
Dibër	0.0%	44.1%	38.2%	14.7%	2.9%
Durrës	4.6%	20.0%	66.2%	7.7%	1.5%
Elbasan	6.1%	53.1%	20.4%	18.4%	0.0%
Fier	1.9%	39.6%	32.1%	20.8%	3.8%
Gjirokastër	9.1%	45.5%	9.1%	27.3%	9.1%
Korçë	4.4%	40.0%	26.7%	11.1%	15.6%
Kukës	3.8%	53.8%	19.2%	23.1%	0.0%
Lezhë	7.9%	59.2%	15.8%	10.5%	5.3%
Shkodër	4.8%	37.1%	40.3%	16.1%	0.0%
Tiranë	5.6%	27.2%	28.2%	22.1%	14.9%
Vlorë	14.6%	39.0%	19.5%	22.0%	4.9%

Table 7: In general, how endangered would you consider your municipality from fires in forests, pastures, etc.? (by region)

Source: Fire Risk Information, Perception and Awareness Survey

Asked to evaluate the fire risk factors, respondents identify human factor (both negligence and intended). Both factors score the highest on a scale of 1-7 (where 1=Strongly Agree and 7=Strongly Agree), as the human factor (negligence) scores 5.9 out of 7 and human factor (intended) scores 5.7 out of 7. The human factor is followed by draught (5.3 out of 7) and lack of fire extinguishing equipment (5.2). On the other hand, climate change, expansion of



# urban areas and lack of qualified fireman are identified as the least likely to be a factor in the occurrence of wildfires.

Figure 25: Can you please tell us your opinion on the following statements regarding the main factors that influence the occurrence of the phenomenon of forest fires, etc.?



# 4.3. Facing the Phenomenon

In the following section of the survey, respondents were asked questions related to facing the phenomenon.

First, respondents were asked to evaluate using a scale from 1 to 7, where 1=Strongly Agree and 7=Strongly Agree, several factors regarding the main factors that affect the prevention of fires. Although all the listed factors were evaluated at a high rate, above 5.5 out of 7, the highest rated factors, with 6.5 points, were 'More awareness for the general population and youth' and also for the part of the population who lives in rural areas, followed by 'Employment of signalling structures for fires during the hot season' and 'More funding for the local fire extinguishing units, at 6.3 rate. The factor evaluated the lowest, however at a relatively high rate with 5.8 points out of 7, was a higher taxation for environmental polluters, as a measure against climate change.

# Figure 26: Could you please tell us your opinion on the following statements regarding the main factors that influence the prevention of the phenomenon of forest fires, etc.?





Then, to the respondents were presented three scenarios and were asked to evaluate using the scale from 1-7 the possibility of action on how they would act if they personally, or the community where they live, faced a fire (where 1 is 'Somewhat likely' and 7 is 'Very likely'),

For scenario A, to stop and call the relevant authorities was more likely to happen out of the three options, evaluated almost at 6 points out of 7. The other two options that stated that they would not stop, nor call the relevant authorities were rated a lower level, around 3 points.

Figure 27: Scenario A: You are traveling by car and you see on the horizon a cloud of smoke rising from an area of vegetation / forests. How likely is it that you:



#### Source: Fire Risk Information, Perception and Awareness Survey

In scenario B, the respondents rated the highest the option of collecting the waste themselves, with almost 5 point out of 7. However, rated slightly lower was the option of continuing the walk discussing with the friends / family, how this is a negative phenomenon that can have dangerous consequences, with 4.7 points. Continuing walking without worrying about the waste was evaluated as the least likely to happen, however not at an inconsiderable rate, with 2.8 points out of 7.

# Figure 28: Scenario B: You are on a picnic or hike in a wooded area and see discarded debris, including glass and glass. How likely is it that you:





In scenario C, the respondents evaluated the possibility of discussing the issue and sharing the announcement for volunteers through social media the highest, with 5.2 points out of 7, and slightly lower, the possibility of personally engaging in voluntary fire extinguishing structures, with 5.1 points. Although relatively not at a low rate, continuing the normal activity and thinking that the state should face the fire as it is within their responsibilities was ranked as the least likely possibility to happen, with 3 points out of 7.

Figure 29: Scenario C: A forest area in your municipality is facing a large-scale fire. Although many structures are engaged in extinguishing it, the authorities call for voluntary support. How likely is it that:



Source: Fire Risk Information, Perception and Awareness Survey

When asked about how familiar with the National Agency of Civil Defence, 25.6% of the respondents stated that they had some information and 21.7% had a lot, while the rest of them either had no information or just a little, or a fair amount.

# Figure 30: How familiar would you say you are with the National Agency of Civil Defence (AKMC) and the work that this institution performs?



Source: Fire Risk Information, Perception and Awareness Survey



The last question of this section asked to the respondents was about their level of confidence that through National Agency of Civil Defence (AKMC), Albania will join the European Mechanism Civil Defence. 46% of the respondents were confident about it (24% were confident and another 22% were a lot confident), while 14% of the respondents were not confident at all.

Figure 31: How confident are you that through National Agency of Civil Defence (AKMC), Albania will join the European Mechanism Civil Defence?



### 4.4. Awareness about the Phenomenon

The last section of the survey consisted in questions about the awareness to the phenomena.

When asked about when was the last time they saw or heard about any campaign or awareness material regarding fires, 19% of the respondents answered that they have never seen or heard about any campaign or awareness material, while a considerable percentage (50%) of the respondents had seen or heard about the subject from 6 months ago to more than a year ago. Moreover, only 26% had been in contact with any campaign or awareness material in the last three months.

Figure 32: When was the last time you saw or heard about any campaign or awareness material regarding fires?



Source: Fire Risk Information, Perception and Awareness Survey



In the following question, the respondents were asked to rate the effectiveness of the awareness campaigns listed on a scale from 1 to 7, where 1=Least Effective and 7=Very Effective.

All of the campaigns listed in the survey were evaluated to be highly effective, with the highest rated, 6.1 point out of 7, being the campaign that focuses on the citizens, motivating them to contact the relevant authorities and report any suspected case of fire and the lowest, with 5.5 points, the campaign that focuses on climate change and pushes citizens and businesses towards environmentally friendly behaviours and practices.

Figure 33: Please state which of the following ideas related to fire awareness campaigns would seem more effective to reduce the risk of this phenomenon?





The figure below shows a graphical representation of the differences between age groups when rating the campaigns mentioned above. Respondents from age 18-25, 26-35 and 55+ have rated the highest, with respectively 5.9, 6.2 and 6.1 points out of 7, the campaign that focuses on the citizens, motivating them to contact the relevant authorities and report any suspected case of fire. In addition, respondents from 36-45 years old have equally chosen also the campaign that focuses on the rural population and farmers, educating them about practices to avoid accidental fires, both at 6.2 points. Respondents of the 46-55 age group have stated that these three campaigns would seem to be at the same level of effectiveness, the campaigns being: campaign that focuses on the rural population and farmers, educating them about practices to avoid accidental fires, campaign that focuses on youth, for responsible behavior towards the environment, with practical examples, campaign that focuses on civic responsibility, motivating them to take an active part in voluntary structures for fighting fires.



Figure 34: Please state which of the following ideas related to fire awareness campaigns would seem more effective to reduce the risk of this phenomenon? (by age group)



Lastly, the respondents were asked to choose between different communication channels that they think would be more effective for conveying different messages related to increasing the awareness of the public to the phenomenon of fires and reducing their risk. As presented in the figure below, the respondents think that the most effective communication channels would be national TV (56% of the respondents) and social media (55%), followed by trainings in school (39%), public events/meeting at each municipality (36%), web news channels (28%), local TV (24%) and the least chosen communication channels were through radio (14%) and newspapers (13%).

Figure 35: Which communication channels do you think will be more effective for conveying these messages?



Source: Fire Risk Information, Perception and Awareness Survey

The figure below presents the opinion for the abovementioned communication channels of respondents of different age groups. Respondents belonging to almost all of the age groups have mostly selected the national TV to be most effective communication channels in their opinion, beside the respondents of age 26-35, who think that the most effective would be social media; and respondents of age 46-55 who think that the two communication channels would equally effective. However, for each age group of respondents, only small differences can be observed between national TV and social media, implying that these two channels would serve as affective channels to convey the messages concerning the wildfire awareness. The least preferred channels by each of the age groups are radio and newspaper.

# Figure 36: Which communication channels do you think will be more effective for conveying these messages? (by age group)



Source: Fire Risk Information, Perception and Awareness Survey



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