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Title: **People and the Mass Media
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People and the Mass Media during the fire disaster days of 2007 in Greece

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Abstract

The fire season of 2007 in Greece was the worst in recent history as it set new records in regard to damages and loss of life. A total of 78 people, mostly civilians, lost their lives. More than 270,000 hectares of vegetation burned and more than 110 villages were affected directly by the fire fronts. Hundreds of homes were totally destroyed while many others were seriously damaged. This unparalleled fire disaster made the news worldwide and left people wondering about the causes and how it happened.

This paper provides a brief overview of what happened and the circumstances that led to it. It also tries to identify the factors that contributed to it. The behaviour of the civilians and the role of the Mass Media, especially how the latter influenced the former, are among those factors and are the main focus of the paper. The conclusions will hopefully help Greece and probably other countries as well, to avoid such a tragic experience in the future.

Introduction

The fire season of 2007 in Greece was the worst in recent history as it set new records in regard to damages and loss of life. A total of 78 people, mostly civilians, lost their lives. More than 270,000 hectares of vegetation burned. The fire fronts affected at least 110 villages and partially or completely destroyed more than 3,000 homes. This unparalleled fire disaster made the news worldwide and left people wondering about the causes and how it happened.

This paper provides a brief overview of what happened and the circumstances that led to it. It also tries to identify the factors that contributed to it. The behaviour of the civilians and the role of the Mass Media, especially how the latter influenced the former, are among those factors and are the main focus and are discussed in detail.

Forests, fires and firefighting in Greece

Greece is a European country occupying an area of 13,087,500 ha at the southern tip of the Balkan Peninsula. Its population is approximately 11 million people. Nearly half of these people live in the two largest cities, Athens and Thessaloniki as a result of internal migration from the villages to the urban centres in the 1950-1990 period. The country's topography is mostly mountainous. Small plains and valleys are interspersed between the mountains and constitute the main agricultural areas.

Approximately 19.8 percent of the surface area of Greece (about 2.5 million hectares) is occupied by tall forests. Approximately 3.2 million ha are partially forested areas and shrublands composed mainly of evergreen broadleaved shrubs. There are also about 1.9 million ha of grasslands and phrygana (mostly areas covered by the low

spiny shrub *Sarcopoterium spinosum* or the non-spiny shrub *Flomis fruticosa*). These shrublands and grasslands are mainly used for grazing. About 2/3 of all forest lands are state-owned. However, the country does not have a complete land cadastre, especially in regard to forest lands, and this causes many ownership disputes that sometimes lead to arson.

Figure 1 shows the evolution of yearly burned forest land in Greece. As seen, fires started becoming a problem in the 1970s, roughly twenty years after the start of internal and international immigration. The Greek Forest Service (GFS), which was fully responsible for forest fire management, started acquiring firefighting means in response. The first specialized firetrucks were purchased around 1971 and the first Canadair CL-215 amphibian waterbombers started operating in 1974. Forest protection from fires and illegal land occupation gradually became the focus of most GFS offices in southern Greece where these problems were more pronounced, while forest management continued to be the main task in most offices of northern Greece. As the firefighting capacity kept growing in the 1980s and 1990s, the number of fires and the yearly burned area kept increasing.

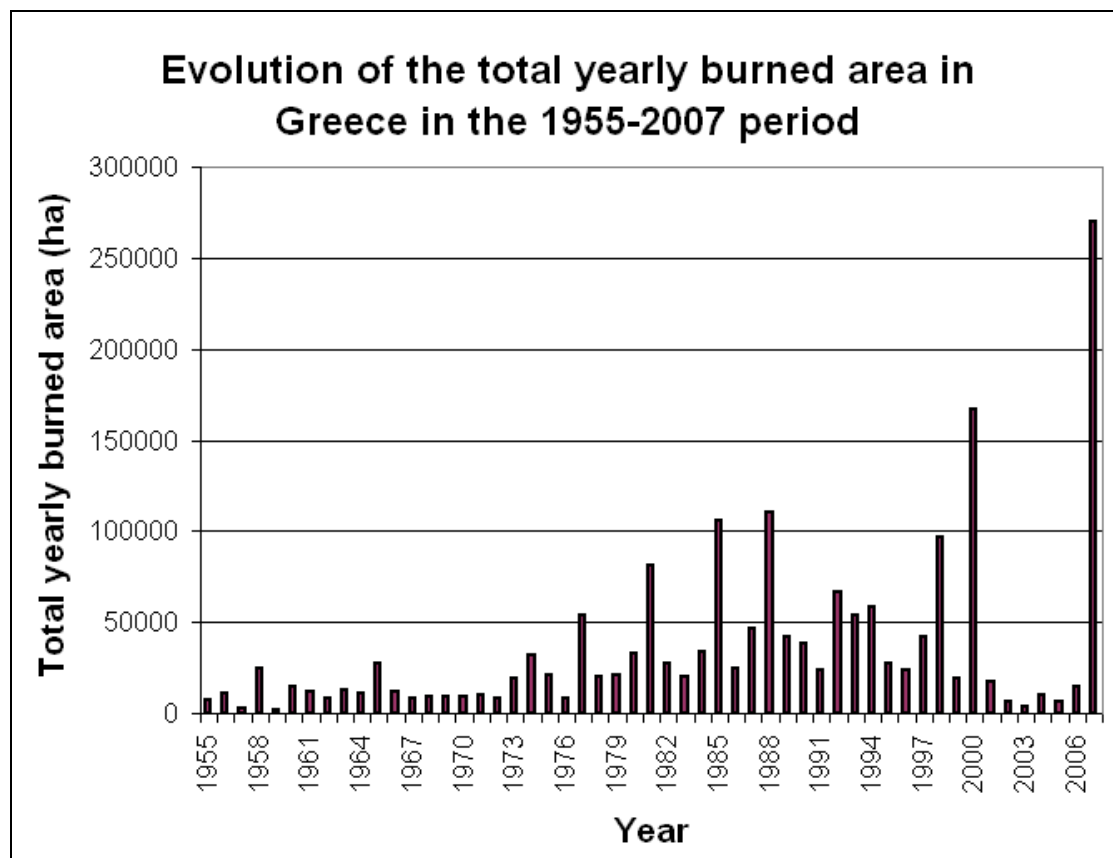


Figure 1. Evolution of total yearly burned area in Greece in the 1955-2007 period.

Then, although GFS efforts to improve forest fire management in the mid-1990s started bringing improved results, in 1998, the Greek government suddenly decided to transfer responsibility of forest firefighting from the GFS to the Hellenic Fire Brigades (HFB), the professional organization that carries the responsibility for urban firefighting. The decision was mainly political. It was prompted by what was considered poor results of the GFS in the previous years and did not really consider in depth all the parameters of the undertaking. Actually, it lacked any serious scientific

justification or planning. No provision was made for cooperation between the personnel of the GFS and the HFB at all levels. On the contrary, the issue was handled so badly that it caused animosity between many officers of the GFS and the HFB. The HFB officers, who had been contributing in the past to forest firefighting, mainly close to urban areas and most often from paved roads, never having command on forest fire incidents, believed they knew all they needed. The significant difference between wildfires and the other types of fires they had been trained for (industrial, ship fires, home fires etc.) was not obvious to them. The result of all these was a very destructive fire season in 1998 with nearly 100,000 ha burned and three HFB firefighters and a volunteer dead.

The total yearly costs of fire suppression more than tripled in the following years. The results were mixed: they were very good in the relatively easy fire seasons of 1999, 2001, 2002, 2003, 2004 and 2005 but in the summer of 2000 which was hot and dry the burned area reached an all time high, about 160,000 ha. This can be explained mainly by the massive aerial initial attack that has become the basic principle of the HFB operational procedure. Under “easy” conditions, most fires are stopped immediately. However, in difficult fire seasons, when demand exceeds the capacity of aerial resources, the ground forces, which are not conditioned to work without heavy aerial support, are not able to control fires effectively (Xanthopoulos 2004).

A brief overview of the fire season of 2007 in Greece

In 2007, signs about the difficulty of the fire season were evident by the end of winter as snowfall had been deficient, even on high mountain slopes, making it impossible for many ski areas to operate. Also, rainfall had been below normal. In response to the signs, the government increased the firefighting capacity of the country by contracting more heavy lift helicopters. Thus, the fire season started with a very strong aerial fleet supporting the ground operations of the Hellenic Fire Brigades (HFB). There was no shortage of resources. The HFB had more than 1,500 fire trucks, and approximately 8,500 permanent employees. About 5,000 seasonal firefighters were employed for the summer months. At the start of the fire season, the state owned aerial fleet consisted of fourteen (14) older Canadair CL-215, ten (10) new CL-415 amphibian waterbombers, and twenty (20) PZL M-18 “Dromader” single engine airplanes operated by the Greek Air-Force. The HFB also operated three BKK-117 helicopters for reconnaissance and coordination plus two “Super Puma” helicopters for transport of personnel and firefighting. In addition to all these, the contracted helicopter fleet for the summer included four (4) Erickson S-64 “AirCrane”, seven (7) MIL MI-26, and five (5) Kamov-32T at an anticipated (then) cost of 28 million Euros.

All the resources above were overwhelmed many times by the difficulty of the fire season. A heat wave at the end of June resulted in many large fires including one that burned 5,600 ha, and destroyed 2/3 of the Mount Parnis National Park at the outskirts of Athens while the Athenians were watching in awe. In the beginning of July four seasonal firefighters were killed in Crete. Large fires continued, but an aggressive fire on mount Hymettus, near a suburb of Athens called Kareas, created very strong impression as it was visible by all Athenians while it was also covered live on TV.

A second heat wave in the last third of July led to more large fires, including many on the high elevation forests of Northern Greece that kept burning for more than ten days

as aerial firefighting is not effective there. July 23rd was marked by the crash of a Canadair CL-415 while making water drops on a fire near the town on Styra on Evia Island. The two pilots were killed. The largest fire occurred on July 25 in Aigialia, near the city of Patras in Peloponnese. Within the next three days it burned about 30,000 ha, destroyed more than 70 homes in nine villages and killed three citizens.

All these fires in July created the feeling that the firefighting mechanism of the country could not cope effectively. The Greek government asked for aerial reinforcements from abroad but this did not help much. Although the north part of the country received significant rainfall on the 5th of August that extinguished many fires and reduced fire danger there, the fires in the south continued as there was no relief from the drought. Among them, the most sensational was the fire of Penteli, on August 16th, at the NE outskirts of Athens. It was also reported live on TV as it reached the Athens suburbs of Vrilissia and New Penteli, burning and damaging homes.

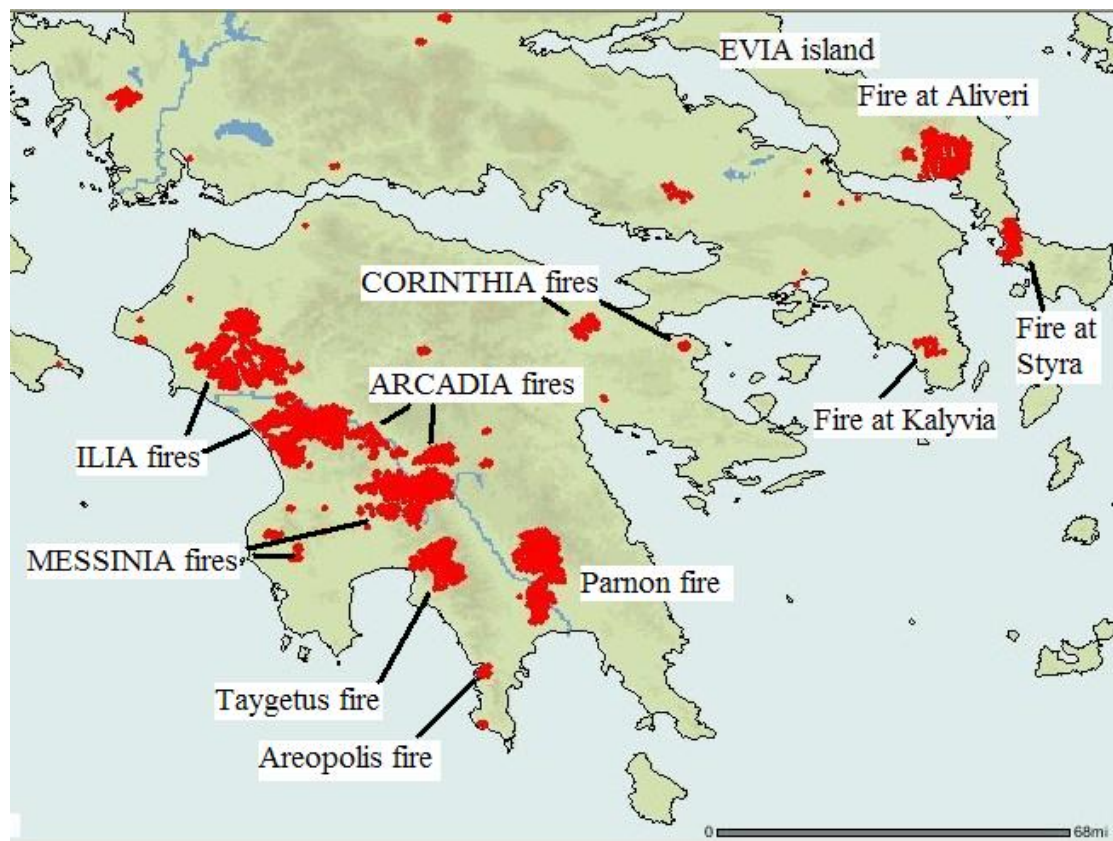


Figure 2. The burned areas in southern Greece between August 23 and September 5, 2007, obtained from the Web Fire Mapper of the Department of Geography of the University of Maryland

Then, a third heat wave set the stage for the worst days of disaster. Starting on Friday, August 24, 2007 and continuing until August 28, a series of fires that started in the south part of Greece and were faced with ineffective initial attack, burned fiercely destroying huge areas in Peloponnese and on Evia Island and claiming tens of lives (figure 2). The damages were beyond any imagination (Xanthopoulos 2007a). Counting more than 35 people dead on August 24th, including some firefighters, the firefighting effort almost collapsed. The large fleet of aerial resources did not manage

to offer effective help partly because of the extreme conditions but also due to lack of coordinated ground forces below them to complete extinguishing the fire. The authorities, sometimes in panic, started ordering evacuations of villages. Many people, influenced by the panic-causing reports on TV, also chose to flee.

Significant aerial and ground reinforcements for other countries, that started arriving after the second day, could also do little until the weather conditions started improving on the 28th of August. By the beginning of September, the total death toll of the fire season reached seventy eight (78) people dead. More than 110 villages were damaged leaving thousands of people homeless, surrounded by blackened land.

Greece lost about 270,000 hectares of vegetation to fire in 2007, well above the losses in any previous year. The vast majority, 184,000 hectares, went in just four days, between August 24th and 27th. Much of the burned area was agricultural, mainly olive groves.

The causes

The term “megafires” was used repeatedly to describe the Greek fires of 2007 and grabbed a lot of attention. However, using this “catchy” term is not an explanation per se. The reasons leading to megafires have been discussed internationally and, to a large extent, are relevant to Greece as well. In the view of this author, the specific causes of the disaster can be classed in two broad categories:

1. The people
 - Important weaknesses in the firefighting doctrine of the HFB and obvious mistakes during the operations.
 - Poor response by the citizens, either because of indifference or due to lack of knowledge on what they could do to help, to save themselves and to protect their properties.
 - Poor fire prevention
 - Negative role of the Mass Media
2. The conditions
 - Biomass accumulation in the forests
 - Extensive Wildland-Urban Interface (WUI) and Rural-Urban Interface (RUI) areas
 - Extreme weather conditions, attributed to some extent to global warming

Of the causes above, the behaviour of people and the role of the Mass Media are presented and discussed here.

The behaviour of people during the fires

Background about the people

Greece was a rural country until the 1960s. In the 1950s and 1960s a significant percentage of the population left their villages either immigrating abroad or moving to the cities. The population of Athens grew to more than 4 million, about 40% of the whole population. Thessaloniki, the second largest city reached 1.5 million people.

The abandonment of rural areas has affected the wildfire problem. Reduced use of dead forest biomass for heating and cooking has favoured fuel accumulation. There are only few young people in the villages anymore. As a result, the effort put in agriculture, especially in the mountainous areas, is reduced (e.g. inadequate clearing of grasses in olive groves and vineyards). Furthermore, in case of a wildfire, contribution to firefighting is small.

Until 1970, the Forest Service did not have fire trucks, aerial resources or professional firefighters. Its personnel fought fires with the assistance of the local population which was made compulsory by the law. People in the villages fought fires aggressively knowing that they had to protect their properties and the forest. They knew how to fight, the topography, the vegetation and the road network.

People and fires today

The demographic changes in the country also had a pronounced affect on how people view fires and how they act. Nowadays, there is little knowledge about firefighting and fire safety. Furthermore, there is lack of understanding about fire prevention. Most people, especially those living in the large cities, have strong misconceptions about fire causes. They have been made to believe that all fires are due to arsonists and are started for land gains, political reasons, etc.. When they own a home in the countryside they do not have a clear perception of the risk of fire reaching their home. Most of them are not willing to devote significant effort to prepare their homes for the event of a wildfire reaching their doorstep. This is reflected both in the construction details of their homes and in the lack of effort to manage vegetation for safety around their home.

On the other hand, many young city people are concerned about the environment in general and particularly the forests. However, even they cannot avoid being influenced by the misconceptions mentioned earlier. All the above were manifested in the summer of 2007

People during the fire season of 2007

The fires close to Athens concentrated large numbers of casual observers. Parking their cars at inappropriate spots they often created problems for the passage of the fire trucks. On the other hand, the number of volunteers was significant. Most of them work under schemes organized by the local authorities. However, their effectiveness was quite limited under the high fire danger conditions they operated in 2007 and their coordination with the HFB forces was generally poor.

As the population of Athens was witnessing first-hand the disaster around the city, a sense of awe and disappointment started prevailing. This was cultivated further by the reporting of the Mass Media. Although the events were clearly unusual, there were no visible signs of people changing their attitudes (e.g. by taking safety measures when moving to their vacation homes by the coastline or at the villages from which they originally came) or modifying their vacation plans.

When the extreme fires at the end of August came it became clear that this attitude was also present in the population of the villages that were affected. The difficult

conditions, in combination with a sense of helplessness conveyed by the Mass Media, created panic and unwillingness to act. On top of this, the authorities ordered evacuations in nearly all villages in the path of the fire, without a case-by-case evaluation of the conditions. This compounded the problem further. The mix of old people in the villages with visiting grandchildren from the cities reduced the possibility for self protective action and contributed to unwise, panic driven, decisions for evacuation. Most victims died when the fire caught them in the open. They did not recognize the danger and did not react in time. In the village of Artemida, on August 24th, an order for evacuation by the police sent people fleeing. They were trapped in the open, in an olive grove, and without knowledge on what to do in such an event, 23 of them perished.

In some cases (e.g. villages Platiana, Barakitika and Sarakini) people were urged by scientists to act well before the fire reached them, clearing the vegetation and creating defensible spaces. They ignored the suggestions. They expected that the firefighting mechanism would protect them so they stayed in the coffee shops watching the fires on the TV and discussing about them. When the fire reached their village they suffered serious damages (figures 3 and 4).



Figure 3. The village of Sarakini on August 30, 2007. The people felt they were safe, and ignored suggestions to clear vegetation around their village on August 27, 28, 29 and 30 (information and photos: M. Athanasiou).



Figure 4. The village of Sarakini on August 31st, 2007 after the fire finally burned through it destroying many homes (Photo: M. Athanasiou).

The old age of the majority of the people living in these small traditional mountain villages partially explains the lack of response. However, in many other cases, especially close to large cities, where young people tried to help, it was often evident that although they had the will they lacked even basic fire suppression knowledge: They came without appropriate clothing and without any tools, and, not knowing what to do, they wasted their effort without making any difference.

Response in desperation

Realizing the ineffectiveness of the firefighting mechanism, after the first two tragic days (Aug. 24 and 25) many people refused to leave their villages in spite of the evacuation orders. They stayed and protected their property. In some cases in Ilia, villagers, under the guidance of experienced Forest Service officers, used backfire during the night (August 24, 25, 26) to stop parts of the fire fronts, working with their agricultural equipment. It should be pointed out that backfire is not officially recognized as a firefighting technique in Greece and is not used openly by the HFB.

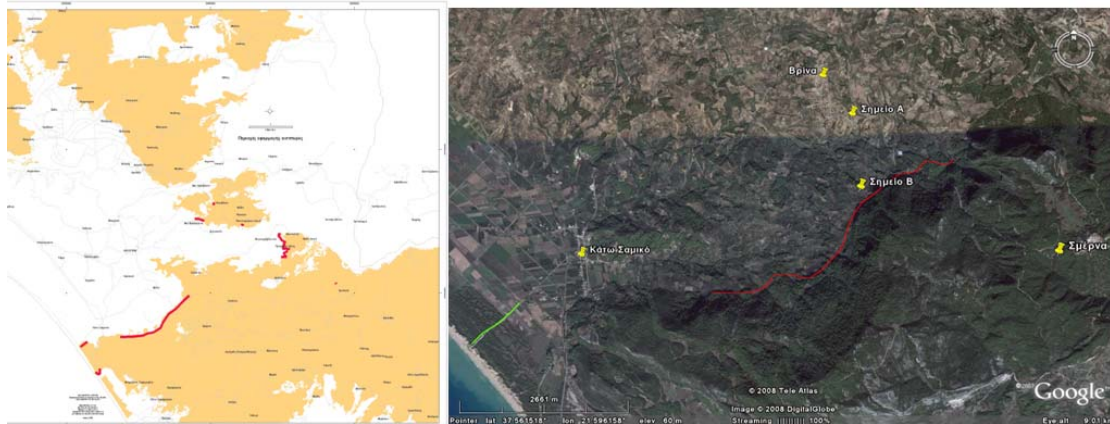


Figure 5. Backfire use in Ilia between August 24th and August 30th, 2007. (Information and map: M. Athanasiou and N. Ziogiannis).

Mobilization of young people

An aspect of the response of people that is worth mentioning is the activation of many young people in Athens, especially after the disaster of the Mount Parnis National Park. This response was manifested first by very strong internet messages, questioning, mainly through blogs, the inadequacies of the system and the efforts of the government to play-down the disaster. Then a large demonstration was organized in the centre of Athens, in front of the parliament. It started spontaneously with an SMS message forwarded by one youth to the other and was followed by similar internet e-mail messages and pages on blogs. The demonstration, took place on July 8th and although it was organized without participation of the political parties, it attracted more than three thousand people.

Latter in the summer, mainly young people continued discussing the fires and their causes in internet forums and blogs, and uploaded numerous videos from the disaster areas on www.youtube.com. These blogs were one of the places where government statements about a general arson plot as the cause of the disaster were questioned very strongly.

During those days but mainly in the months that followed the disaster, a large number of young people registered as new volunteers in the existing forest and fire protections volunteer groups in Athens and in other cities and towns.

Also it is worth mentioning that in the months that followed the disaster and as result of 24-hour long special “Marathon” TV broadcasts, a significant amount of money was donated by the Greek people, including Greeks who live abroad, for the relief of those whose lives were shuttered in the destroyed areas. The Greek Church and other organizations contributed with money, food and other useful materials. Young volunteers, within organizations such as the Red Cross, contributed greatly to forwarding and distributing the “in kind” help, especially for the first critical weeks after the disaster when the state mechanism was still in a chaotic situation.

The role of the Mass Media

Starting from the fire on Parnis mountain, the fires became one of the main themes in the news for the whole summer. Fire related news often occupied the first page of major newspapers and also made it to the headline news on TV. Significant fires, especially around Athens (Parnis, Hymettus, Penteli, etc.) were covered live on TV. However, very little information was passed to the people about how to prevent fires, how to prepare their homes, what to do in case of fire, etc.

During the extreme fires at the end of August, live TV broadcasts started in the morning of the 24th. Six deaths in the area of Areopolis that morning changed the regular program. When the deaths of twenty three people near the village of Artemida arrived around 18:00 that evening, the program of most major TV stations changed completely. They started a continuous 24-hour live coverage that continued until the evening of August 28th when the fires started calming down

All this reporting tried to document the magnitude of the disaster. All available reporters were sent to the burning areas, including some young reporters. Many among them lacked significant previous experience reporting on fires so they could not provide accurate and useful information. On some occasions they were in panic themselves and this sense was conveyed in their reports. Nearly all TV stations insisted on news about evacuations and often, at their own initiative, urged people to leave their villages indiscriminately. Also, two important elements of the reporting were that the situation was helpless and that new fires were starting all the time (ignoring the role of spot fires under these critical conditions). The culprits were, as usual, “the arsonists”. All these elements played a negative role in regard to the response of the citizens. For example, many homes that could have been saved burned down because the people had left or were too afraid to react.

Much of the air-time was filled with pleas for help by mayors, other local officials, and also individual citizens. These were relayed through the TV channels and, although it was officially denied, it was evident that on many occasions the firefighting resourcing and tactics were strongly affected by these calls. Such actions responding to media comments, rather than following well planned strategies by Incident Management Teams, had an adverse result on the firefighting effort.

The TV reporting time devoted to the fires was huge and the same was true for the radio time and the number of pages in the main newspapers. Unfortunately, little truly useful information on subjects such as measures to prepare homes for the possibility of the arrival of a fire, or making decisions about evacuation, was broadcast.

During the critical days of August, much of the time on TV was devoted to fire-centred debates by representatives of the political parties, especially given the fact that in August there had been an announcement that elections were scheduled for September. The usefulness of these debates, in regard to understanding the fire problems, bringing-up the true causes and suggesting corrective actions, was practically non-existent.

Although as portrayed above the overall contribution of the Mass Media was generally negative, it should also be mentioned that following these disasters certain

newspapers and TV stations started to view reporting on the environment as a really important issue. They have created teams of journalists, follow the post-fire rehabilitation works quite closely, and try to provide information in a more consistent year-round way instead of doing that only after a disaster.

Discussion

The response of the public in the affected areas during the fire season of 2007 was obviously variable. It ranged from indifference to heroism and from total passivity to civilians talking their fate in their hands, saving their homes, the homes of others, and even stopping fire fronts with backfire at times that the state mechanism was practically absent. Although any generalization will be unfair to the people of the latter type, it can be stated that the overall response of the people showed many shortcomings which added to the problems aggravating the overall situation.

On the other hand, the behaviour of the majority of the Mass Media also played a negative role in the sense that rather than contributing to informing and directing the people with useful information, acting without guidance and, in some cases, restraint, the media also aggravated the overall situation.

The problems above are rooted in the way in which the fire problem has been tackled in Greece in the last decades, especially after the transfer of firefighting responsibility from the GFS to the HFB in 1998, and should be examined within this context. The problem of fires is clearly very complex. It is not only a technical problem but has very important biological, social, financial and political aspects as well. Focusing on fire suppression only is a recipe for long term failure. In Greece, the effective removal of a specialized Forest Service from fire management could not be counterbalanced by the accumulation of firefighting resources and has contributed significantly to this predictable disaster.

An emphasis on strengthening the firefighting organization which was suppression focussed, deprived funds for prevention by land managers. A weakened, underfunded and demoralized GFS has been unable to actively manage forests. This and less rigorous cultivation of rural areas has led to fuel accumulation in the countryside. The problem of development of wildland-urban interface areas was left unchecked and many more settlements developed in potential areas of disaster. Migration of young people from the villages to the cities has added to the problems in the rural-urban interface. The suppression-focussed organization did not fully appreciate the consequences of these trends and did not recognize the potential for disaster in advance of the fire season.

Once the fire season arrived it was obviously too late to deal with the long-term problems. Strategies and tactics to ameliorate a potential significant fire risk were ignored however, in favour of continuing the mechanistic reliance on a massive suppression effort, especially from the air. Opportunities for providing useful information to the people on what to do and what to avoid, at the village and town levels were foregone. Similarly, planning for the possible involvement of State organizations, such the GFS or the Armed Forces, did not occur. As the season was developing into a potential disaster, the HFB practically stood alone until things got totally out of control.

Conclusions

This paper has tried to provide a brief overview of the fire disaster in Greece in the summer of 2007 and of the circumstances that led to it. The factors that contributed to the disaster were identified. The behaviour of the civilians and the role of the Mass Media, especially how the latter influenced the former, were among the factors considered. Civilian behaviour and lack of knowledge on what to do contributed negatively to the problem. The Mass Media, instead of providing useful information cultivated a sense of helplessness and increased panic, impacting on the outcome negatively.

However, the root of the problem goes deeper and is considered to lie in the overall forest fire management scheme that prevailed in Greece in recent years, and the one-sided emphasis given to suppression.

Land-use and population changes in conjunction with weakened forest management have resulted in unprecedented, at least for the Mediterranean countries, fuel accumulation. Successful fire suppression in “easy” fire seasons, further contributes to this accumulation. Thus, under adverse conditions, fire behaviour is extreme and defies all firefighting efforts. Giving responsibility for wildland firefighting to an urban-based, suppression-focussed organization, which tends to be the trend in today’s safety-minded world, seems, at least in countries with fire-prone landscapes, as a recipe for failure (Xanthopoulos 2004, Xanthopoulos 2007b). Greece, where such a move took place in 1998 should ring international ‘alarm bells’. Unfortunately the situation in Greece is not unique.

The scenario set out above will not surprise those who have a good understanding of all the parameters involved in the management of forests, and forest and woodland fire. If the recent experience in Greece teaches anything, it is that decisions on how to tackle the wildland fire problem have to be made very carefully and be scientifically and culturally based, while avoiding preconceived ideas and unproductive ‘turf’ battles between organizations.

Acknowledgements

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