

CRISIS → RESPONSE

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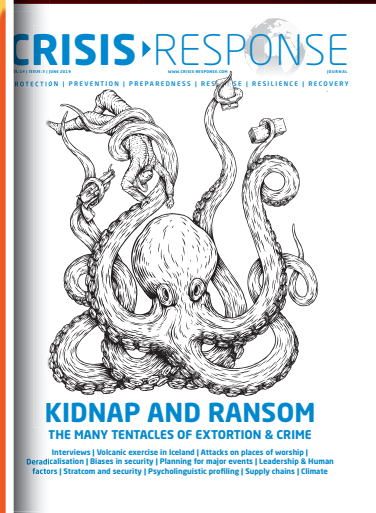
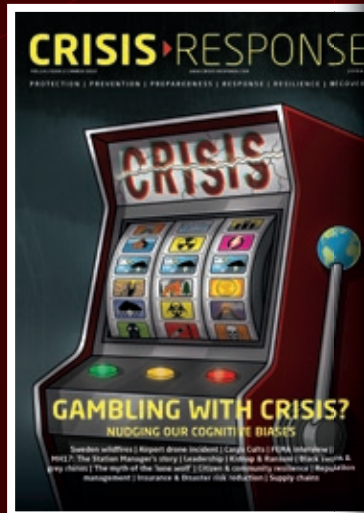
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Global legitimacy crisis | Leadership in turbulent times |
Thai cave rescue | Disaster governance | Blackouts &
resilience | Citizens & smart cities | Crisis communication |
Soft targets & security | Climate crisis | Greece wildfires |
Animals in disasters | Hurricane recovery | Oversight

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Our cover of this edition depicts growing malaise around governance, leadership, technology and trust.

Why are these issues so important in a crisis context?

Put simply, because of the consequences that poor, malicious, narcissistic or corrupt governance can have on our daily lives, communities, livelihoods, safety and quality of life.

Denise Thompson (p64) explores the importance of governance in regulating the actors and processes around disaster risk reduction. Weak governance is a disaster risk driver, linked to other drivers, such as poverty, inequality, poor planning and development.

And other actors are always ready to fill the vacuum left by poor or weak governance, including those with criminal or malevolent intent, all too willing to capitalise on the opportunities this presents.

Humanity has inexhaustible supplies of ingenuity and creativity; none so evident as in the technology field. If applied correctly, the solutions have immense potential for good. Yet, as climate is a risk amplifier, if applied unwisely, technology can be a risk enabler.

Other articles examine governance and technology. On p14 Maha Hosain Aziz describes a 'global legitimacy crisis' which, she says, is linked with a headlong rush for technological domination. Meanwhile on p18, Andrea Bonime-Blanc presents a view of the megatrends that every leader – of nations, business, institutions, local governments or humanitarian organisations – needs to be aware of. She discusses the collapse of global trust, the ethical leadership paradox and how unscrupulous actors could commandeer technology to further their own agendas.

The Fourth Industrial Revolution is set to fundamentally change the way we live. On p58 Laurence Marzell calls for citizens to be placed at the centre of smart cities, emphasising that cities are for people. Vincent Mosco supports this on p66: "Genuinely intelligent cities start with a vibrant democracy, support for public space and a commitment to citizen control over technology," he says.

Constant monitoring, sensors and data gathering all present threats and opportunities. It would be naïve to expect Utopia, but we do have the opportunity to harness burgeoning technological developments for the benefit of our resilience, livelihoods and security. In this new, disruptive landscape, with emerging protagonists and technology, we need to be careful in what – and in who – we place our precious trust.



Crisis tiger teams p49



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Online vulnerabilities p78



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A year after Greece's wildfire disaster

In 2018, Greece experienced the second deadliest fire of the 21st century – with 102 fatalities, 150 injuries and extensive damage. The Government appointed an independent committee of wildland fire experts to look at what went so badly wrong, and prevent the repetition of such a tragedy. Here, the committee summarises its findings for CRJ readers



On July 13, 2018, at 16:41, a wildfire broke out on the eastern slopes of Penteli mountain, 20 km north east of the centre of Athens and 5.2 km from the eastern coast of Attica.

It happened on a day when very high fire danger was predicted for Attica, owing to an unusually strong westerly wind. Another wildfire had started earlier near the town of Kineta in west Attica, 50 km west of the centre of Athens, and was burning in full force, spreading through the town and threatening the largest refinery in the country.

The combination of rapid fire spread in a populated area, lack of a common operational overview and poor co-ordination between the actors involved, combined with incorrect assessment and an initial underestimation of the situation, led to a delayed and inadequate response. Many resources had been moved to the Kineta fire, which allowed the eastern Attica blaze to grow rapidly.

Spreading through the fringes of the Athens metropolitan area – the wildland-urban interface settlements east of the flames' origin, first Neos Voutzas and then Mati – the fire reached the sea in little less than two hours. Its rate of spread, especially in the last stretch towards the coast, reached four to five kilometres per hour for short periods of time.

In its path, it burnt the mostly pine (*Pinus halepensis*) vegetation in small forest stands or gardens, destroyed or damaged more than 1,500 buildings, caused 102 fatalities and seriously injured about 150 people. Many of the victims were trapped in a traffic jam that developed in narrow streets while trying to escape in their cars (Image 1), while several others were trapped by the flames on a steep cliff above the sea (Image 2) as they tried to reach the sea. Others, who managed to get to the water, were exposed to heat and smoke for hours before rescue boats could reach them. Many of the fatalities were from burns, smoke or hot gas inhalation, or through drowning while attempting to swim away from the coast to escape the unbearable conditions (Image 3, p28).

The total burnt area was 1,431 hectares, before the flames were stopped by the sea (Image 4) – a blessing in disguise, as it could have been much worse.

This is the second-deadliest wildfire event in the 21st century, after the 2009 Black Saturday landscape fires in Australia, and it brought Greek society to a state of

shock, making headlines around the world with images of extreme horror and pain. The initial grief was followed by political finger pointing and concerted efforts by experts and non-experts in forest fires alike to assess the reasons and the mistakes made, before and during the event, which had led to this unprecedented disaster.

In September 2018, while scientists continued to identify lessons to be learnt and the justice system was investigating, trying to pinpoint failures in order to charge those responsible, the government moved a step ahead. This huge catastrophe followed the disastrous years of 1998, 2000 and 2007. Against the backdrop of an increasing trend in damages and fatalities, the Prime Minister appointed an Independent Committee of wildfire experts, titled the 'Committee on Perspectives of Landscape Fire Management in Greece'. Its aim was to shed light on the deeper causes of the worsening wildfire problem in the country and to propose potential solutions. The committee consisted of the authors of this paper.

During its first five months of work, the

Image 1: Many of the victims were trapped in a traffic jam that developed in narrow streets

Dr Gavriil Xanthopoulos





Image 2: Other victims were trapped by the flames on a steep cliff as they tried to find a way of reaching the sea

Dr Gavriil Xanthopoulos

committee collected and analysed data; prepared and circulated questionnaires to 73 wildfire experts and professionals; met with 28 different agencies involved in wildfire management; and organised a round table to bring the main agencies together.

It completed its report in February 2019, delivering it to the Prime Minister, the President of the Hellenic Republic, the President of Parliament, all political parties and to the mass media. Immediately afterwards, the report was also made freely available to the public online.

The first part of the report described the evolution of the forest fire problem in Greece and its current state. The data shows that the situation has been worsening during the last decades, with larger burnt areas annually, increasingly extreme fire seasons with greater damages and fatalities, and much higher costs.

The accumulation and continuity of burnable vegetation (wildfire fuels) in forests and open landscapes have been identified as major contributors to the deteriorating situation. This is because intensive land use in the countryside has been abandoned, along with the lack of forest management owing to limited availability of funds and institutional strength of the Forest Service.

There is also an increasing risk of wildfires in peri-urban areas, villages, farmsteads and tourism centres. Fire prevention is very weak and ineffective. Prevention shortcomings identified include: Lack of common co-ordinated approaches in fire prevention planning; absence of approved and documented local fire plans; unregulated and unplanned construction in forest areas and development of wildland-urban interface areas; very limited public information, awareness and

mobilisation campaigns; and ineffective organisation of volunteers. Wildfire statistical data, which could guide preventive actions, are of low reliability and have serious gaps, while the adoption of modern technology and scientific methods to support planning and operations is at a poor level. And there is great discrepancy in the allocation of funds between fire prevention and suppression, in favour of the latter.

Increased funding of fire suppression capacities over the last 20 years has not led to a proportionate increase in effectiveness and efficiency. The reasons for this are related to human and technical shortcomings, and a serious deficit of co-operation and synergy among the agencies involved.

Existing legal gaps

Analysis of legislation and available data, as well as of the opinions expressed by experts and agencies, concur that the existing system is currently very complex and characterised by a lack of the co-operation, co-ordination and operational readiness required to be prepared and to manage large scale wildfire disasters. A large body of authorities from many ministries are all involved in wildfire prevention, and they need to be co-ordinated in a common framework. According to legislation, the co-ordination of prevention should be implemented by the Forest Service. But this is not feasible owing to existing legal gaps. In wildfire suppression, 17 authorities from six ministries must co-operate to execute 11 institutional responsibilities and tasks.

Based on these findings, the committee recommended that the problem of landscape fires should be tackled by the state using a holistic approach, through an integrated

and coherent framework for landscape fire management. This system should replace individual and disconnected services and actions. Overall unified planning should address wildfire prevention and suppression jointly, as well as restoration of burnt areas in an integrated manner to ensure and strengthen societal, environmental and economic resilience. It is vital to ensure legislative provisions are integrated into operational planning within the framework of a unified, interagency national plan for the protection and safety from wildfires.

New co-ordinating body

Addressing of all the above issues should be the subject of a scientific, advisory and co-ordinating organisation for the systematic management of landscape fires at national level – tentatively designated as Landscape Fire Management Agency (ODIPY). This organisation should co-operate with the other competent bodies, having an advisory, co-ordinating and supervisory role in landscape fire management, with the mission of developing a national, interagency fire management plan and to monitor and follow up its application. Without such a mechanism, it will not be possible to achieve a continuous and substantial effort to prevent fires, nor the necessary spirit of co-operation between the actors involved.

ODIPY should take a leadership role in devising, guiding and supervising the collective measures in landscape fire management at national level. To a large extent, its success will depend not only on the correct choice of its management, but also on the quality, capacity and competence of its staff.

One of ODIPY's main goals will be to function as an interconnection body of scientific knowledge, technology and operational practice (science-policy-practitioners interface). It should therefore ensure the co-operation of relevant bodies on all aspects of landscape fire management, establishing permanent interdisciplinary and thematic committees. These will comprise well-known specialised scientists, as well as executives and representatives from operational entities.

ODIPY will co-ordinate the development of a National Landscape Fire Management Plan, which will include a joint design of measures and actions for landscape fire management at all administrative levels, with the participation and co-operation of all stakeholders. A scientifically documented national wildfire risk assessment system, and a revision of the start and end of the fire season, based on available statistical data and climate change assessments, will support the plan. At the strategic level, ODIPY will work on balancing and rationalising expenditure on landscape fire prevention and suppression.

Maximising effectiveness and efficiency will be at the heart of its efforts. For example, in terms of firefighting, ODIPY will promote optimum use of all involved agencies' resources through central planning, improved co-operation and co-ordination,





Image 3: Many of the fatalities were from burns and inhaling smoke and hot gases, or from drowning while attempting to swim away from the coast to escape the unbearable conditions

creating joint and certified training programmes for all stakeholders' staff, and organising joint interagency exercises at regional level. Emphasis will be placed on managing large fires by assigning highly trained personnel, certified in wildfire behaviour and incident management (ie following the example of the US NIMS system), rather than hierarchical criteria and ranks.

ODIPY will conduct methodical public awareness campaigns and promote the voluntary participation of citizens in landscape fire management. Importantly, along with relevant stakeholders, it will help develop large scale map layers of wildland-urban interface areas and assets potentially at risk, such as critical infrastructure and cultural heritage sites.

An even more important and challenging task for ODIPY will be to advise policy development regarding the management of rural land use systems in terms of wildfire hazard reduction (fuel management), and the support of rural populations in managing fire risk, including self-defence of rural assets. In this respect, it will promote scientific evaluation of the possibilities and conditions for applying prescribed burning in Greece for fuel reduction purposes and for using suppression firing as a firefighting tool.

Finally, a key task will be to develop, implement and operate a monitoring and data collection system that will include tools, such as a central daily readiness reporting system (fire season) of the actors involved in fire protection, and a recording and mapping system of funded prevention projects (eg where local authorities have applied fuel management projects). The focus will be on building an effective cost and activity accounting system that will allow evaluation of the system's efficacy and efficiency, a necessary precondition for assessing trends, successes, shortcomings and failures, in order to introduce changes where needed.

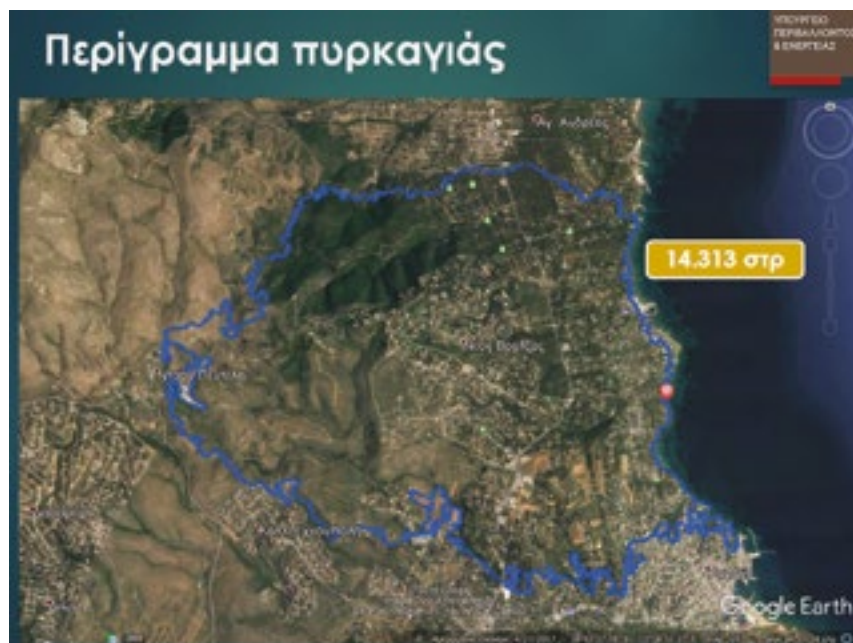
Reform of Forest Service

In addition, the report recognised that the essential reorganisation and reform of the Forest Service is an important element of the new system. This service has been weakened over the last two decades and needs support to rebuild capabilities, resources and funding to restore and improve forest management, fire prevention and to acquire a role in fire suppression in the land it manages. If forest and rural landscapes are to be managed, the problem of wildfires will increase independently of any efforts to strengthen suppression mechanisms.

The report also says that as the main fire suppression authority, the Fire Service should continue to be involved in suppressing landscape fires. However, it stresses the need to improve the service's effectiveness by advancing its co-operation with the other actors under the guidance of ODIPY. It should also improve its staff and volunteer training, adopt innovative technical and tactical solutions and, most importantly, decrease the degree of dependence on aerial firefighting resources.

So, where are we one fire season later?

Changing from a suppression-focused to a balanced, integrated landscape fire management system is clearly not easy and cannot be achieved in a short period of time. Whereas all the political parties and many other actors recognise the value and validity of the committee's recommendations, adoption of these findings



requires a lot of thinking and many clarifications, as the necessary changes are manifold and complex, spanning the mandates of several ministries and affecting the current *modus operandi* of some agencies.

As the fire season of 2019 arrived, the emphasis turned once more towards fire suppression, steeply increasing aerial firefighting capacity, with the corresponding financial implications. Fire prevention measures were increased slightly, and local authorities were asked to co-operate and contribute. Combined with a relatively easy fire season, this resulted in a less than average burnt area. However, some fires in mature pine forests, under relatively difficult conditions, again highlighted remaining weaknesses.

The real test of the capacity to change the fire management system into one that offers a scientifically based long-term solution, begins. A new government is being challenged to address the issues in the report.

With careful planning and swift action, it will be possible to achieve first results within the next two to three years, without compromising short-term results. There are certain prerequisites, including that: The lessons of 2018 have been learnt; the identification of the reasons behind the long term worsening of the landscape fire problem highlighted in the Independent Committee report have been understood; and the necessary political motivation for a truly sustainable solution exists.

Image 4: The total burnt area reached 1,431 hectares before the fire was stopped by the sea – a blessing in disguise, as the situation could have been much worse

Hellenic Ministry of
Environment & Energy

Sources

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