"European Perspective on Global Change, Civil Society and Wildfire Risk"

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Abstract

This report is not the outcome of an academic study. It represents some of the individual views of the author in his capacity of CTIF's Chairman of the Forest Fires Commission. The views expressed herein do not necessarily represent those of all members of CTIF. The references given in footnotes indicate recommended readings for background in the relevant discussion areas.

A European Perspective on Global Change, Civil Society and Wildfire Risk

CTIF[1] is a collection of Firefighting Associations from many countries and I am proud to be the chairman of its Forest Fires Commission. We in CTIF recognise the wildfire challenges facing the world's firefighting communities today and the price of those challenges is too often paid for with the lives of our friends and colleagues.

In some ways, the tradition of the Fire community has been to react to Wildfire events and then to allow their importance to diminish as those events are distanced by time – indeed, the phrase "firefighting" is now common managerial vernacular for dealing with unforeseen issues as they arise. Against the backdrop of major global change, which seems certain to affect the frequency, severity and results of large wildfire events, I agree with authors who contend that, in the future, it will be impossible to consider the issue of *Wildfire* in isolation[2]. We must also consider what the related causes (and effects) of major global changes in demographics, food supplies, energy security and the environment, may mean for land use in the future.

The size, and type, of wildfire is also relevant in making a global impact assessment, the fires regularly encountered in Western Europe, whilst often not as large as those in Australia, Africa and the USA in scale, can have a huge impact on fragile infrastructures with densely populated areas. They can also implicate on sparse firefighting resources for long (and, for fire services, difficult to sustain) periods.

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[1] http://www.ctif.org/
[2] ***Fire in Forestry Volume II,*** Chandler. C, Cheney. P, Thomas. P, Trabaud. L, Wiliams. D (1983)

In this presentation, I intend to address those factors that most affect Wildfire as a policy issue and highlight what I feel we can do to improve responses in future. I also intend to give a Fire Officer's perspective – we often feel that the only time our views are taken as being relevant is after catastrophic fire events. I contend that, by involving those who deal with the suppression of fires when they occur at the planning and prevention stage, a better and more cohesive response is likely to be developed in future.

1. Fire service structures and societal responsibilities

One important thing for all delegates to realise is that there is not one single model of fire service provision in Europe. In some areas such as large cities, fire services tend to be professional and managed by local governments, more rural areas tend to be protected by volunteers and their equipment, readiness and availability can vary. There are also several military services that provide domestic cover. Whatever their construction, they nearly all deal with a range of civil protection issues and, for most, forest and other wildfire fighting is only a small part of their profile.

We recognise that forests are important however; they form a significant proportion of Europe's landscape[3] and land fires can place a heavy burden on fire and rescue services.

1.1.1. Strategic Changes in the European (and global) environments that affect wildfire:

1.2. Changes in climate

The recently issued IPCC reports[4] make worrying reading for all global citizens, but even more so for an engineer tasked with a public safety imperative.

A considerable amount of thought and effort has gone into how climate change may impact upon the severity, frequency and location of *Wildfires*. I propose that future considerations of this type must also factor: What does more *wildfire* mean for climate change? Arguments are progressing and are working in both directions. Do wildfires contribute to global well-being by allowing regeneration of ecosystems? or do they damage it by removing carbon storing capacities or irreversibly damage fragile and rare ecosystems? I think we all know that the answer is: It depends!

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[3] **European Commission** *Forest Focus*
"44% of the total land area of the EU is covered with forests and other wooded areas"
Brussels 15.7.2002 COM (2002) 404 final Report no. 2002/0164 (COD)

[4] Intergovernmental Panel on Climate Change (IPCC) Reports*: Working Group I Report "The Physical Science Basis", and Working Group II Report "Impacts, Adaptation and Vulnerability"*

As a consumer of such research, it is easy to become confused. It seems that society and the media must also be more informed so that they can take stances based upon established and verified facts. Bear in mind that emergency services such as ours may not always be predicated upon actual assessed need – they are arguably provided more for the purposes of political expediency, intended to mitigate a risk that is perceived more than one which is real and measurable.

Whatever we chose to anticipate for the future, in temperate areas such as Northern Europe, the weather (and thus wildfire) trend is alarming to fire managers. The combined effects of:
  o Longer, warmer growing seasons into long, wet autumns,
  o Less cold, drier winters, and
  o Drier springs followed by hotter summers,

are that a seemingly unprecedented level of fire calls are received, and current modelling of the trend suggests an accelerating increase in the near future! More frequently I note the phrase "largest ever recorded" being used to describe large fires, such the recent fires in California.

The fact that weather is not predictable (or at least not reliably so) in temperate zones is another challenge. How can we argue for resources for something that *may* happen, on *some* occasions, in *some* of our geographical areas on *certain* years? The very nature of rural areas means that they have comparably few inhabitants and thus lesser political influence. For other areas, such as the *Mediterranean* countries, the weather is more predictable (as is the seasonal fire risk) but this too can vary from "normal" to much higher than previously experienced or expected.

A wildfire also presents a direct impact on the environment and a threat to human health. Various reports[5],[6] have identified and attempted to quantify the risks to health, particularly due to particulate emissions. The fact that these can cause problems on a global scale could be communicated more clearly by fire agencies when they attempt to show what benefits their services provide. The value and status of any public service will, after all, be founded upon the benefits they are seen to convey upon those they serve. In any case, I contend that public health arguments will be more influential than environmental ones.

Another relatively new challenge (especially in the United Kingdom) is the need to adopt firefighting techniques that are effective at times of limited

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[5] **UNECE** *Quantifying the impact of hemispheric air pollution*
http://www.unece.org/press/pr2002/02env09e.htm

[6] **World Health Organisation** *Fact Sheet no. 254 August 2000 Vegetation Fires*
http://www.who.int/inf-fs/en/fact254.html

water availability. This will, for most temperate zones, require new approaches and we have much to learn from those areas that have already faced these challenges.

1.3. Changes in society

1.3.1. Socio economic

A number of economic factors are relevant when assessing the true effects of wildfire: These include the value of land, the natural environment and timber. As synthetic products have been more efficiently and cheaply produced over recent decades, and as timber has been less used as a result, the price of timber has fallen, although certain timber markets are now improving. The ability to accurately assess and present the **actual** value of ecosystems is another barrier to the ability of fire managers to undertake *cost:benefit analyses*[7] when making decisions about prevention and/or suppression as a control measure.

Mechanisation of land management, and the lowering of profits from land management in some sectors, has resulted in fewer staff working on the land. This too has had an effect on "traditional" land management practices and has added to the problem faced by fire services in tackling fires in rural areas. The reduced availability of local "experts" or land managers can impair the effective suppression actions, especially in those areas which utilise *structural and urban* firefighters for occasional rural fires.

In many places, society's valuation of the rural environment has changed from "food" to "fun". This focus shift is derived from major global changes in demographics, food supplies, energy security and the environment signalling even greater changes in future, such as the shift from farming to utility land use and a change in agricultural practices driven by climate shift.

1.3.2. Demographic trends and effects

Rural-urban migration is generally regarded to be a problem of urban growth, especially in developing countries. The effect of fewer land users however, cannot be overlooked when studying those rural areas. Whether the migration is **caused** by changes in land use, or the changes in land use are caused by rural depopulation is irrelevant - the outcomes are a change in the way in which land is managed and the resultant vegetation changes may lead to higher risks.

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[7] **Cost Benefit Analysis**

A cost benefit analysis finds, quantifies, and adds all the positive factors. These are the benefits. Then it identifies, quantifies, and subtracts all the negatives, the risks, the costs. The difference between the two indicates whether the planned action is advisable. It is however vital when performing a cost benefit analysis to ensure that **all** costs and **all** benefits are properly and accurately identified and quantified.

There is another societal change in demographics clearly signposted in the EU's civil protection documents: vade mecum[8]. As society becomes more affluent and, as European social law gives workers more rights to time off, a greater amount of leisure time is a natural result. Much of that time is spent in the natural rural environment and this is believed to directly impact on the number of wildfires.

Conversely, another complication can arise from an urban population relocating to rural areas and taking their intolerance of fire as a land management tool with them. In these circumstances, the conflicting demands (to suppress fires that may not be damaging) placed upon fire services can be considerable.

1.3.3. Political agendas are also relevant

Politics around the issue of Fire (and the provision of Fire Services) tend to be very focussed on "obvious", or immediately apparent, issues and rarely on the horizons of policy development. For example, the UK has introduced smoking bans in all workplaces. As smoking has become less tolerable in homes and workplaces, the one place that smokers are still able to freely smoke is in their cars. The result last summer was a spate of roadside grass fires from carelessly discarded cigarettes.

In my service, I have almost 1000 professional and over 500 volunteer firefighters and, notwithstanding that UK fire and rescue services are tasked predominantly with the protection of life and property (and that lives are seldom lost in wildfires in the UK), the effect upon my service's abilities to maintain normal protective cover is significant. Anyone who has travelled on the road network around London will be able to imagine what effect a large number of roadside fires had upon journeys at "rush-hour."

Despite these manifest problems, there is little evidence that fire services in the UK considered the issue of smoking in the workplace in any capacity other than that of an agency that employed some people who smoked. We must not miss opportunities to influence agendas of this nature again.

It is also a fact that most Fire services are funded by public taxation. Public sector funding cuts are fashionable in all countries – politically they are "vote worthy" but, given the range of issues to which resources have to be directed, the effect upon firefighting agencies can be significant.

2. The Effects of wildfire

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[8] **EU Civil Protection Document "Vade Mecum"**

I have already posed a question around the effect that wildfire may have on the climate, but many environments are adversely affected both locally and more broadly: Erosion, Waterway Sedimentation and pollution and the loss of ecosystems are some obvious examples. These effects are also relevant when planning control measures. The concept of a "good" land fire, which will confer benefit upon an ecosystem[9], is well known to most fire managers now, indeed in my homeland of Scotland a significant proportion of the land is burned regularly for the purposes of ecosystem maintenance. But how does that understanding resist a public demand for total suppression, driven by an often irrational assessment of the risks from of fire?

Property and equipment for Fire services is not cheap and, when making an assessment of needs, Fire managers should be able to develop, and present, quantified predictions of demand which are based on sound scientific methodologies, forward planning rather than using emotional arguments that people like myself have become so adept at using.

3. The adoption of a Prevention approach

As with any "before the event" intervention, the adoption of a prevention strategy is seductive to us in the Fire Service. It represents a cheaper and lower personal risk strategy. Many people, including my friends present at this conference make good arguments in favour of prevention but, without a very active fuel removal programme, and against the backdrop of the growing risks presented by warmer weather, it seems almost impossible to prevent the occurrence of wildfires. Whilst we may not be able to greatly influence the frequency of fires starting, mitigation of their severity, duration and damaging effects may be possible: appropriate setting of controlled wildfire, vegetation management and selected limited access are some of the successful methods available but there must be a range of options available that are applicable in a broad range of circumstances.

Involvement of all stakeholders is vital - In rural areas and in developing countries, it must be recognised that little can be achieved without with the meaningful engagement of the inhabitants and local land managers[10].

4. Recognising Competing Agendas

Having mentioned that emotive arguments are often employed for leverage when seeking political support and funding, it should also be recognised that this is undertaken in a competitive fashion. Most Fire Services in the world are in some way funded as public services. Whilst local governmental

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[9] **Forest Fires Behaviour and Ecological Effects,** Johnson E Miyanishi K *Forest Fires Behaviour and Ecological Effects* (2001)

[10] **Wildland fires and the environment: a global synthesis,** Levine J.S. et al (1999) UNEP / DEIA&EW/TR.99-1Nairobi, United Nations ISBN 92-807-1742-1

arrangements for their management varies, one thing they all have in common is a need to compete with other, often more prolific public sector agendas such as Health, Education and Law and Order.

It is also true that, in many areas, wildfire is a seasonal problem that manifests itself most acutely for only a portion of the year, whilst other social issues are pertinent at all times.

There is even and element of internal competition within the fire policy area - there are significant other areas of focus for many fire services which attract far more attention - Fire agencies are key players in planning assumptions for terrorist events in Europe. The attacks on Madrid and London have made all emergency services in Europe focus (quite correctly) on the need to plan for these events in future. There are finite resources and training capacities and it seems certain that transient needs will be to some extent overlooked.

How then will Fire Authorities present effective arguments for precious resources to deal with and prepare for wildfires? I feel that this will have to be done in an informed and educated fashion in order to withstand those challenges and the competitive influences I have highlighted.

5. Work in progress – hope for the future

It seems to us that much work has taken place in terms of research and actively seeking better fire management regimes, but there are few places in which someone can find an easy path to that research. The websites of the Global Fire Monitoring Centre[11] and the National Interagency Fire Centre[12] are excellent sources of information but, as with the many distinguished authors who abound, we often have to "find" their work. It seems to me that some form of "roadmap" that will lead European fire managers to good and reliable research is required. Otherwise a danger exists that policy development will be a much localised (and perhaps emotionally driven) process.

I would like to highlight a particular piece of work that is being undertaken under the auspices of the EU. I am very impressed with the early work of the *Fire Paradox* [13] project and am hopeful that many of those *European* challenges I have identified could be addressed within it. In maintaining a focus on firefighter safety, The **CTIF** is working with other partners within the EU's Leonardo project to produce a firefighter safety handbook – the EUROFIRE project and I am hopeful that many of you will contribute in some way to that project.

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[11] Based in the University of Freiburg, Germany, the GFMC reports on fires from around the world, providing fire models and historical fire data   www.fire.uni-freiburg.de

[12] The US's national and logistical support centre for Wildland firefighting   www.**nifc**.gov

[13] http://www.fireparadox.org/

In closing, I look forward to the debate this week – I am honoured to be asked to speak at this event. I have often observed the work of the distinguished persons assembled here and have often wished for Fire agencies to be more relevant in the debate. I hope that my presence here and this presentation is the start of that process.

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