Efficient fire risk communication for resilient societies

Humanitarian Aid and Civil Protection

Efficient fire risk communication for resilient societies (eFIRECOM)

Project co-funded by ECHO -Humanitarian Aid and Civil Protection

Report on technical recommendations to enhance journalists and media in wildfire risk management through communication actions

Eduard Plana Bach
Marta Serra Davos
Marc Font Bernet

Forest Policy and Environmental Governance Department
Forest Sciences Centre of Catalonia

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Preface

The low social awareness regarding the exposure to fire risk combined with the reduced individual capacity to prevent and face emergencies increase both social vulnerability and the cost of civil protection actions.

eFIRECOM Project aims at enhancing the resilience of citizens to wildfires in interface areas from the Mediterranean region, through effectively promoting and increasing awareness and participation on the culture of risk with updated knowledge and best practices.

The two main results are:

1) Development of a communication toolkit for the capacity building of citizens and communities towards wildfire risk prevention, adapted to three target audiences: i) Communities and municipalities (inhabitants and managers of wildland urban interface), ii) Scholars, youths and their teachers, iii) Journalists and media professionals.

2) Edition and dissemination of operational and strategic recommendations for the improvement of the communication on risk and reduction of social vulnerability to wildfires in Mediterranean areas, transferred to the relevant authorities.

This report is included in the deliverables of action *5.2 Development of communication programmes and tools for and with journalists and media,* and wants to give operational recommendations for practitioners, risk managers, communicators and journalists to enhance the communication as a tool for wildfire risk management.

Project **ECHO 2014/PREV/13 Efficient fire risk communication for resilient societies (eFIRECOM)**

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Wildfires communication as a tool for risk management

Forest fires are one of the environmental impacts which society and media pay more attention, especially in the Mediterranean where wildfires recurrence and virulence burnt not only forest but suppose a hazard for people and infrastructures. The spectacle of the flames, emergency management "show" and emotive personal situations catch the attention of media in a period like summer, when normally there is less news in the media.

All in all offers and opportunity for involving media in improving the societal knowledge and comprehension of the wildfire phenomena and forest fires risk management. This takes special relevance in the current context of risk, when most of the sever wildfires move towards a global emergencies issue where civil protection, houses and infrastructures' defense and fire suppression in the forest are intermixed.

Consequently, more and more, wildfire risk strategies consider communication as a tool for improving the social prevention and the efficiency of the emergency management. Usually, main aim is working on the social vulnerability, which is basically founded on the social perceptions, attitudes and practices towards risk exposure and management (figure 1, box 1 in Plana et al. 2015).

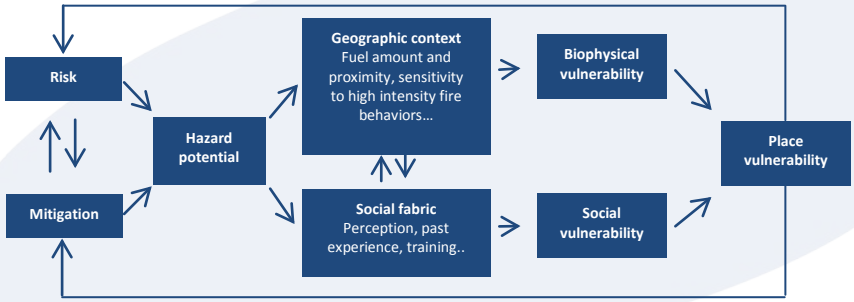


Figure 1. Hazards of place model of vulnerability. Source: Adapted from CUTTER, 1996

Box 1. Social factors influencing individual attitudes and public support towards wildfire risk mitigation strategies

Psychological variables, related to public beliefs and attitudes, appear to be the most significant factor of public policy support to wildfire management strategies (ABSHER and VASKE, 2007). MARTIN et al. (2007) summarized, as follows, the main factors affecting the ability of the individual action: the perceived effectiveness of actions to reduce the risk; confidence in the capacity to correctly carry out actions; the perceived responsibility for fire risk management; and trust and credibility to the institution promoting actions. In that sense, moving forward towards a better social understanding of the role of fire in the ecosystems should favor long-term cross-sectoral strategies based upon fuel management at a landscape level, and better knowledge of risk exposure should promote attitudes of self-protection and shared responsibility.

Talking about wildfires; dealing with complexity and social perception

The informative treatment of wildfires, beyond the basic statistics of burnt surface and number of fires (box 2), is influenced by several factors as the previous knowledge in the matter of the journalist, the ability of explaining complex issues in short messages and with short time, or the pressure of the urgency of informing especially meanwhile the emergency is running.

Box 2. The official statistic of fires, what the numbers are telling us?

Normally, all countries should have an official statistic of forest fires, where basic data about cause and number of fires, and burnt surface (and type, like wooded, non-wooded, crops, others...) are summarized. Long annual series should allow doing comparisons and identifying tendencies; where less number of fires and burnt area should be considered as a success.

Nevertheless, the annual risk situations are not the same. More humid summers will prevent fires. Events very dry and hot summers with large fires can offer at the landscape level an advantage for future years, because they generate big fuel gabs resulting in a mosaic landscape which will help to the future fire suppression. The presence or not of the simultaneity situations, namely many fires burn at same time in different places, means less suppression effectiveness. Along years, the extinction system development allows to improve the fire control capacity. This in combination with the data compilation improvement, make difficult to compare values from different periods (old data with recent ones).

For all these reasons it is complicate to compare fire statistical data and get absolute conclusions about the effectiveness evolution of the extinction or prevention actions.

In that sense, the wildfire phenomena complexity can be more easily spelled out in 4 main factors. All they are fully integrated in all the wildfire risk management strategies and policies;

- ✓ In one side, all the issues related with the **ignition cause** or fire start; heavily influenced by the human factor.
- ✓ On the other side, the **cause of fire spread capacity** over the landscape generating a large wildfire burning thousands of hectares; basically related with the rural development policies and the presence of large forest and dense shrub lands (which in several regions of the Mediterranean are increasing due to the land management abandonment).
- ✓ The **climate change**, which increases the probability of faster fire propagations and with more intensity because of the extension of dryer vegetation acting as fuel. In this situations, wildfires overlap the extinction capacity and extend the risk in atypical areas or seasons.
- ✓ And, finally, the **wildfire capacity to impact with people, houses and infrastructures**, as a consequence of the increasing urban use (tourism, recreation) of forest land, as well as the development of settlements near or even into forest areas, increasing the so called wildland urban interface.

All this factors can also be explained from the interrelationships between the components of the risk cycle: preparedness, response and recovery (figure 2). They can also be argued under the formula of risk resulting from the sum of hazard and vulnerability (i.e, ignitions, spread capacity, fire intensity or potential losses) minor response capacity (self-protection, evacuations protocols or suppression capacity among others). For instance, as much as our communities are prepared, in the context of these interrelationships, less response efforts will be necessary to protect them in a case of wildlfire.

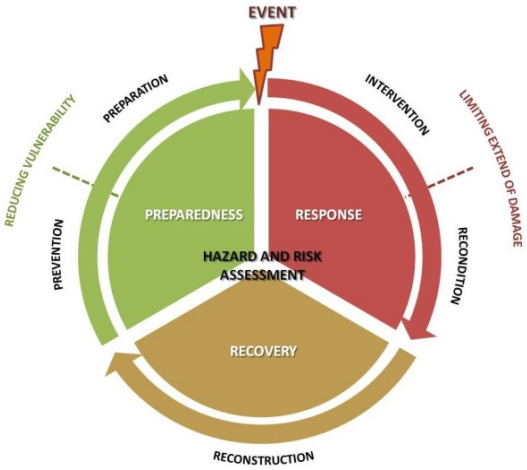


Figure 2. Components of the risk cycle. Source: Adapted from PLANAT, 2011

Reducing the vulnerability of wild land urban interface through fuel treatments in the surrounding areas and into the home ignition zone will facilitate the emergency management in case of fire (Author: E. Plana).

To help the communication processes to become more successful, usually the message is adapted to different groups and specific social contexts. Social and technical discourses or "realities" (assuming that "facts are facts but perception is the reality") live side by side (figure 3), as close or as far as expert knowledge transfer capacity we have. Several drivers affect both discourses, where private or institutional interests can be intermix and amplified or mitigated by the media. Event into the expert spheres, consensus about the reality not always exists, sending different message to society which chooses their own option based on trust and credibility.

In all case, media has the capacity to make closer some common facts identified by the expert spheres regarding fires (box 3) to society. And this can affect the policy making decision which should be aware about the social demands.

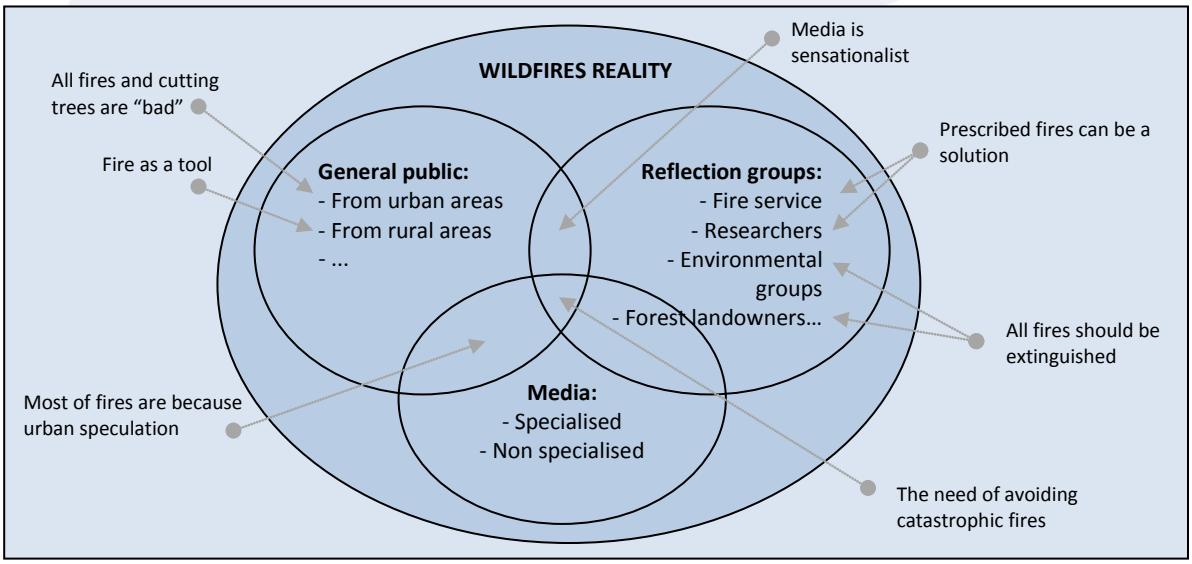


Figure 3. Casuistic for the social construction of social perception model adapted to wildfire risk and some potential realities

Like an heritage received, social perceptions on fire has been heavily influenced by the justified need of protecting forest and people from dangerous fires, the "live motive" that have inspired most of the campaigns and where only the bad side of fires is shown. Thus, risk communication shall deal with a social discourse in some cases far from the technical one (box 3).

Box 3. Common facts from the technical discourse that not always are well perceived in the social sphere

• Fire is an inherent part of the Mediterranean ecosystem. Forest fire risk management policies have to be addressed to minimize risk levels and the vulnerability of people, infrastructures and natural environment instead of try to suppress completely the phenomena.

• Forest fuel accumulation helps in a specific weather conditions the get high intensity and severity forest fires, which overpass the extinction capacity of our systems. The present big amounts of fuel due to rural activities abandonment imply "new" fire behavior patterns which oblige to review the capitalized technical knowledge until now.

• We are facing a changing context with a vulnerability increase trend (fire spread capacity) even though assuming a constant ignition risk.

• From the extinction domain, it is claimed to reach a less vulnerable landscape to the flames spread out of the extinction capacity, to face the problem of the large and extreme wildfires.

In that sense, some **common considerations with regards the societal knowledge and perception over the wildfire phenomena** are as follow:

- Especially from the urban society side, there is a strong **lack of knowledge and awareness** of the real causes of the forest fire problem, which has been simplified and focused during long time just in the ignition causes and their motivations (with special attention to the arsons), and in exceptional and extreme weather condition, as the main driving force of large fires.

- In this context nobody have introduced to general public the concepts of **extinction capacity versus the fire spread capacity**, what has difficult a lot the comprehension of the social-environmental dimension of the phenomena.

- **Forest fire** has always been presented as a common and public enemy to fight at whatever price, erasing the ecological role of fire, what has difficult strongly the understanding of the fire as an inherent part of the Mediterranean ecosystem and the chance to diminish the landscape vulnerability as a prevention strategy.

- It exist a **few social acknowledgment of forest management** and the general agricultural activities for forest fire prevention. Topics and myths such as the "virgin forest" or the untouchable forest values, difficult the comprehension of the role of forest exploitation as a wildfire prevention measure.

- The so called "**technological myth**" is reinforced by the control efficiency in most of fires and the urban fire conceptual frame. This says that with the necessary technology, all fire can be controlled, creating a **false sense of security** and increasing the people and goods vulnerability.

- **Risk exposition** is facilitated by the changing context of risk due to the increase of fuel loads (land abandonment) and the lack of fire prevention culture. Frustration because of losses in case of fire is focussed in the fire service, who are not responsible of the landscape management. Meanwhile, the **own individual responsibility** (carrying out the fuel reduction in the home surroundings) **is not assumed**.

- In many rural areas it has been passed from the **fire as a tool,** to the l**arge and severe wildfire as a threat**, which puts in crisis the traditional knowledge and use of fire.

- Technological myth and self-sufficiency are also into the rural areas perception. A "catastrophic" large wildfire event is needed to recognize that "never before we have seen a so virulent fire".

- The phenomena's complexity needs of **long term measures**, based on the prevention without visible results and with a strong **transversal component** as well as coordination.

In many Mediterranean regions changes suffered in the landscape have happened in just one generation. In the new context, fires become more intense and dangerous for people and forests. Cultural perceptions and changes, however, need more time to be updated to the new risk context (Authors: Solsonès County archive (up left and right), M.Serra (down left), M. Font (medium up), UTGRAF-Fire Service of Catalonia (down medium), Celsona magazine (right down and up)).

Preventive actions related with the fuel treatments (under the slogan “wildfires are extinguished during winter”) are not so attractive in terms of media as the spectacular image of the suppression engines are.

Nevertheless, there exist several options to catch the attention about the social and environmental benefits of the rural development as a tool for fire prevention as could be; the consumption of local products, the link between fire prevention – landscape conservation and tourism, or the environmental services provision of the forest cover – as soil conservation, floods mitigation, water provision. In some cases is possible even consider this benefits in terms of avoided costs of the potential fires in the region (for instance, how much we should invest in preventing floods if the forest cover disappears (figure 4)).

While in the emergency context, it will be difficult doing pedagogy and the focus will be centered in the wildfire impact, with a special attention to the population and infrastructures.

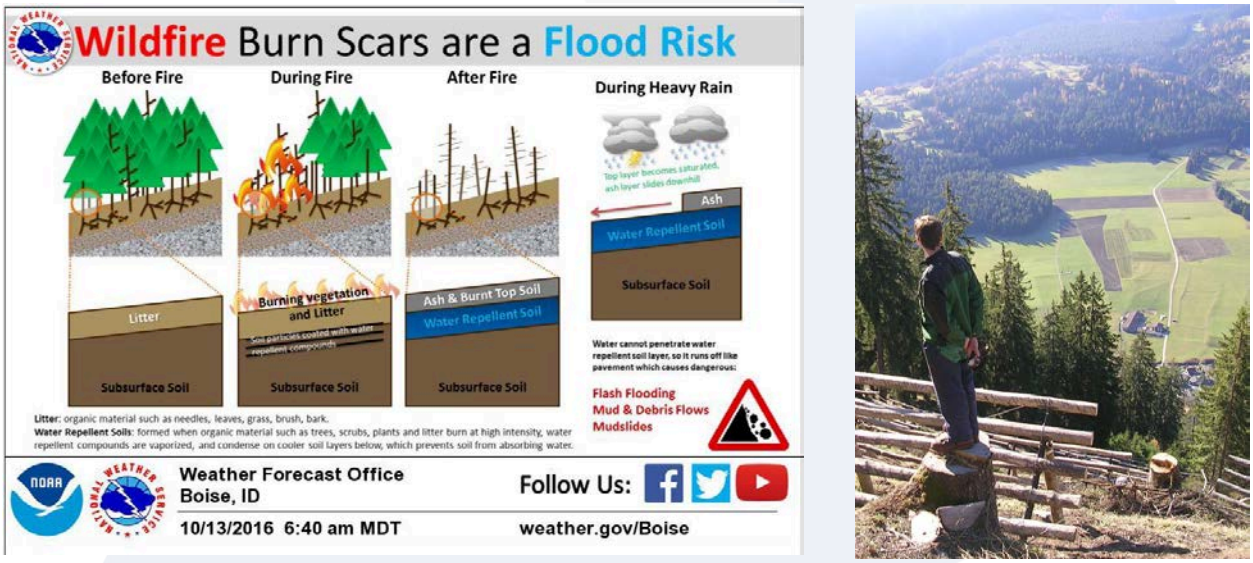


Figure 4. Cross-links between perturbations. Example from the USA connecting wildfire and flood risk (left) and avalanche prevention actions after a fire in Swiss mountains (right, Author: E.Plana).

Roles of communication along the wildfire risk cycle

Media can play different roles along the risk cycle (figure 2), as they are the main communication channel between managers (transmitters) and society (receivers).

Out of the fire event, without the pressure of informing about the emergency and in a longer journalist format (documentaries, thematic reports, interviews, etc.), developing in a more deep and pedagogic way the issue is more possible. A good opportunity is to take advantage of the ephemeris of old fires, discussing the lessons learned, actions induced or the potential recovery of the landscape. Normally, and especially in the Mediterranean, public attention to forest fires is enough constant for considering the issue even out of the typical summer risky season.

On the other hand, climate change scenarios are favoring forest fires in atypical risk areas or seasons, which offer a good opportunity for media. The recurrence of extreme events in the same site argues the need for seeking answers to the causes of what happened.

Into this "peaceful" context out of the risk period is a good chance to show the underlying causes of the forest fires linked with the land abandonment and forest cover growth, the impacts of fires in the territory and for the society wellbeing and or the need of protecting forest in front of the catastrophic fires and which alternatives exist.

More and more, atypical wildfires are happing in new areas of risk which can be used for media to explain the changing context of risk. In this case, two pictures of large fires in the Pyrenees mountains close to the Spanish-French border. First one in plenty summer and the second during a dry autumn (Authors: E.Plana (left), Fire Service of Catalonia (right)).

Concepts as the fire ecology ("good fire" as prescribed burning, that helps to prevent bad or uncontrolled fires) could be develop, as well as up to what extend promoting the rural development (grazing, wood extraction, forest products use, agroforestry landscape), using biomass for heating at home or how agroforestry landscape can help to prevent fires. Concepts fully assumed by the forest fires managers but usually unknown by the general public. They are usually well received since it provides a positive and hopeful vision, while revealing a reality hidden by the "show" and "drama" of the emergency and the technological response.

This approach allow to showing in a more holistic way the set of tools and direct and indirect policies related with the fire risk management, undertaken not only by the official bodies but by multiple public and private stakeholders involved in the land and territory values management and conservation.

All these argumentations together help citizens to identify how they can take part of the fire risk prevention; for instance, consuming local products which come from and conserve the landscape they like.

Left, a brochure of the Gran Canaria island government explaining how the consumption of local products helps fire prevention.

Up, tv program about the benefits of truffles crops preventing fires (Author: E.Plana).

From the specific and necessary perspective of the **social prevention**, it is fundamental promote a responsible behavior in the risky situations with the aim of reducing the human factor in the ignition causes (fire camp, cigarettes, bad praxis in agricultural fires, etc.). These issues are commonly considered from the start of the fire season and during all the period.

In parallel, since fires impact more easily with populated areas, all the issues related with the self-protection capacity (cleaning the home ignition area) and how to do in case of emergency (confinement and evacuation protocols) are getting more and more relevance. Individual security is always the first priority. The citizen protection as well as their homes, requires to fix a lot of extinction resources in the urban area, neglecting at the same time the fire spread into forest lands.

That's why is so important the fact that homes have the needed self protection measures and its owners and users knows how to proceed and react in case of a wildfire event. Getting better prepared citizens living in risk exposition sites has a direct effect in the risk management efficiency

Easy way of doing awareness throughout a cup of coffee in Jackson county (USA).

In sum, far from fighting against the fires, this approach wants to explain the need of coexist with wildfire risk, and how to do the best. According to Olson&Bengston (2015, figure 5), the evolved context of risk make necessary to move from a the current "outside-in" approach, *where many people expect to be protected by large and expensive fire-suppression efforts from the outside* towards a *"inside-out" protection strategy: Communities in wildland areas take responsibility for becoming fire resilient, with or without outside assistance.*

In the opposite, the historical war vocabulary (fight against fire, battle against.., fireman as fighters, etc.) is only showing the bad side of fire, and do not help to assume fire as an inherent component of the ecosystems (Mediterranean also).

In any case, those dangerous, uncontrolled and potentially harmful fires are which wildfire risk management strategies should fight against. But some room for the ecological fire should be placed in parallel.

Dominant Paradigm	New Paradigm
"War on fire"	"Work with the flow" of natural processes
Wildfire is destructive	Wildfire is a necessary natural process
Control wildfire on the landscape	Learn to live with fire on fire-adapted landscapes
Prevent and suppress fires	Create fire-resilient human and natural communities
The problem is that wildfires are escaping our control.	The problem is that always suppressing natural wildfire is creating an unsustainable buildup of fuels which results in dangerous "unnatural fire."
The solution is to apply existing procedures and technologies more strongly to bring fires under control.	The solution is to develop a more holistic approach to fire management where local communities, adjacent property owners, and governments work together to co-manage fire risk.

Figure 5. Change of paradigm regards wildfire risk management strategies. Source: Olson&Bengston 2015

Risk zero it does not exist and the battle never will be finished. We can learn from other perturbations about how to communicate risk. Some of the challenges, however, seems to be commons.

During the emergency, media will be the intermediaries for risk managers for sharing and to send the relevant information to the citizens. Not only descriptive fire information (cause, total burnt area and updated risk areas during the fire propagation are the typical most demanded information) but also operational one (incidents on the transport network, potential risk areas, recommendations to the public, etc.).

It is recommended to develop press office into the emergency management service (coordinating the fire service, civil protection, police and all bodies managing the situation) able to give answer to the information demands of the media with enough celerity and veracity to offer the consistent and correct information in parallel with all the spontaneous information running in the social nets in this kind of events.

Some good practices to improve the information management during the emergency are:

- To have available a contact list with the journalist (basically throughout mobile phone, using *sms* or equivalents considering the net cover in mountain areas).
- To celebrate scheduled periodic press releases during the event, with updated coordinated information.
- To facilitate the contacts and information sources to journalists.
- To offer the possibility of taking images of the fire, in an organized way to ensure the security of the staff and the journalist.

After the fire, most common information is that related with the general balance of the event and their impact. Nevertheless, especially in large wildfire events, the total extinction of the fire can be effective several days after the fire control (extinction have several stages, from the active phase - when the fire has capacity to keep growing -, the stabilization phase – when it can spread at some point but into extinction capacity -, control phase - when the fire cannot spread even if it still has into the burned area hot and smoking points- and, finally, the extinct phase – when the fire cannot restart in any case). In the other side, the official balance and reports are not as fast as the media timing needs since the investigation of the cause of the ignition or the final balance of burnt area and damages produced can take some weeks or even more.

With all, normally post fire is no interesting at all by media who quickly change the topic as the news sector does with all the information. It will be in the first birthday, and in case of a relevant event, when the remembered fire will appear again in the media, showing normally pictures of the forest recovery in contrast with the immediate black landscape after the fire, and the personal histories "beyond the ashes". In the Mediterranean context, regrowth capacity of most of trees and shrubs species adapted to the fire make easy recovering the "green" over the "black", offering a positive image after the perceived "destruction" and "dramatics" of the burnt landscapes, even at the emotional dimension .

The importance of building up a coordinated message

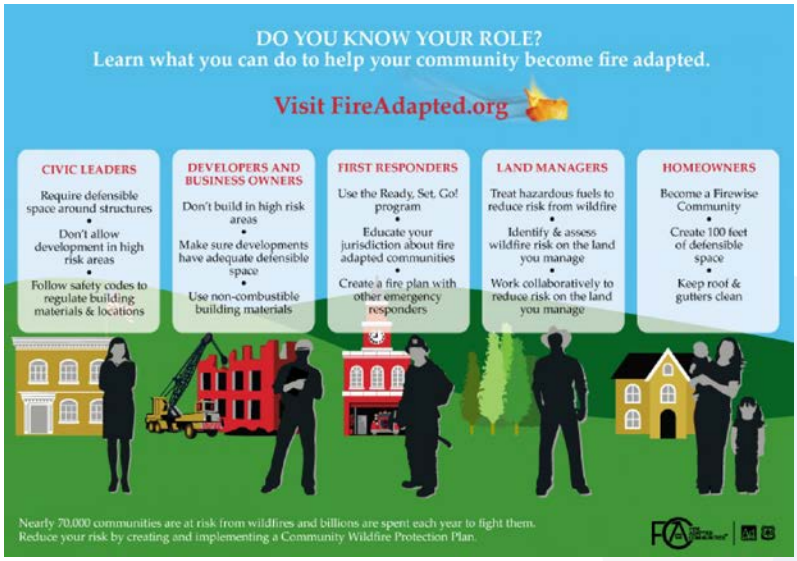
During communication, the message will be addressed towards a high diversity of stakeholders and from different transmitters.

In the public administration, considering the cross-sectorality of the forest fires issue, normally several bodies will be involved in the risk management (from the land planning to the emergency management). To manage the information and communication in a coordinated way between them is fully recommended. This not only helps to enhance the credibility and trust in the message but reinforce the coordination of prevention, extinction, emergency management and restoration policies. Although these competences can be allocated in one or more administrative units of the government, the citizens should perceive them as a unique policy action.

Joint the public ones, in the private sphere several stakeholders are also involved in the risk management which can be identified as target audience or messengers as well. In some cases, there exist different motivations between them. For instance, who should assume the responsibility of the risk exposition in wildland urban interface, the homeowner or the public administration that permits the housing into the forest? There is a room for the good fire paradigm when all traditional awareness campaigns talks about preventing fire?

Generally, the message can be reinforced if several stakeholders have the same opinion and this position is shown in a common platform. Building up communication alliances with environmental groups, for instance, can improve the message impact into society taking advantage of their broad dissemination channels, proximity to general public and good reputation of neutrality.

All this elements take some relevance especially when, through the strategic communication, the pedagogic objectives in mind needs a behavioral change of attitudes and practices of the individuals. In these cases, as we saw in box 1, trust and credibility play a crucial role.



Up left Defining stakeholders roles and coordinating the communication between them can help to reinforce the message.

Up The change of paradigm should consider the previous messages sent to society and cultural process done.

Left Alliances with NGO can help to improve the message impact. In this case, a fruitful collaboration with WWF (in this case, Spanish delegation) promoting the "good fire".

The contribution of the strategic communication

Having into account the complexity of forest fires issue, the development of specific brochures for journalist and communicators explaining the components of wildfire risk management could help them to develop the information in a proper way as well as to identify the stakeholders and to describe the situation beyond the myths. Ingalsbee (2005) is an example of reporter's guides to wildfires.

Gschwandtl (2008) show us how in front of complex issue the possibility of success of communication policies is reduced. Consequently, in this situation to establish a focused and systematic communication, based on a strategic well balanced approach is recommended.

A systematic communication strategy follows the regular management cycle: status quo analysis, objectives definition, definition of the communication actions, implementation, follow up and evaluation and, new definition of objectives (and starting the cycle again) if necessary.

According the same author, box 3 summarizes the common steps taken to carry out a communication strategy. It is crucial the identification of the target audience and the proper adapted message. How a communication strategy is implemented depends on many factors, such as the specific characteristics of the initiator, the target audiences as well as available resources and infrastructures. In any case it is decisive that messages conveyed and communication means applied are tailored according to the specific interest of the target audience.

Box 3. Common steps for a communication strategy (Source: Gschwandtl 2008)

1. Assessing the status quo: Clarifying what communication in given circumstances is actually needed for. Usually you compare your view of your (identifying existing misperceptions and prejudices which can aggravate the acceptance of management activities).

2. Defining objectives: They should be simple, achievable and measureable. Starting from the status quo a clear understanding should be developed on what is to be achieved, what should be different after the communication exercise took place.

3. Identifying the target audience: Target audience needs to be defined carefully and precisely (general public, as often aimed at, is way too broad to be reached with usually available resources) according to the communication objectives. It may be teachers and students, opinion leaders and decision makers, journalists and media, members of specific interest groups like nature conservationists, land planners, etc.

4. Formulating the message: Messages should be formulated following the 4C's, being clear, concise, comprehensible and credible. And of course those messages should ring in the ears of the selected target audience.

5. Designing appropriate communication means: Numerous effective communication approaches, instruments, tools and skills already developed for various situations and to consider professional communication services is recommended. It is important to be receptive to feedback with the target audience in order to allow a dynamic and mutually beneficial dialogue process.

6. Allocating adequate resources: Consider that inadequate resources in combination with overambitious objectives fire back and cause lasting damages on the credibility of the initiator. Do not underestimate how powerful communication needs to be, to make an impact on public opinion.

7. Setting a clear time line: Singular public relations events and activities hardly have a lasting impact on people's minds, which need long term orientated, systematically carried out communication processes to be effective. In all cases a clear time horizon should be set, defining the time span available to achieve the desired effect.

8. Evaluating success: Although success evaluation of communication campaigns is not easy, it is essential to understand if a campaign makes a change or needs a change. Regularly carried out representative opinion surveys are the best means to detect changes in public perception over time.

As figure 6 shows, generally will be recommended to do a preliminary test and adaptation of the material developed before its implementation. In the same figure is included a reflection on the level of awareness of the target audience which is highly important when dealing with process of behavioral changes.

The process of planning and implementation of communication

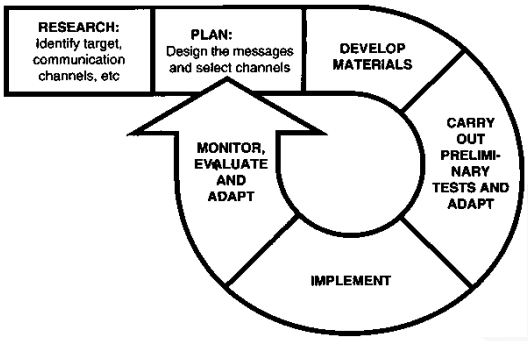
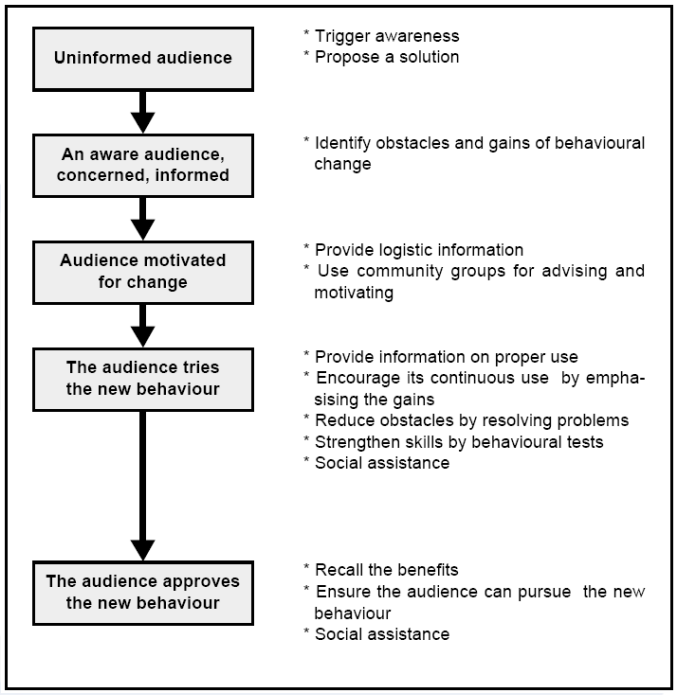


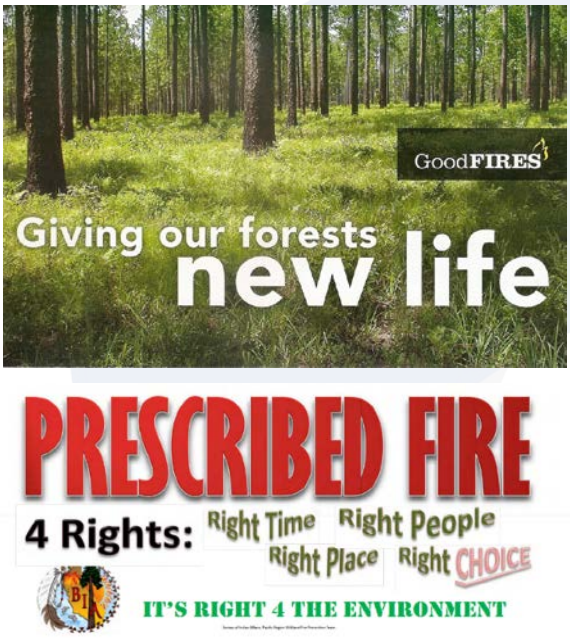
Figure 6. Considerations for the strategic communication (Source: FAO 2002)

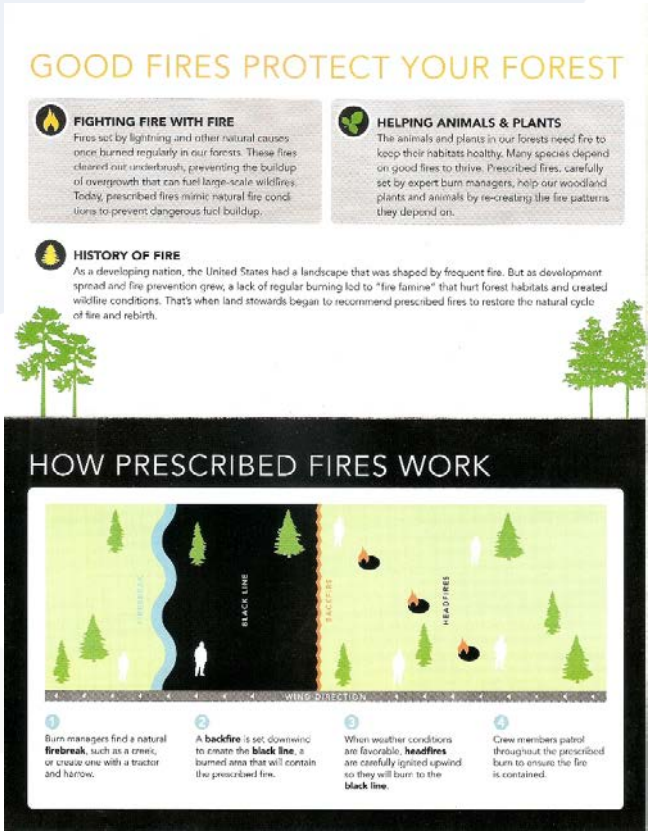
Up Take into account a preliminary test of understanding with the target audience can help to improve the dissemination material.

Right Sustainable behavioral change is a long-term proposition and involves, in addition to issues of communication, other factors such as the availability, accessibility and quality of services, the socio-cultural and political context, the level of education and the socio-economic circumstances.

The Process of Behavioral Change: Audiences and Possible Communication Strategies







Some examples of campaigns with regard the benefits and good practices of the prescribed burning addressed to forest owners and people living close to forest lands. Some of them were coordinated under a common slogan at national level of "Healthy Forest", which was in fact the main message used for the general public.

Under this conceptual frame, a potential communication strategy on fire and wildfire risk management could develop the following objectives:

- ✓ To promote a cultural change among society and related stakeholders towards the role of fire in the ecosystem and the management of wildfire risk.
- ✓ To improve the pedagogic extension of the journal treatment of wildfire phenomena.
- ✓ To improve the knowledge and the communication within the stakeholders related with wildfire risk management.

The potential outputs could be:

- ✓ To establish those common referential concepts around fire and wildfire risk management as well as recommendations about communication and social prevention.
- ✓ To create communication alliances with stakeholders, adapting the message to different channels and target audiences.

Communication recommendations for informing while teaching about forest fires to improve the social prevention

Communication on fire and wildfire has to face two parallel challenges; the complexity of the phenomena, and the urgency of involving society being part of the solution in a changing risk management paradigm.

In both cases, communication has to deal with social perceptions on fire, not always enough close to the technical facts which make difficult sending the message.

Organizing the communication in a systematic and coordinated way can help to achieve more resilient societies. Journalists and media can play a crucial role as they are in between the potential transmitters and receivers of the message. Developing materials for them can be a useful tool to simplify the complexity and base a common technical message able to make closer perceptions with facts.

Some **communication recommendations to promote social prevention** when informing about fire could be**:**

- ✓ **Improve the social comprehension regarding fire and wildfire risk management,** informing about the structural causes of the forest fires (rural activities abandonment and WUI increase), distinguishing clearly the ignition factors from the fire spread and extinction capacity tandem. Overcome the simply interpretation of the arson ignition causes or the extraordinary weather conditions as a main cause of the large wildfires, and relativize the technologic myth.

- ✓ **Improve the comprehension of the natural role of fire as a natural disturbanc**e of Mediterranean ecosystems, and insist on the necessity of getting a resilient and less vulnerable landscape to the fire

spread in order to avoid the large wildfires, as an alternative to the impossible mission of excluding all the fire.

- ✓ A better **comprehension of the fragility and vulnerability of the environment** would help to increase the awareness about the risk exposition and self protection (referred to the WUI), the adoption of prevention and self protection measures, the responsible behavior (avoid the ignitions), as well as the social self control (reporting to the authorities the negligent behaviors).

- ✓ **Reducing the "show" in the wildfire news and media**, for not motivating fire-prone attitudes (arson fires not only from the pyromaniac illness but just to "enjoy" with the "game" of the fire service in action).

- ✓ To promote **the acknowledge of the important role of agricultural activities regarding the wildfire prevention**, jointly with the improvement in the landscape quality (tourism, life quality…). This would lead to establish a clear message about the social role and value of the forest and its importance to be protected.

- ✓ To **avoid the political and mediatic instrumentalization of the forest fires phenomena and the sensationalist treatment** of the catastrophic event.

In front the social reality, whit an increasing demand on the landscape use but in parallel with a high social and forest land risk exposition level, communication on forest fires should do a bridge between the social perceptions and technical facts. And use this pedagogic process linking in stronger way citizens to the challenges of getting resilient societies and landscapes.

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