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Conclusions of the Euro Mediterranean Conferences on Wildfires 2014

Wildfires in urban interface: towards the integration of risk in territorial planning

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Part I: Vulnerability, characterization and identification

Both in the Mediterranean area and other areas, we can find a new type of wildfire with an increasing vulnerability and intensity. The frequency and persistence of the risk episodes are also increasing and areas which are not likely to be risky start now to have risk, such as Wildland Urban Interfaces (WUI), bringing a paradigm change in wildfires. The vulnerability, characterization and identification of these WUI areas are a clue to face the problem:

1. The lack of risk perception makes societies more vulnerable to wildfires. Changes in the usage of land have moved the society away from the forest. It is necessary to think about the forest and its relation with the society. Fast and intense changes cause adaptation difficulties, and there are some loopholes in the current legislation about wildfire risks.

The contradiction between the forest's esthetic value and the historical value make it difficult for people and properties to adapt to the environment; consequently they can suffer wildfires. It is necessary to increase the people's resilience, creating risk culture with preparation in any emergency case. Nowadays there is no social conscience or political implication. It is important that population understand wildfires as part of the planning element. It is necessary to approach the technical speech to the population, considering that people live unconnected to territorial politics surrounding them. **Anna Badia**

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2. To get the characterization perception is fundamental: WUI are a positively valued landscape. There is a proliferation of this landscape because a lot of people find it ideal. Once we have assumed this idea we have to progress from the culture. They are complex and dynamic landscapes. They depend on the context; there are different realities, so we have to adapt the strategies to every area.

To typify fire scenarios, there are some important aspects. The territorial scope concept, landscapes read by the fire, patterns and structural features which behave more or less predictably in front of the fire. It's important to know how these dynamics work. **Cristina Montiel**

3. To identify the strategy, the emergency starts with the 112 emergency phone number, managing calls, coordinating agencies, dividing functions: tracking, deciding, stabilizing and concluding. A system organized by cells, placing strategically the tracking and controllers and priority axioms. The resources follow a concrete and an adaptive methodology, so it is important to invest in opportunities, considering that there isn't going to be a resource for every house. **Moisés Galán.**

4. In order to decrease vulnerability, we present some technical measures and conditions of prevention and safety in buildings affected by wildfire. The legislation, apart from urbanization areas, leaves a gap to act. In construction works licenses, a methodology for buildings is proposed, which is a recommendation, not rules. This proposal will be published in the Official Bulletin of Generalitat as a technical Instruction. It is a simple proposal, two tables to apply easily, with a methodology of risk cataloguing in buildings, with the calculation of temperature that reaches the building. **Claudi Gallardo and Carles Noguera.**

Part II: Fourth and fifth generation fires. Lessons learnt

These fourth and fifth generation fires developed in populated areas lead to a new type of fire emergencies, civil emergencies, which demand a great amount of resources and international help. This phenomenon needs convincing answers from every field: the operative world, R & D, civil engineering, architecture, and property and insurance design. The most important lessons learnt so far are the following:

1. In order to improve the management we need the risk cartography of fires in wild land urban interface, as well as the simulation. We need to identify scenarios, actions on combustible, water points, roads and communications. For a basic analysis, we need working scale and spatial resolution. It is necessary to give advice on fire behavior in residential areas, analyze confinement situations and evacuation. It is important to count on the owner work when we propose measures to increase the building resistance. We have to win the fire in terms of time. **David Caballero.**

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2. We have provided the extinction team with resources for a changing emergency. We need to manage. The uncertainty is high when the extinction teams work with all their capacities, so we need to minimize damage. The combustible has increased, we have created this problem and we are denying it. We are protecting our houses, but we can't avoid the fact that they are being built. The uncertainty and responsibility is passed to the firefighters, insurances, we are only transferring the problem.

We need to think about the resilience of the system in the long term and assume the uncertainty in the short term. We need to socialize the strategy; the firefighting team has absorbed the uncertainty and should deliver responsibilities, agreeing on the management with the population. Each sector must value the landscape in order to decide the strategy. They need to assume the responsibility of what will be the decision of values lost. We need to avoid some potential making decisions together with the society, taking the example of Ireland.
Marc Castellnou.

3. In the USA, lessons learnt after Katrina hurricane implied changes due to the fact that the federal government didn't meet expectations. Resources management was redesigned to make it scalable, creating the National Incident Management System. They standardized commands and controls, in organization structure, terminology, and communicative protocol. Resources were also standardized in every level to have an efficient and effective coordination in response efforts. In the US Department Homeland Security, houses were deconstructed and they were made more resistant. There were other tasks carried out, such as working with population, managing combustible material and improving constructions. Communication is very important, so it is crucial to give the same message to the population. The owners and insurance companies make sure that in case of any danger firefighters can enter, collect data for the government and avoid other dangers. Robert A. Farmer.

4. Regarding strategies and tactics in fire management in WUI, the system has limitations, so a strategic reconsideration is needed, as well as reducing objectives for better results and reconsidering priorities. We must quantify the risk, propose measures and act. Concepts reconsideration:

- Strategy: outline action plan. Territorial planning.
- Tactics: define interventions in each area following the planning Forest Prevention and Management and WUI Protection Regulations
- Maneuvers: methodology and skills. Responsibility. Elements of change to be taken into account. Awareness and responsibility. **Jordi Guarque**

5. Integrate strategic management points in preventive planning from the analysis of potential areas and critical points in their design. This is aimed at topography, wind fires.

6. In Bouches de Rhone, they make a urban-forest interface classification. Residential areas are classified by grouped, attached, isolated and urban. In order to do a government method for the 50-metres part, they use a computer system which assigns a different color for each category. Contact interface and internal interface are valued with 6 building categories. So there are 4 priority categories from higher to lower vulnerability to fire and villages have cartography of these categories. In case of fire, they protect the clear areas and detect the most vulnerable residential areas.



7. Firefighting brigades specialized in wildfire lack training to act in WUI. We need to create an interagency which coincides with a competency framework to share resources, materials and assign tasks.

8. We must find connections to reduce vulnerability, have an active vision, not a reactive one. It is necessary to sue the political part, administration and owners. We also have to reduce wildfire and decrease the risk of people in interface by planning.

Part 3: planning and legislation challenges in a new territory.

This phenomenon must be tackled by authorities capable of legislating, facing challenges without prejudices and with the support of experts.

1. WUI: it is a problem on a territorial scale which is tackled from sectorial logics. There's not a transversal scale which includes it. Local scale prevails. For mitigation strategies and territorial planning we need to overcome a double paradox: inadequacy between the institutional map and territorial dynamics and the limited risk perception as a manifestation of unsustainability in dispersed residential areas.
2. We have technocratic problems; we need a new spatial planning agreement with an efficient response to our problems, which connects public knowledge and action, as a public debate instrument and a learning instrument. It is necessary a new way of ruling risks and a paradigm change related to the crisis: social construction from vulnerability.

Luís Galiana

3. The protecting area can have other uses; in places with a lack of public spaces we can open a gap in order to overlap uses. When studying WUI, we can see that they start from parceled up forest properties. Nowadays, these are commuter areas where different social strata live together. They don't live as a community but as a group of individuals, which leads to urban problems. They are not connected with the forest, that's why there are so many problems, and a solution would be qualify the soil as dependence, services, public spaces... **Pepa Moran, Anna Zahonero**
4. In the analysis to integrate effectively the wildfire risk in urban planning, both in territorial and urban instruments there is no reference to any fire prevention or risks. They only appear in environmental evaluations linked to the planning.
5. In an urbanization process, INCASOL (Catalan Soil Institute) prepares the whole urban proposal. The risk of wildfire can only be found in environmental evaluation, following specific tenders.
6. We need to outline a proposal to make risk and knowledge useful for the administration with the advice of firefighters, this is writing rules. We need the administrative sectorial guarantee, to be listened and spread to the legislation. **Sonsoles Letang**
7. We have to start from objective, strong and legitimate information. We need to integrate expert knowledge in the planning and decision process. We need to propose supportive measures to mitigate risk, as well as identifying and investing in accelerators (changing times, cultural procedures, administrative times, proximity...) In order to do this we need to define properly the parts, both individual, private and public. We also need a definition of the commitments in legislation, plans, technical prescriptions and

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usage regulations. Community must be built and rights and duties must be identified. Integrating new actors means time and empathy, risk managing. **Eduard Plana**

Roundtable/Advances and challenges in preventive and extinction operating system in interface areas.

Evacuating and proceeding to a safe area are different actions. We need to know the time factor, the location, and weather the fire reaches the area to evacuate or confine.

What is the path we need to fix in order to reach some regulations? We need to add interests to meet the common interest. We also need to apply regulations, and demand their compliance. People who live in WUI have different needs which are not covered and wildfires are behind other priorities.

Roundtable / towards an effective integration of wildfire risk in the territory and WUI areas planning

Neither Territory Ordinance nor Urbanism Department contemplate risks.

For avalanches there is *allaucat*, a plan where roads with more avalanches risk are indicated. It also includes Geological Hazard Mapping, which includes avalanches. Residential areas have been built in an uncontrolled way and building in natural risks is not allowed.

Value and price must not be confused, we have learnt more about the problem, and we have valued everything. How can we advance in the plan without thinking about costs? There are two main functions: questions derived from the problem and avoiding what is upon us; the solution goes towards this direction.

The areas must be a public service element, inside the public space, since property is a problem, as it is adding methods to make them profitable.