

Understanding the perception of the community exposed to forest fire risk A European perspective

R. Bianchi (1), V. Gofrin (2), B. Allgöwer (3), P. Martin (4), T. Heikkilä (5)

(1) CSIRO CMIT, (2) Ecole des Mines de Paris, (3) University of Zurich – Irchel, (4) Spanish Council for Scientific Research, (5) SM Finland

Inaugural Bushfire CRC Conference
Perth, October 2004

© Bushfire CRC Ltd. 2004



2

Importance of human behavior in forest fire prevention and preparedness

- Study done within the framework of European project: SPREAD

Increase knowledge of the phenomena that influences forest fires at all stages

- Understand the role of the factors; physical, structural or social nature, involved in the development of forest fire
 - Understand the physical processes involved in fire propagation
 - Understand the role played by vegetation and ecosystem dynamics
 - Propose solutions to current problems identified by end users
- A research field in development: understanding the role of the human behavior in forest fire risk



Purpose of the Study

- How do people who live in fire-prone areas deal with the phenomenon of forest fire in their everyday life?
- Social investigation methods such as a survey to obtain information on:
 - populations opinion,
 - awareness,
 - attitude and behaviour in relation to forest fires



Outcomes

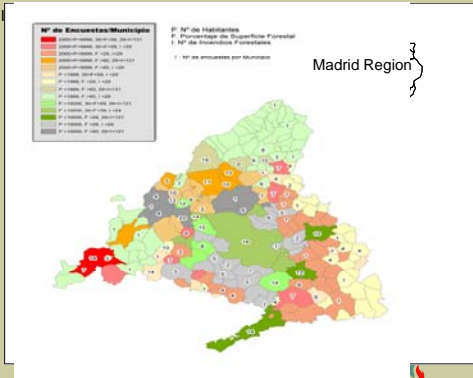
- For the first time in Europe a survey of people's risk awareness has been conducted on such a scale
- The findings of the project will help to improve fire managers understanding of the perception and needs of the people and how to best work together to improve their level of safety



Slide 2

- b2** SPREAD is an open consortium that aims to increase knowledge of the phenomena that influence Forest Fires at all stages in order to support the policy and decision making process for the institutions and individuals involved in the management of Forest Fires in EU countries
- bla335, 22/09/2004

Areas investigate



Methodological Aspect

- Elaboration of a questionnaire to better understand people's behaviour and whether their actions influence fire risk.
- The main research topics dealt with:
 - knowledge on fire risk and its damage and causes
 - opinion about the management of fire by the authorities
 - opinion about risk exposure, information on fire risk and knowledge of prevention measures
 - level of knowledge of forest fire preparedness
 - possibility to fine people that would not respect prevention measures
 - understanding the expectations people have of the emergency services



Methodological aspect

- Elaboration of a questionnaire (adapted to each country delivered in native language)
- The sample based on geographical location was obtained by selected municipalities exposed and not exposed to forest fire
 - Historic data on fire for each municipality
 - the type of vegetation
 - slope
 - the density of population and configuration of the urban area
- Investigation covering 500 individuals:
 - 250 people in exposed areas
 - 250 people in non exposed areas



Methodological aspect

- Other variables that were taken into consideration for the sample
 - People native or not to the region
 - Gender and age of the population, compare with the data given by national demographic statistics
 - Type of habitat
 - The area where people lived (urban, peri-urban, rural)
- The data has been entered into an Access database and the responses were analysed using a specific data analysis tools and survey processing software (statistic software: "Question 2002")



Slide 5

b1


bla335, 22/09/2004



Perception and basic knowledge of risk

- Do you think people are more exposed to forest fire in your municipality?
 - In France people mainly think they are more exposed to forest fire (event in non exposed area)
 - In Spain people think this is the same or they are a little bit more exposed
 - In Finland people feel they are less exposed to forest fire


bushfire CRC



Perception and basic knowledge of risk

- People in the three countries well understood the types of damage caused by forest fires
 - destruction of nature and wildlife
 - the safety of human life
 - the destruction of buildings
 - impact on roads, equipment and landscape

bushfire CRC




Perception and basic knowledge of risk

- Ranking of main cause of fire quoted by population

	France	France (statistical data base from firefighters)	Spain	Finland
Imprudence or negligence	1	2	1	1
Accidental causes	2	3	2 (except urban area)	4
Natural causes	3	1 (accidental negligence)	3	3
	4	4	3	2

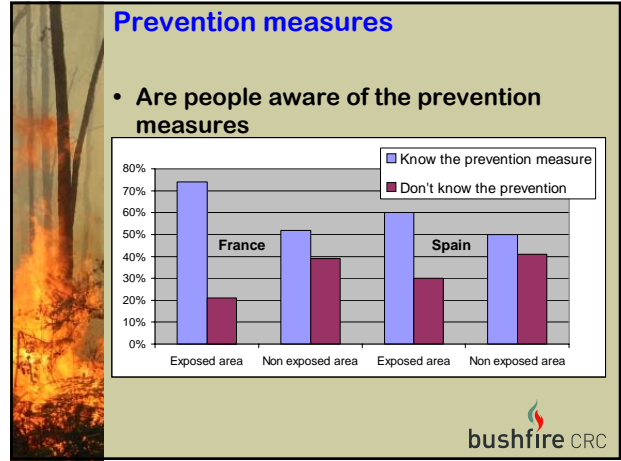
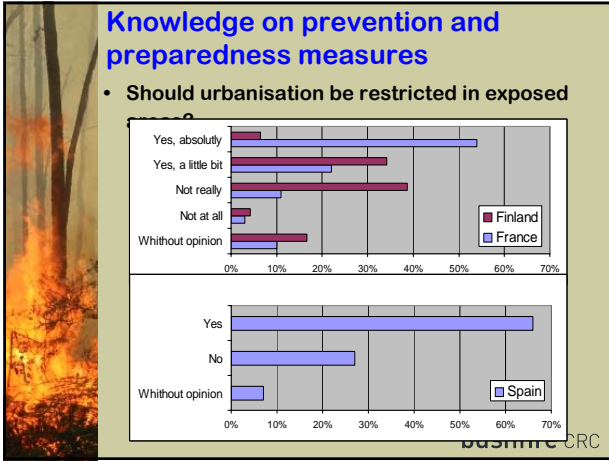
bushfire CRC



Knowledge on prevention and preparedness measures

- Opinion on administration and fire fighters
 - People in Spain and France do not completely trust the action of the administration whereas they do in Finland
 - People consider fire fighters to be very efficient in their suppression work

bushfire CRC



Prevention measures

- Most appropriate prevention measures

measures	France	Spain	Finland
The real time intervention of the fire fighters in the event of fire ignition	3	4	1
forest management measures (by foresters): Prescribed burns, Fire trails, Fire spotting towers	1	1	2
Urban interface preparedness plans by local and regional authorities	4	2	3
Construction measures adopted by the community to resist fire attack	5	5	4
The clearance of undergrowth carried out by private individuals	2	3	5

Prevention measures

- The person or organisation mainly responsible to apply the prevention measure

	France	Spain	Finland
National government	5	1	4
Regional government	2	3	2
Local government	1	4	
Owners	3	5	1
Foresters	4		3
All		2	

- Do people apply it in reality ?
 - authorities note in France that these prevention measures are not applied by the population


Prevention measures

- Opinion of fining people that do not apply prevention measures

	Yes people should be fined	No they should not be fined
France	77%	8%
Spain	59%	41%

- Should fire fighting be free of charge even when people neglect prevention measures?

	Yes	No
France	47 %	37%
Spain	59%	41%
Finland	54%	42%




Information on forest fire

- Opinion on effectiveness of information campaign

	Well informed	Not informed
France	42%	47%
Spain	30%	70%
Finland	50%	39%


- People identified the need for information campaigns
 - France 80%
 - Spain 90%
 - Finland 70%



Information of the population

- Perception of who should be responsible for the information campaigns?

France	Spain	Finland
1. Fire fighters 2. Media 3. Forestry expert and engineers	1. Local gov 2. Regional government 3. Ministry of environment	1. The media (TV and newspapers) 2. Weather forecast 3. Fire fighters



Conclusion

- Highlight the awareness of the population of forest fire risk
 - The awareness of living in exposed areas is different for each country
 - They know about the prevention measures mainly if they live in the region for a long time
 - They rely on authorities to set up the prevention measures
 - It appears that the measures are not applied in reality
 - The perception of risk information is different for each country
 - People identified a need for more information
- Intensify the information to people in a campaign devoted to stimulating sensitivity and responsibility towards fire prevention
- Which form this campaign should take?

