



The RFO “INCENDI”: strong cooperation at the scale of 9 mediterranean regions

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Abstract

In the summers of 2003 and 2004 there were very large fires in the five countries on the Mediterranean borders of Europe (France, Italy, Spain, Portugal, Greece), resulting in major material damage and loss of life.

The Mediterranean countries are increasingly exposed to the risk of fire for a number of reasons:

Uncontrolled urban development and the phenomena of ‘risk-bearing ‘rurbanisation’ (urban construction in rural areas)

Forest expansion both in surface and volume due to diminishing agriculture (approx. 1% increase per annum)

Constant rise in the summer population

Increase in the number of sensitive zones due to the scarcity of available suitable spaces

In addition to fire prevention and fire fighting, the territories also have to confront the problems of rehabilitation of the devastated land.

Given these circumstances, cooperation between the stakeholders and the territories concerned is no longer a mere possibility but has become a matter of urgency. There have been some initiatives for cooperation over the last few years but they have remained embryonic.

This present project constitutes the first move for large-scale inter-regional cooperation in the Mediterranean zone on the question of forest fires.

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This project comes under the European Interreg III C programme as a Regional Framework Operation (RFO). The aim is to provide a space for experimentation in the improvement of regional policies and to organise the basis for future integrated policies at national level in the European Mediterranean countries.

Introduction

“Fire is an ancient and universal ecological force that has moulded most of the floral communities of the Mediterranean basin landscapes”, M. TRABAUD...

Indeed, even if fire has been an integral part of mankind's civilisation for thousands of years, its current perception by all has changed, shifting from that of a life-giving, natural factor, towards that of a destructive element and an enemy that endangers both nature and populations and, as such, is to be fought off.

A general context that encourages the development of fires

An increasing surface area of forested land.

Mediterranean forests have, since the Neolithic period and hence for many centuries, been subjected to the impact of Mankind. They have suffered from disturbances of varying degrees in scale, frequency and intensity according to the changing populations and climate. These variations determined the phases of regression or progression of their cover that have given rise to changing landscapes throughout time.

Over the last quarter of the 19th century, there has been a transformation linked to different causes : re-wooding, the concentration of agricultural zones in plains with the progressive abandon of the terrace farming that is characteristic of the Mediterranean area, the implementation of the common agricultural policy, the beginning of a rural and agricultural decline, the end of the intensive exploitation of forests, the spreading use of fossil fuels,...and progressively over the past century, Mediterranean territories have generally been subjected to the development of waste land due to the abandonment of farming and the neglecting of forest areas. The surface area of forested land thus grew.

Demographic growth

Parallel to these natural, economic and social evolutions, the same territories have seen demographic growth over the past thirty years or so. This phenomenon has been particularly acute since the beginning of the nineties. In Provence-Alpes-Côte d'Azur, for example, between 1990 and 2002 the population grew by 366,000 people due to migration. The same trend is to be found throughout most of the Mediterranean regions of the northern shore of the Mediterranean, which are particularly attractive. This influx of new populations in most of the regions of the North shore basin has transformed them into host lands, in particular in coastal areas and midlands. Some populations settle permanently, others are just tourists; these populations generally come from Northern Europe or other regions of the world and are not necessarily aware of the fire issue. They may therefore develop behaviours that incur risk; this poses the question of awareness raising and information

On top of these changes comes the phenomenon of periurbanisation.

Periurbanisation does indeed respond to a new and general necessity to occupy space, behind the sprawl that extends to forest and farming land. This periurbanisation responds, amongst other things, to changing lifestyles, to the decline of farming and breeding in Mediterranean regions, to increasing land prices especially in town outskirts. This interface that is developing between wooded land and urban areas outlines a problem that has been little studied to date.

The challenge concerns issues of land planning, the consequences of rural and agricultural decline, the hosting of populations that are not necessarily aware of fire risks, the development of leisure resorts in natural areas and the increasing numbers of tourists. This interface has not, until now, been handled in any particular way and we are obliged to admit that when fire breaks out, rescue services focus on inhabited areas often to the detriment of a more overall effort of fire fighting to control the fire.

Moreover, despite the concentration of fire rescue units near inhabited areas, this does not prevent them from suffering extensive damage, such as that which occurred in Portugal in 2003, where over 2000 buildings were damaged, 500 of which were houses.

Climate change in progress

Lastly, a further element linked to real nature of this context and that increases the vulnerability of Mediterranean regions to natural hazards in general, and particularly to fires, is that of the changing climate. Will this change be confirmed in time and will it be behind a true climate change?

It's difficult to say. We can, however, only note that there are alternating periods of drought and rain, with an increasing intensity of extreme phenomena. Plant life is subjected to this variation and is therefore changing, mutating, adapting or even disappearing altogether.

According to the results of the Blue Plan, the nineties decade was no doubt the warmest for over a thousand years. The deficient management of catchment areas and ground occupation, alongside a lack of prudent planning and behaviour that increases this vulnerability to risks on both shores of the Mediterranean, are also singled out. The Blue Plan draws the hypothesis that by 2025, our regions will see an escalation of extreme climate events.

Faced with these generally acknowledged facts backed up by professionals, forest domain experts, several Mediterranean regions suffered from major fires in 2003 that endangered populations and natural and economic heritage.

Major fires throughout the entire Mediterranean basin in 2003

During the summer of 2003, major fires affected the entire Mediterranean basin, destroying more than 740,000 hectares of forest and natural sites, i.e. almost 50% more than the average over the 1980-2003 period that was close to 500,000 hectares. Two countries greatly exceeded their usual counts:

- France, which burned twice more than average
- Portugal, which burned four times more than average

Beyond the environmental losses, these fires caused the death and injury of a great number of people, both amongst fire fighters and the local communities (18 deaths in Portugal, 10 deaths in France).

They also caused extensive material damage (2000 buildings damaged in Portugal, over 100 in France ...).

The following table provides the details of a number of fires and burned surface areas for the countries of Mediterranean Europe.

Table 1—*Number of fires in 2003 in the regional partners.*

	Portugal	Spain	France	Italy	Greece	Mediterranean EU
Number of fires						
Year 2003	20 864	18 628	4 100	9 697	1 452	54 741
Average 1980-2003	16 612	14 965	4 945	10 887	1 576	48 985
Year 2003	421 835	149 224	74 000	91 803	3 397	740 379
Average 1980-2003	107 704	190 519	31 557	120 725	47 418	499 164

These fires were behind the realisation, in particular on behalf of the authorities, that beyond the loss of forests, populations, activity and infrastructures were also severely affected, incurring a direct impact on economic development.

For all of the Mediterranean regions that are, or not, affected by deliberate fires, we must minimise the impact of this hazard; to do this we must provide ourselves with the means to save a common natural and economic heritage and to keep populations safe. But by which means, and with which tools and procedures?

An initial Mediterranean response to this context: the European programme, R.F.O. “INCENDI”

Cooperation on a Mediterranean scale.

The extent of the forest fires in the summer of 2003 encouraged a strong and rapid mobilisation between the technical departments and the elected representatives of the Mediterranean regions involved (cooperation between fire fighting departments, seminars...). At the beginning of 2004, the five States decided to set up

a project for cooperation in which the particularly stricken Provence Alpes Côte d'Azur Region, would assume the role of Lead Partner.

The Regional Framework Operation appeared to be the type of cooperation that best fitted the partners' ambitions as it offers a space for experimentation between the partner regions (work themes) and makes it possible to associate local stakeholders, fire fighting/prevention professionals or local authorities ("mini programmes").

The "INCENDI" project benefits from a budget amounting to some 7 million euros, and its completion is planned for June 2008. In terms of forest and natural risk management, the spread of jurisdiction differs greatly between States and, above all, between Regions, since most have decentralised systems. Today, most of the regions have legislative or voluntary jurisdiction with regard to territorial planning, prevention and education...

The RFO partnership therefore took these differences into account with regard to its constitution. One of the main preoccupations was to include both partners from the west and from the east of the Mediterranean, continentals and islanders (these areas are indeed faced with specific problems) and an authority from a country or a Region of the southern shore.

The partnership included:

- 5 continental Regions: Provence Alpes Côte d'Azur, Languedoc-Roussillon, Andalusia, Tuscany, Algarve.
- 4 island Regions: Corsica, the Balearic Islands, Sardinia and North Aegean
- The Nuoro province (Nuts III level: departments, provinces) with the authorisation of the Sardinia region
- 10 NUTS III authorities associated with their respective regions: Var, Vaucluse, Bouches du Rhône, Alpes Maritimes- PACA Gard, Hérault, Pyrénées Orientales, Aude-Languedoc-Roussillon/ Livorno and Grosseto-Tuscunay.
- 1 Region of the South Shore: Tanger Tétouan (Region that regularly cooperates with Provence Alpes Côte d'Azur and Andalusia)

To take into account the very different situations, this operational partnership also involves all of the territorial levels and therefore all of the territorial scales as well as the technical stakeholders of territorial planning and fire fighting/prevention.

The INCENDI project targets regional territorial authorities, stakeholders, local authorities and all inhabitants (permanent or seasonal) and particularly young people with the goal of awareness raising in order to make them into true "players".

The goals of 'INCENDI

This will to federate the partners and the population around the sensitive issue of fire hazards is one of the main goals of this RFO.

The project also aims to develop a true integrated regional policy at the scale of the Mediterranean front; natural risk management policies affect many areas, and the

participating regions will have to display a strong will in order to coordinate their political structures, to share experience, information tools and procedures.

More specifically, the project's goals are organised around three axes:

- Improving regional policies in terms of fire fighting along with increased consultation for territorial planning that is in line with a preventive process.
- At a local level, the acquisition and development of tools and methods that makes it possible to take natural risks into account when developing plans for local prevention and planning.
- The adhesion and support of the population to prevention guidelines and policies, to encourage them to participate in a voluntary approach; the project's partner Regions strongly wish to reach a wide audience, from school children to local stakeholders, as fire fighting and prevention has now become everyone's business.

Concrete cooperation in three stages

The first stage of "REGIONAL AUDITS" September to December 2005

Inventory of the partners' experience in terms of fire fighting and prevention.
Drawing up of the specifications for the call for sub-projects.

The second stage: "EXPERIMENTATION"

From January 2006 to December 2007: Launching of calls for projects and inter-regional activities by the partners. Implementation of sub-projects and assessment.

The final stage called "CAPITALISATION"

From January 2007 to June 2008: Reflection on how to integrate experimentation and exchanges of experience within the regional policy of each partner.

The advantage of cross appraisal: for the mutualisation of experience and know-how

During 2005, the INCENDI project went through a phase of reflection and collection of information, and cross appraisal in order to create out an overview of existing practices in partner regions in terms of fire fighting and prevention, and the restoration of burned land.

To proceed with this analysis, a work group was formed comprising technicians from each partner Region and/or forestry or fire fighting organisations.

These groups conducted their analysis by visiting partner regions, studying their organisation and techniques used for prevention, fire fighting and restoration. They also met with local stakeholders, in order to find out where they thought their strong and weak points lay, where the expectations of their region lay.

Thanks to commonly developed analytical grids, the group of experts were able to establish the best practices already implemented within the Regions participating

in the INCENDI project, but it also identified a large number of expectations that varied according to the areas visited, and that it was necessary to identify before proceeding with the final choice of work themes that would initiate the experimental phase.

Each theme relies upon inter-regional and local actions, and is adopted by a restricted number of partner Regions ; the organisations targeted by the call for sub-projects included local authorities (towns, departments, regions, conurbations) and also forest owner associations, associations dedicated to the environment or to education...etc.

The advantage of local experimentation: for a diversification of the partnership

Awareness raising amongst school children and the general public/information

The Region Corse is the leader of this thematic, in which PACA, Languedoc-Roussillon, Balears, Sardinia and North Aegean Region are participating. The aim is to develop information and awareness systems and a pedagogy adapted to the culture of the risk in the children : major advertising campaigns (general public and school children), drawing up of « good practices » to adopt in the forest, reflection on providing daily news, network for the protection of forestry heritage, information directed at specific communities (farmers...) implementation of a new sign system in forests that attract a lot of tourists...

Corsica took on board the creation of a data base on awareness raising tools – assessment of tools and the creation of a manual to help in decision-making on information and awareness raising amongst school children and the general public with regard to fire hazards with the support of the work group composed of the regions and of local project bearers.

One plan is to create an Eco-Mediterranean passport in order to teach children the values of environmental respect extended to their own territory.

Lastly, a guide for forest housing will be developed in collaboration with the self-protection theme.

Moreover, collaboration with the European project « Fire Paradox » is already underway for an inventory, the definition of awareness building tools and the creation of a network of experts.

Local plans

(PACA, Languedoc, Andalusia, Tuscany, Corsica, the Balearic Islands, Algarve, Sardinia)

Methodology that ensures coherence and coordination between local and regional levels, activities and help for towns, coherence between plans, elaboration and revision of plans, implementation.

The Region of Andalusia is lead partner for the « local plan » theme with the participation of the Provence Alpes Côte d'Azur, Languedoc-Roussillon, Corsica,

Nuoro, Tuscany, Algarve and the Balearic Regions. Inter-regional activities have been planned:

Planning and urbanism; sociological activities; crisis management.

Exchange of information on Local Plans and an inventory of tools

Practical training in Andalusia. The goal is to show a simulation of how local plans work in Andalusia.

Training and association of Mayors / municipal councillors. The aim of this activity is to show them the tools available for awareness raising amongst elected representatives and to analyse them.

The « Algarve week » with a workshop on Local Plans

Lastly a Guide on Local Plans will collect together the best practices to use in developing and operating a Local Plan.

Rehabilitation of land after a fire

(PACA, Languedoc, Tuscany, Corsica, Balearics, Algarve)

The region of Tuscany is the lead partner for this theme.

It is generally acknowledged that it's difficult to move from a regional level to a local level.

The goal is to acquire a common working method, to lead an in-depth study on our theme in depth and to centralise information.

The expected and sought after results that will focus activities are:

Tools available to local authorities to draw on experience;

The acquisition of information and good practices with regard to the choice of local operators;

The final creation of one or several technical guides based on experience and stemming from the quality of exchanges. This guide must be consultable at the time of an emergency to allow the fast acquisition of information and skills.

Fire Breaks

(PACA, Languedoc, Balearics, Algarve)

The cross appraisals conducted in 2005 in the RFO partner regions lead to the identification of « break » theme as one of the 8 work directions in which the regions wished to invest.

Alongside the Languedoc-Roussillon, lead partner for this theme, the regions of PACA (Provence Alpes Côte d'Azur), the Balearics, Algarve and Corsica got together to improve our knowledge of this subject.

In addition to the experimental approach, the vocation of which is to provide operational tools for the partners, the regions defined common work themes leading to common products or creations: organisation of inter-regional seminars; Creation of a « fire break » data base that gathers information in the form of summary sheets;

Elaboration of a guide for elected representatives and planners that specify the relevant principles.

Volunteers

(Andalusia, Sardinia)

Within the scope of its experimental activities, this theme groups together 35 authorities or associations within the regions of Andalusia and Sardinia.

These activities, based on the principle of a “responsibility contract” take form in local actions, cleaning of roadsides, creation or maintenance of water supply facilities and surveillance in high fire risk periods.

Inter-regional exchanges are also set up in the shape of specific training sessions on actions of fire prevention and suppression that target volunteers and authorities.

Lastly, it has also been planned to create a training manual and a best practices guide for volunteers.

Improving operations centres

(Languedoc, Tuscany, Algarve)

3 regions, Tuscany, Algarve and Languedoc-Roussillon, are involved in this theme which has strong links and common activities with those linked to mapping and local plans.

The main goal of inter-regional activities is to organise exchanges and to compare experiences between partners, either in by organising seminars (2 have already taken place, in Nuoro and in Valabre in December 2006), or by successive field trips in each of the 3 regions involved.

Three meetings have thus already taken place, in Algarve, in Languedoc-Roussillon (in the Aude department) and in Tuscany, in Livourne province. .

Following these meetings, summaries will be published in brochure format and other communication tools will be developed on this theme.

Self-protection

(PACA, Languedoc, Balearics, Algarve)

The inter-regional activities of the “self-protection” group are working in two directions:

Technical “self-protection” Days – Each day was dedicated to a tool used in the Provence Alpes Côte d'Azur region for self-protection.

Organising individuals for the mandatory clearing of undergrowth, following the example of the action led by the Grand Site Ste Victoire.

“Interface”, “Firebreak”, “Local Plan” and “Mapping” Days in common with the “self-protection” groups in the Provence Alpes Côte d'Azur Region.

Mapping interfaces: what do we mean by “interface” in different regions, what type of mapping (powder magazines, subjected risk zones, induced risk zones...) is available?

Which type of planning to implement in these zones from plenary presentations and examples of interfaces that protect and prevent forest fires (the firebreaks of Cassis and Ceyreste that are local RFO INCENDI projects, olive grove interfaces, etc.)

Reflection group on a guide for elected representatives and planners (the 25th April is reserved for this reflection group).

Three elements will be produced:

A comparative analysis of legal measures for self-protection that exist in partner regions on this theme.

A guide for elected representatives and planners for the development and management of forest-habitation interface zones.

A guide for forest inhabitants to help them to set up all of the measures for self-protection which are available to them.

Mapping, theme

This is a transversal theme that groups together all of the regions of the RFO INCENDI, and is the object of local and regional experimentation in the Provence-Alpes-Côte d'Azur, Languedoc-Roussillon, North Aegean and Algarve regions.

These local experimentations mainly focus on the mapping of equipment for the protection of forests against fire, particularly water distribution, the mapping of combustible plant formations and on the mapping of fire risks.

All of these local experiments were based on the sharing of experience amongst partners and on the use of the latest knowledge in research and new technology (GIS, GPS, satellite imagery, simulation...).

A 3 day seminar was organised by the Provence-Alpes Côte d'Azur region in Valabre, in December 2006, in which the latest findings were presented in order to help partners pursue their local experiments in better conditions.

For each of the major themes developed in this stage, the sharing of experience will enable the publication of a methodological guide that will be made available not

only to all RFO INCENDI partners, but also to the potential users of the regions involved.

Within the scope of their inter-regional exchanges, the RFO INCENDI partners also set themselves the target of making a summary of their forest fire risk assessment methods and to move towards a common method.

Common risk assessment methods, common data base references, information sharing, exchanges on risk mapping, updating and creation of risk maps (forest fire zones in Provence Alpes Côte d'Azur, Languedoc-Roussillon, daily risk, forest infrastructures), diffusion of information for locals.

.... And new themes for exchange

Beyond the work themes in which 74 local participants are already engaged, the Regions and their partners are working together on themes that are judged to be important in the improvement of fire fighting and prevention policies.

Operating experience, on strategies for prevention, first response and fire fighting.

Prescribed burning and tactical fire.

Research on causes of fire

Exchange base on technical and regulatory tools

Innovation in technological tools

These themes give rise to exchanges of experience between regions, to the writing of common methodological manuals and to the development and implementation of training sessions, in relation with other European cooperation or research projects (partnership with Fireparadox and Pastomed, use of the works produced by the Eufirelab project...) This collaboration with other Interreg programmes, and also with projects supported by the European Community framework programmes for research and technical development open up the way for new cooperation channels on the theme of forest fires on a European scale.

They do indeed fit into the Commission's research and development priorities which focus on developing techniques and study methods on environmental impact, forecasting, risk assessment prevention and reduction.

What is the outlook for results?

The experimental stage will end with an assessment of the ensuing results, followed by a stage of capitalisation during the first half of 2008; the main goals will be both to diffuse the results obtained and to think about how to integrate experimentation and exchanges of experience within the regional policies of each partner region (Main goal of the RFOs).

RFO INCENDI activities, those involving both experimentation and inter-regional exchanges will lead to the production of methodological references, technical manuals, general public documents and communication documents on the theme of forest fires and also to the creation of a training programme.

Wherever possible, these tools will not only be developed in connection with the other RFOs that are working in the field of natural risks, forest management and territorial planning, but also in synergy with the European Commission framework programmes for research.

Moreover, the valorisation of results achieved during the recently completed research programmes, or of those still underway, will systematically be encouraged (in particular numerous summaries from EUFIRELAB).

All of these documents, along with those produced by partners, will be indexed so that they can be easily identified and used by any organisation of the EU countries to whom they might be of use.

Contact will be made, in particular, with the Commission's common research centre so that these documents may, as far as necessary, be included in the NEDIES (Natural and Environmental Disaster Information Exchange System) knowledge base set up by this organisation.

This system for the exchange of information on natural and environmental disasters does indeed have a lot in common with RFO INCENDI, in particular that of preparing and diffusing the lessons drawn from experience with the goals of preventing natural disasters, and of preparing for them and reacting to them when they do arise.

Links have also been established with the EURORISK programme, in particular for its forest fire section that has been developed within the GMES1 (Global Monitoring for Environment and Security) European programme and the 6th framework programme for research, with the aim of unfurling services for risk management, based on information systems using spatial and *in situ* data, to help in decision making at all stages of risk, in particular those of prevention, warning, crisis and post crisis management. Some of the services proposed by this programme largely cover the requirements of the RFO INCENDI partners, and will thus be largely valorised.

Permanent diffusion of information, results and trends

A non-negligible part- 20%, of the « INCENDI » INTERREG 3C project is devoted to the diffusion of ensuing results and to the pre-figuration of future permanent cooperation networks (both technical and political) on the question of fire hazards in the Mediterranean.

The RFO INCENDI's communications strategy is built around two sections: the goal is firstly to target territorial authorities and other institutions (national and European) that are not directly involved as RFO INCENDI partners and, secondly, other European RFO INCENDI projects according to their objectives and experts (academic or others) that have state of the art knowledge in this field.

The organisation of one Forum per year on the problem of fire hazards was provisioned in the RFO application. These Forums come mostly under the first section of the RFO INCENDI communications strategy as the end objective of these Forums is to diffuse RFO results to other authorities and institutions and to engage them in an open discussion.

Forum programme

The first “forum” in 2006 took place in TUSCANY. The main theme for this first event was “fire risks, rehabilitation of land after a fire”.

The next Forum in October 2007 will take place in the Provence-Alpes-Côte d’Azur Region. The main theme will involve territorial planning policies and forest fire risk prevention.

The final Forum will be held in 2008 in the ALGARVE Region and its goal will be to capitalise the results obtained and to organise the network’s future endeavours.

Parallel to these annual forums, the project partners participate in the major events organised around this theme, in May 2007, for example they participated in the World Conference on forest fires organised in Seville.

The RFO INCENDI project is now half way through. Work on inter-regional activities, local projects, thematic reflection...is still underway and two additional forums will be organised. Consequently, the cohesion of different work will be organised over the coming months in preparation for a presentation upon the closing of the project in 2008. However, as from today it would appear valuable to use the assessments and elements that have come out of the general reflection from other groups to approach two themes, amongst a considerable number, that could be integrated into the collective reflection engaged by the partners with the goal of providing an illustrative example.

Concerning general assessment aspects to be used as an illustration by the RFO INCENDI partners in their project

What are the consequences of climate change on forest fire vulnerability?

On the scientific and physical basis of climate changes, the work group recently provided its contribution to the fourth assessment report of the inter-governmental groups of experts on climate change (IECC).

This contribution confirmed that global warming is unquestionable, as it is now clear in the observations of the increasing mean global temperatures of the atmosphere and the seas, the general snow and ice melt and the mean global rising level of the sea.

For the regions of temperate and Mediterranean Europe, the most likely scenarios mention an average increase of 1.5 to 2 ° C, increasing rainfall in winter, especially in the North , and a drop in summer rainfall, above all in the West and throughout the Mediterranean basin.

The consequences of these climate changes on the forest are difficult to predict for the moment.

Research within this field has only just got underway and has been the object of European research programmes for just the past few years.

Initial results project a displacement of southern essences towards the North and East.

Yet, the dynamics of post-glacial re-colonisation is now a well-known phenomenon and shows that proceed with a time lapse of several thousands of years in landscapes that afford no particular constraints to the progression of species.

The delay estimated by current research does not amount to a few thousand years, but to several decades; a time lapse that is considerably lower to the lifespan of a tree.

We do not yet know what will be the consequences of the speed of these climate changes.

Thus, certain forest essences will probably not survive in their current climate niche.

Can we expect massive waves of perishing within our forests or will we be spectators to a more diffuse and progressive death of the less adapted trees?

Whatever the case, we can expect some dramatic changes in the landscapes of Mediterranean regions and their mountainous foothills, with an increase in the surface area of the territories affected by forest fires, and a rising vulnerability of those already exposed to this phenomenon, due both to summer climate conditions that are far more unfavourable and to the decline of certain local formations.

Reflection on the adaptation of forestry policies and the territorial planning of those areas that are the most affected by these changes should be launched immediately.

The extent and complexity of the phenomenon would plead for the initiation of an approach that involves all of the Mediterranean regions.

What are the consequences of the demographic evolution in the Mediterranean on territorial planning and on vulnerability to forest fires?

The population in Mediterranean regions has been rising since the sixties, hand in hand with the level of urban population.

These rising urban populations result in a sprawling of urbanisation from the centre of regional metropolis towards the nearest rural communities.

This expansion of towns leads to a competition for the use of land, where anthropogenic and natural dynamics are at conflict.

New landscapes are appearing, within which there are multiple meetings of natural areas and urbanised zones.

Moreover, a large amount of farming land has been neglected.

Part of it is now occupied by new residential areas, whereas the rest has been progressively colonised by pre-forest, followed by forest formations.

Land was previously divided into farming areas and, at that time, was characterised by large uninterrupted areas of forest formations and moors.

The organisation of urbanisation in a linear fashion along the edge of forest for pre-forest formations, or grouped together within forest islands modifies the structure of the landscape and tends to split it up.

Moreover, anthropogenic activities deeply modify the composition of the plant formations encountered in the urban/environment interfaces. These changes have developed the risk of forest fires, characterised by an increasing number of plantlets in the interface zones and a higher incidence of major fires that can cause serious damage to the habitat of these interfaces.

The recent prospective studies initiated by the Blue Plan show that the attractive nature of Mediterranean regions and the consistent infatuation of city dwellers for a life in the countryside will amplify this phenomenon over the coming twenty years.

To anticipate this territorial change, several factors about which we still know nothing, or far too little, would deserve to be studied and correlated with the reflection underway within the framework of the RFO :

The behaviour of residential populations, in order to offer types of urbanisation that live up to expectations, but that are also adapted to the future environmental context and to fire hazard. Indeed, households choose their place of residence according to a certain number of elements that are inherent to territorial structures (transport networks, employment centres, location of public services, etc.), but also in function of the natural environment

The influence of the type of habitat organisation on the organisation of the landscape and on its vulnerability to fire

Reaction to fire of interface formations whose structure and composition are moulded by anthropogenic actions.

Pursuing objectives half way through the project

The only goal of these few lines is to present the RFO INCENDI project, to place it within a more general context, to make an assessment during the project on initial reflections, the first challenges that have been identified and therefore to provide a contribution for the 4th international conference on fire forests that will be held in Seville from 13th to the 17th of Mai 2007.

The cross-assessment, local experiments and thematic reflection are still ongoing and will allow us, when the project is completed, to provide a more final contribution that will open the way not only for the implementation of common tools and procedures, but also for recommendations carried by the participating Regions to European entities in order to emphasize and take into account the Mediterranean particularities with respect to fire; also in order to bring our situation to light and demonstrate our specific know-how, to develop greater efficacy and relevance in intervention and in the management of consequences. All of these studies should also allow us to suggest new directions for the different territorial levels of jurisdiction for fire preventing and fighting policies, thus providing an answer that is better adapted in the face of a strongly mutating environment.