



Forest management provides jobs - many forest workers were unemployed (Nina Lauterburg)

Plan of preventive silviculture (PSP): implementation of firebreak network within a forest intervention area (ZAU) (Espanha)

Plan de selvicultura preventiva de incendios en los sistemas forestales de la Comunidad Valenciana (Spanish)

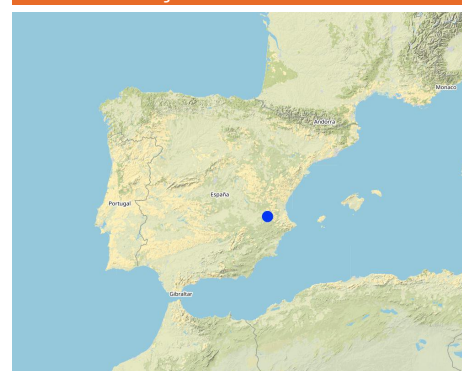
DESCRIÇÃO

Through the declaration of Ayora to a forest intervention area (ZAU) and the implementation of the pilot project of the PSP, a preventive silviculture was promoted through the establishment of a firebreak network.

Aims / objectives: Forest fire is the main degradation driver in Ayora. In the article 24 of the forest law 3/1993 the declaration of special areas to forest intervention areas, so-called "Zonas de Actuación Urgente (ZAU)" through the regional government of Valencia is defined. Objectives are the protection against natural hazards and the promotion of conservation/restoration within a area which is degraded, affected by a forest fire (and natural regeneration is not probable), adverse climatic conditions, pests, severe ecological change, or fauna or flora of special value. If the use of the resources is not compatible with the conservation objectives within a ZAU, the administration has the right to enforce restrictions. The Ayora region was declared to a ZAU in 1997 due to its high risk of fires. In the "Plan de Selvicultura Preventiva de Incendios en los Sistemas Forestales (PSP)" ("plan of preventive silviculture to prevent forest fires") which became operative in 1996 and whose main objective is the reduction of the fire risk, the ZAU was practically addressed for the first time in the establishment of a firebreak network (áreas cortafuegos). The PSP constitutes an important part of the "plan de protección contra incendios forestales" ("plan of protection against forest fires") and has the following main objectives: The analysis/mapping of historic forest fires in Valencia (1984-1994) to support decision-making in silvicultural issues, the classification of the forest by quality and fire risk to establish local/regional plans to prevent fires (through silvicultural actions), selection of areas (province level) for the establishment of pilot projects (to apply silvicultural actions), decision on periodic investment and level of employment.

Methods: Within the PSP, 4 pilot projects were initiated in Los Serranos (17'470 ha), Utiel-Requena (20'966 ha), Valle de Ayora-Cofrentes (33'851 ha) and Sierra de Mariola (11'574 ha) to promote a preventive silviculture which aims in modifying the amount of fuel in the forest through the establishment of a firebreak network and to limit the burnt area. The pilot areas were selected (in collaboration with the forest administration of Valencia) by the following criteria: representativity for the whole province, high value for the population, high potential risk of fire. In T_SPA009en the pilot project of Ayora-Cofrentes (Cofrentes, Jalance, Jarafuel, Zarra, Ayora) is described in detail and this approach focuses on the Ayora site as well. The firebreak network was established between 1998 and 2002, carried out by the company VAERSA and executed on both public and private land. Since the old firebreaks (established before the project) had a strong visual and ecological impact, the PSP designed a new type called "área cortafuego". The continuous maintenance of the firebreaks is required which is also included in the pilot project. The total area protected by the firebreak network amounts to 33'851 ha while the management measures were executed on 1944,81 ha. The costs of the

LOCALIZAÇÃO



Localização: Los Serranos, Utiel-Requena, Valle de Ayora-Cofrentes, Sierra de Mariola, Spain, Valencia, Espanha

Geo-referência de locais selecionados

- -1.18, 39.08054

Data de início: 1996

Ano de término: n.a.

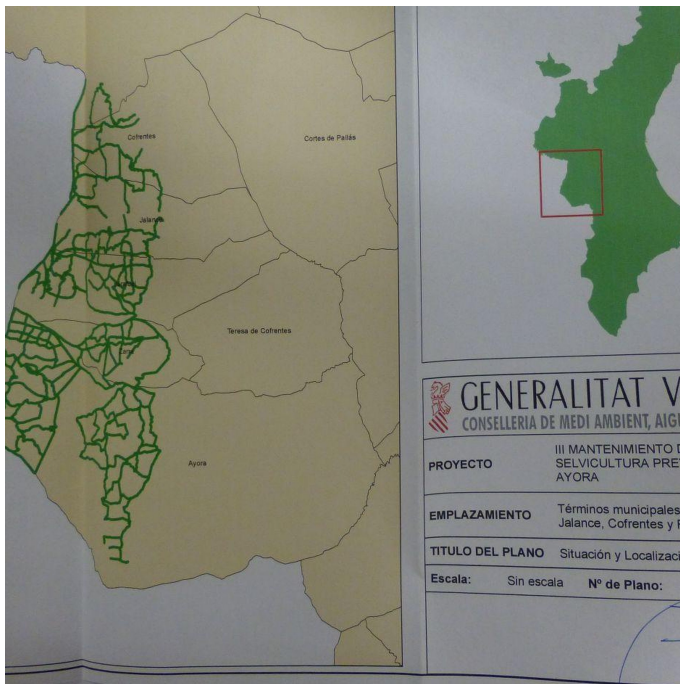
Tipo de abordagem

- ☐ Tradicional/Indígena
- ☐ Iniciativa/Inovação local recente
- ☒ Baseado em projeto/programa

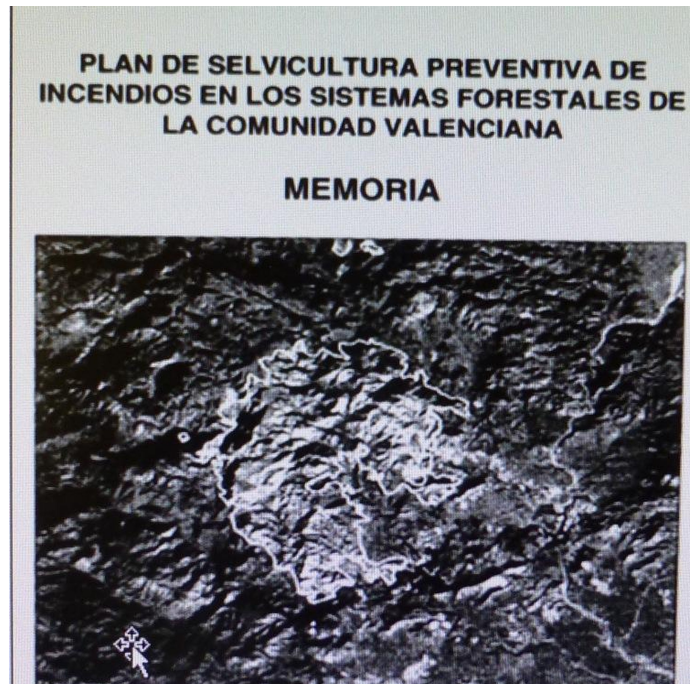
execution were 1312 Euro per ha, the maintenance 82.03 Euro per ha (all 2 years) and 31.37 Euro per ha (all 4 years).

Stages of implementation: After the establishment of the PSP (1996) and the declaration of Ayora to a ZAU (1997) the implementation of the pilot project was realized in the following phases: 1) splitting up of the territory based on the quality and the potential risk (using maps and aerial pictures), 2) field work (to examine the first draft of the firebreak network elaborated in the office), 3) office work (digitizing), 4) final map, 5) estimation of costs, 6) combination of firebreak plan with the cadastral land register.

Role of stakeholders: The PSP, the ZAU and the pilot projects were set up by the regional government of Valencia, in collaboration with the forest services. The PSP is put into operation each year by the forest services to plan the maintenance of the firebreak network. The effect on the local population is the creation of jobs in forest management.



Third maintenance of the firebreaks established through the pilot project of the plan of preventive silviculture (Generalitat Valenciana)



Project documents of the plan of preventive silviculture (Generalitat Valenciana)

OBJETIVOS DE APROXIMAÇÃO E AMBIENTE PROPÍCIO

Principais metas / objetivos da abordagem

The Approach focused mainly on SLM with other activities (analysis/mapping of historic fires to support decision-making in silvicultural issues, classification of forest systems by quality and fire risk to prioritise actions and establish local/regional plans)

Research on historic fires to support decision-making in silvicultural practices, fire risk reduction, reducing the burnt area through splitting up the forest, improvement of fire prevention and extinction measures (e.g. improvement of access for fire-fighting vehicles and protection of fire fighters), establish local/regional plans to prevent fires (through silvicultural actions), promote conservation of the forest on a large scale

The SLM Approach addressed the following problems: High amount of continuous fuel due to lack of management which increases the risk of vast and devastating fires, lack of fire prevention and extinction measures, ecological and visual impact of old firebreaks.

Condições que permitem a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

Condições que dificultam a implementação da Tecnologia(s) aplicada(s) sob a Abordagem

- **Disponibilidade/acesso a recursos e serviços financeiros:** There was a lack of money to implement silvicultural measures Treatment through the SLM Approach: The pilot project of the PSP was fully financed by the government
- **Quadro institucional:** Laws on forest management existed already before the implementation of the PSP but the idea of establishing a firebreak network was not available Treatment through the SLM Approach: With the pilot project of the PSP the firebreak network was carefully assessed and implemented

PARTICIPAÇÃO E PAPEL DAS PARTES INTERESSADAS ENVOLVIDAS

Partes interessadas envolvidas na abordagem e seus papéis

Que partes interessadas/órgãos de implementação estavam envolvidos na abordagem?	Especifique as partes interessadas	Descreva o papel das partes interessadas
Usuários de terra/comunidades locais	Usually men are involved in the forest sector In the execution and the maintenance of the firebreak network unemployed local people were/are included. But in the development of the PSP this was not the case.	Working in the execution and the maintenance of the firebreak networks

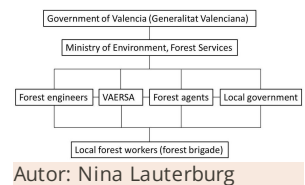
Especialistas em GST/ consultor agrícola	Forest services, forest agents (working for the government of Valencia)	
Governo local	Probably the local governments helped in the implementation of the pilot projects, e.g. provision of maps.	
Governo nacional (planejadores, responsáveis pelas decisões)	Regional government of Valencia (Generalitat Valenciana), forest services, Forest engineers (working for the government of Valencia)	
Politicians in collaboration with SLM specialists		

Envolvimento do usuários de terra/comunidades locais nas diferentes fases da abordagem

	Nenhum	Passivo	Apoio externo	Participativo	Automobilização	
Iniciação/motivação	✓					By government of Valencia
Planejamento	✓					By government of Valencia
Implementação			✓			local people working in the execution and maintenance of the firebreak network, led by forest agents and forest engineers of the government of Valencia
Monitoramento/avaliação	✓					By government of Valencia
Research	✓					By government of Valencia

Fluxograma

The PSP and the pilot projects were set up by the regional government of Valencia in collaboration with the forest services. Forest engineers and forest agents are employed at the forest services and helped to design the projects. VAERSA, a public company of the Generalitat Valenciana, executed the pilot projects and was supported by forest engineers, forest agents and the local governments. Local forest workers were contracted (by VAERSA) for execution and maintenance work and controlled by forest agents.



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Tomada de decisão sobre a seleção da Tecnologia GST

As decisões foram tomadas por

- ☐ Somente usuários da terra (iniciativa própria)
- ☐ Principalmente usuários da terra, apoiados por especialistas em GST
- ☐ todos os atores relevantes, como parte de uma abordagem participativa
- ☐ Principalmente especialistas em GST, após consulta com usuários da terra
- ☐ Somente especialistas em GST
- ☐ Políticos/líderes
- ☒ Politicians in collaboration with SLM specialists

As decisões foram tomadas com base em

- ☐ Avaliação de conhecimento bem documentado de GST (tomada de decisão baseada em evidências)
- ☐ Resultados de pesquisa
- ☐ Experiência pessoal e opiniões (não documentado)

SUPORTE TÉCNICO, REFORÇO DAS CAPACIDADES E GESTÃO DO CONHECIMENTO

As seguintes atividades ou serviços têm sido parte da abordagem

- ☒ Reforço das capacidades/ formação
- ☒ Serviço de consultoria
- ☐ Fortalecimento da instituição (desenvolvimento organizacional)
- ☒ Monitoramento e avaliação
- ☒ Pesquisa

Reforço das capacidades/formação

Foi fornecido treinamento às seguintes partes interessadas

- ☒ Usuários de terra
- ☐ Equipe de campo/consultores

Tipo de formação

- ☒ Em exercício
- ☐ Agricultor para agricultor
- ☐ Áreas de demonstração
- ☐ Reuniões públicas
- ☐ Cursos

Assuntos abordados

Training of local people in the use of machinery in forest management (execution and maintenance of firebreaks)

Serviço de consultoria

Foi prestado um serviço de consultoria

- ☐ nas áreas dos usuários da terra
- ☒ Em centros permanentes

Advisory service is quite adequate to ensure the continuation of land conservation activities; The maintenance of the pilot projects is included in the PSP and is planned and executed by the government of Valencia. Already three maintenance projects followed after the execution of the pilot projects (2000-2004, 2004-2008, 2008-2012). Future funding of activities is not clear.

Monitoramento e avaliação

technical aspects were regular monitored by project staff, government through observations; indicators: Observations of built-up of fuel to decide when and where maintenance is required There were no changes in the Approach as a result of monitoring and evaluation: None There were few changes in the Technology as a result of monitoring and evaluation: The technology is the same since the execution of the project but maintenance (e.g. clearing of firebreaks) is applied. Some more firebreaks were established where it was still required and not covered by the pilot project.

Pesquisa

As pesquisas trataram dos seguintes tópicos

<input type="checkbox"/> Sociologia	analysis/mapping of historic forest fires in Valencia (1984-1994) to support decision-making in silvicultural practices, classification of the forest by quality and fire risk, research on causes of forest fires
<input checked="" type="checkbox"/> Economia/Marketing	
<input checked="" type="checkbox"/> Ecologia	
<input checked="" type="checkbox"/> Tecnologia	Research was carried out both on station and on-farm

FINANCIAMENTO E APOIO MATERIAL EXTERNO

Orçamento anual em USD para o componente GST

<input type="checkbox"/> < 2.000	Approach costs were met by the following donors: government
<input type="checkbox"/> 2.000-10.000	(government of Valencia): 100.0%
<input type="checkbox"/> 10.000-100.000	
<input checked="" type="checkbox"/> 100.000-1.000.000	
<input type="checkbox"/> > 1.000.000	

Precise annual budget: n.a.

Os seguintes serviços ou incentivos foram fornecidos aos usuários de terras

<input checked="" type="checkbox"/> Apoio financeiro/material concedido aos usuários da terra
<input checked="" type="checkbox"/> Subsídios para insumos específicos
<input type="checkbox"/> Crédito
<input type="checkbox"/> Outros incentivos ou instrumentos

Apoio financeiro/material concedido aos usuários da terra

state (government of Valencia)

Equipamento: Maquinário
machinery for forest management

Parcialmente financiado
Totalmente financiado

Infraestrutura: Estradas

A mão-de-obra dos usuários da terra foi

<input type="checkbox"/> Voluntário
<input type="checkbox"/> Comida por trabalho
<input checked="" type="checkbox"/> Pago em dinheiro
<input type="checkbox"/> Recompensado com outras formas de apoio material

ANÁLISE DE IMPACTOS E DECLARAÇÕES FINAIS

Impactos da abordagem

A abordagem auxiliou os usuários da terra a implementar e manter as tecnologias de GST?
Improvement of fire extinction and prevention

Não
Sim, pouco
Sim, moderadamente
Sim, significativamente

A abordagem concedeu autonomia aos grupos social e economicamente desfavorecidos?
More jobs provided through this approach of forest management

Did other land users / projects adopt the Approach?
Within the PSP they carried out 4 pilot projects, and after the projects more firebreaks were established

Principal motivação dos usuários da terra para implementar a GSTAtividades de sustentabilidade de abordagem

<input checked="" type="checkbox"/> fire prevention and extinction	Os usuários da terra podem sustentar o que foi implementado através da Abordagem (sem apoio externo)?
	<input checked="" type="checkbox"/> Não
	<input type="checkbox"/> Sim
	<input type="checkbox"/> Incerto

CONCLUSÕES E EXPERIÊNCIAS ADQUIRIDAS

Pontos fortes: visão do usuário de terra

Pontos fortes: a visão do/a compilador/a ou de outra pessoa capacitada

- Before the implementation of the pilot projects of the PSP there was a lack of money and no institutional base. The pilot project allowed to establish a firebreak network (fully financed by the

Pontos fracos/desvantagens/riscos: visão do usuário de terracomoo superar

Pontos fracos/desvantagens/riscos: a visão do/a compilador/a ou de outra pessoa capacitadacomoo superar

- Firebreaks do mainly work in fire extinction and less in fire prevention Investigation of other management practices and

government of Valencia) (How to sustain/ enhance this strength: The government should sustain its investment in forest management.)

- The maintenance of the firebreak network is included in the PSP. (How to sustain/ enhance this strength: The government should sustain its investment in forest management.)
- The firebreak network facilitates the access for fire fighters (and vehicles) and guarantees a higher security for people, thus increasing the possibility to control/slow down a fire. By arranging the territory in different parcels (firebreaks of first, second and third order) the spread of large forest fires is less probable (How to sustain/ enhance this strength: The maintenance of firebreaks is crucial. Furthermore, there must be a good coordination and organisation within the fire fighter staff in case of an emergency)
- There are also firebreaks which were not established within the pilot project but due to a request of forest agents. The project was important to upscale this technology and to get people's attention for the problem of forest fires. (How to sustain/ enhance this strength: Public awareness raising.)
- There are both social and economic benefits for local people. The establishment and the maintenance of firebreaks provide jobs for rural people, which allows them to increase their livelihood conditions. People do not depend on unemployment payments and are therefore more accepted in society. (How to sustain/ enhance this strength: The government should sustain its investment in forest management and include the local population)

approaches. An integrative way of forest management could be the clearing of fire-prone species and the planting of more fire-resistant species as suggested by CEAM.

- Little involvement of the local population. The projects were designed by the government without including local land users Include local land users in the planning of forest management. Work in a transdisciplinary way.
- Land users cannot continue the SLM approach/ technology on their own. The maintenance is expensive and has to be financed by the state. Once the government will not continue paying the maintenance of the firebreaks the technology will probably not be managed anymore. Furthermore, forest services need to provide technical assistance The government should sustain its investment in forest management. More trainings could be provided to local land users by the government of Valencia

REFERÊNCIAS

Compilador/a

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Pessoas capacitadas

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Descrição completa no banco de dados do WOCAT

https://qcat.wocat.net/pt/wocat/approaches/view/approaches_2590/

Dados GST vinculados

Technologies: Cleared strip network for fire prevention (firebreaks) https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1592/

Technologies: Cleared strip network for fire prevention (firebreaks) https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1592/

Technologies: Cleared strip network for fire prevention (firebreaks) https://qcat.wocat.net/pt/wocat/technologies/view/technologies_1592/

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- Centro de Estudios Ambientales del Mediterraneo (CEAM) - Espanha
- Generalitat Valenciana (GVA) - Espanha

Projeto

- Catastrophic shifts in drylands (EU-CASCADE)

Referências-chave

- Plan de selvicultura preventiva, laws, fire prevention plans, ...: Conselleria de infraestructura, territorio y medio ambiente de la Generalitat Valenciana www.cma.gva.es and <http://www.112cv.com/prevencion/guatlla30/web-2520exportar/indice.aspx@nodo=206&idioma=c.htm>

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