



7 years old plantation of agaves (Agave cupreata) ready for the production (Christian Prat)

Land reclamation by agave forestry with native species (المكسيك)

Recuperación de tierras degradadas por agaveforestería con especies locales de agaves, arboles y hierbas

الوصف

Land reclamation with local agave (to produce mezcal) associated wotj trees, shrubs and grasses planted through participative actions for economic benefit.

Aims / objectives: Rehabilitation of degraded land is achieved by using native agave and trees, shrubs and grasses which creates, over the medium-term (7-10 years), a sustainable production of an alcoholic drink and/or pharmaceutical products and/or fodder for cattle and/or wood. Further objectives are water conservation, biodiversity, generation of permanent employment, carbon sequestration, generation of higher family incomes and a reduction of the amount of livestock and number of animals and uncontrolled grazing. These positive impacts of the Approach contribute to preventing the rural population from emigrating to the cities or abroad.

Methods: Coordination, cooperation and systematic participatory process among stakeholders are the basis of the Approach. Promoting participatory process occurs through workshops, interviews with community leaders, field visits conducted with owners of the land to recognize the problems and identify areas of opportunity, training courses, exchange of experiences with other people who are developing similar projects at different stages. Technical advice and the links with scientists, technicians and public officials in charge of project beneficiaries is given under a two-way process of mutual learning and seeking to strengthen self-management capabilities that inspires innovation at the different stages. The key to success of a participatory Approach lies in liberating and developing community leadership and self-organization processes.

Stages of implementation: The project is part of a regional planning context and a basin scale approach of intervention. The watershed of the site project is included in a special programme of the Ministry of Environment and Natural Resources of Mexico which gives the opportunity of developing and financing a medium- to long-term project. The participatory process is delivered from planning, organizing, programming and implementing to financing, training, monitoring and disseminating the results. The greenhouse and nursery management, the technical assessment for the improvement of the agave forestry system, guidance with quality production of mezcal and marketing support to diversity products and sell them in order to make the project financially self-sustaining and profitable. All these stages range from short- to medium- and long-term.

Role of stakeholders: The government finances the project through grant resources, promotes the participation of beneficiaries and monitors it, seeking the management of resources and intersectoral participation. Scientists and academics share their knowledge, techniques and methodologies for implementation, improvement, evaluation and monitoring of each stage, and they support capacity-building of the community. The owners of the land and the community implement and develop each of the activities from building and maintaining the greenhouse and nursery, planting agaves, trees and shrubs, to the use and production of mezcal and other commercial products.

الموقع

الموقع: Morelia, Cointzio watershed, Mexico/Michoacán, المكسيك

المرجع الجغرافي للمواقع المختارة

- غير متاح

تاريخ البدء: 2007

سنة الإنهاء: غير متاح

نوع النهج

- ☐ ليدي/أصلي
- ☐ مبادرة محلية حديثة/مبتكرة
- ☒ قائم على مشروع/برنامج



7 years old plantation of agaves (Agave cupreata) ready for the production (christian Prat (christian.prat@ird.fr))

غابات النهج والبيئة المواتية

الغايات/الأهداف الرئيسية للنهج

The Approach focused mainly on SLM with other activities (Economical activity, Health, agriculture, wood, agaveforestry)

Rehabilitation of degraded land is done using native agave, trees, shrubs and grasses which creates over the medium-term (7-10 years) sustainable production of an alcoholic drink (mezcal) and/or pharmaceutical products and/or fodder for cattle and/or wood.

The SLM Approach addressed the following problems: Social and economic problems: Agriculture and livestock in the region are primarily for subsistence. The level of poverty and marginalization of the people of the project site is medium to high with low education levels. People need to migrate to the cities or outside the country to supplement the family budget. Prices of farmer productions are too low and do not allow economic survival. Therefore, only 10 to 20% of the total incomes are derived from agricultural products. This explains why the children of farmers do not want to become farmers and lands are less and less cultivated. In correlation, as the livestock price is good and animals can be raised with little input of time. Thus the number of animals is increasing and as they are grazing everywhere, they have a strong soil erosion impact.

الشروط التي تمكن من تنفيذ التقنية/التقنيات المطبقة في إطار النهج

- **الإطار القانوني (حيازة الأراضي، وحقوق استخدام الأراضي والمياه):** The existing land ownership, land use rights / water rights greatly helped the approach implementation: The project starts with bad lands used by the community, so risks are limited for farmers

الظروف التي تعيق تنفيذ التقنية/التقنيات المطبقة في إطار النهج

- **المعايير والقيم الاجتماعية/الثقافية/الدينية:** The social arrangement of the 'ejido' requires all people to agree on moving forward with different activities. The level of education and migration Treatment through the SLM Approach: Systematic and constant promotion of the participatory process through community assembly meetings, workshops, community exchange travel, experiences and training. Promote complementarity and targeting of resources from other sectors.
- **توفر الوصول إلى الموارد والخدمات المالية:** Potential constraints in the final stages of the project when receiving revenue from the sale of mezcal and other products Treatment through the SLM Approach: Strengthening capacities of organization and administration, promoting transparency and accountability in the community. Development and consolidation of the formation of cooperatives as an alternative to social enterprise
- **الإطار المؤسسي:** The risk that the six-year change in administration does not follow the care programme in the area Treatment through the SLM Approach: Strengthening self-management capabilities of the group of beneficiaries of the project. Involving other government levels and sectors funding training and monitoring of subsequent stages.
- **الإطار القانوني (حيازة الأراضي، وحقوق استخدام الأراضي والمياه):** Federal, state and municipal regulations for preventing clearance of woods, biodiversity uses, forest exploitation, water concessions and water quality must be applied. Mexican official standards of mezcal production must be used. Treatment through the SLM Approach: Conduct a thorough review with a focus on prospective different stages of a project and the legal implications and regulations that must be met at these stages. Inform land owners about their rights, obligations and mechanisms of fulfilment.
- **المعرفة حول الإدارة المستدامة للأراضي، والوصول إلى الدعم الفني:** Lack of validation and technology transfer of agave forestry. Lack of information on the requirements of these species of agave. Potential risk to move from non-intensive system to an intensive one due to economic and market factors. Treatment through the SLM Approach: Development of technological packages for an agave forestry system as a basis for the production of mezcal, considering soil erosion levels and system arrangements. Promote only ecologically diversified, non-intensive systems. Design environmental and ecological monitoring stage.

مشاركة وأدوار الأطراف المعنية

الأطراف المعنية بالنهج وأدوارها

وصف أدوار الأطراف المعنية	حدد الأطراف المعنيين	ما هي الجهات المعنية / الكيانات المنفذة التي شاركت في النهج؟
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مستخدمو الأراضي المحليون/المجتمعات المحلية		they are concerned! Traditionally, women are more in charge of the house and the area close to the house. Women have a specialized involvement in this project which is mainly focus on the beginning of the installation of the crops (management of the greenhouse and plantation) as well as the collect of annual herbaceous and fruit trees, meanwhile the agave collect and alcohol production is done by men. Women are worried about possible impacts of alcohol in the communities, because alcoholism is a social drama. There is no discrimination inside the communities until now
متخصصون في الإدارة المستدامة للأراضي / مستشارون زراعيون		
المعلمون / أطفال المدارس / الطلاب		
منظمة غير حكومية		Scientific and practical approaches University (UMNSH)
الحكومة المحلية		Technical help, interests for the results (extension of the approach)
الحكومة الوطنية (المخططون، صانعو القرار)		Funding (Mainly SEMARNAT) and interests for the results (extension of the approach)
منظمة دولية		Scientific approaches (DESIRE project)

انخراط مستخدمي الأراضي المحليين/المجتمعات المحلية في المراحل المختلفة للنهج

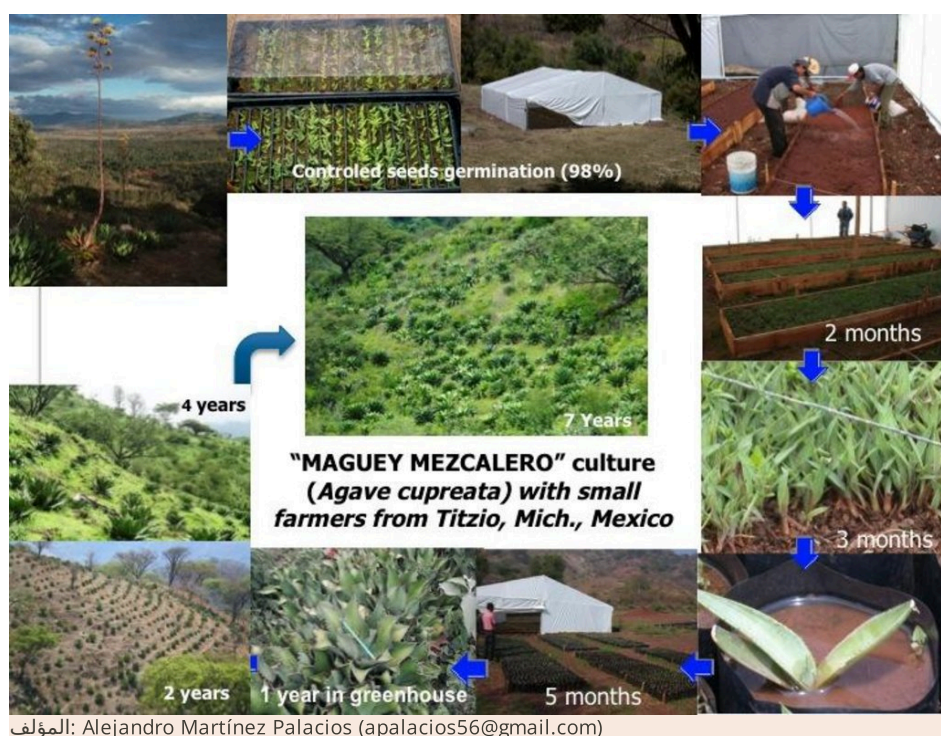
	غير موجود	الدعم السلبي	تفاعلي	التعبئة الذاتية
المبادرة/التحفيز التخطيطي				✓
التنفيذ				✓
الرصد/التقييم				✓
Research			✓	

Balance alternatives and take decisions to test the agave forestry Planning,organizing and programming the project, defining responsibilities, time and initial investment. Identification of agave seeds and a proper place to install the greenhouse and nursery. Building and maintenance of greenhouse and nursery, selecting the sites for the plantation and planting. Training of land users by other land users to produce mezcal according to quality rules for a recognized product.

In each field: monitoring plant growth, status of the protection against cattle grazing, indications of soil erosion. Monitoring by some land users of some parameters defined by scientists.

مخطط التدفق

Agaveforestry system production cycle



اتخاذ القرار بشأن اختيار تقنية الإدارة المستدامة للأراضي

وقد تم اتخاذ القرارات من قبل

- ☐ مستخدمو الأراضي وحدهم (المبادرة الذاتية)
- ☐ مستخدمو الأراضي بشكل أساسي، بدعم من متخصصي الإدارة المستدامة للأراضي
- ☐ جميع الجهات الفاعلة ذات الصلة، كجزء من نهج تشاركي
- ☐ متخصصون في الإدارة المستدامة للأراضي بشكل أساسي، بعد التشاور مع مستخدمي الأراضي
- ☐ متخصصون في الإدارة المستدامة للأراضي بمفردهم
- ☐ السياسيون / القادة
- ☒ by SLM specialists and by land users

تم اتخاذ القرارات بناء على

- ☐ تقييم المعرفة الموثقة جيدًا بشأن الإدارة المستدامة للأراضي (اتخاذ القرارات القائمة على الأدلة)
- ☐ نتائج البحوث
- ☐ خبرة وآراء شخصية (غير موثقة)

الدعم الفني وبناء القدرات وإدارة المعرفة

شكلت الأنشطة أو الخدمات التالية جزءًا من النهج

- ☒ بناء القدرات/التدريب
- ☒ خدمة استشارية
- ☒ تعزيز المؤسسات (التطوير التنظيمي)
- ☒ الرصد والتقييم
- ☒ البحوث

بناء القدرات/التدريب

تم تقديم التدريب للأطراف

المعنية التالية

- ☒ مستخدمو الأراضي
- ☒ موظفون ميدانيون / مستشارون

شكل التدريب

- ☒ في العمل
- ☐ من مزارع إلى مزارع
- ☐ مناطق العرض
- ☒ اجتماعات عامة
- ☐ دورات

المواضيع المعطاة

Training focused to explain which plant to select for seeds, how to create and maintain plants in greenhouses, how transplant them, and what is the strategy to plants them in the fields (border/production-trees/Agave...) Training for the alcohol production: management of the equipments, quality rules, tips, etc.. done by another mescal producer (small farmer) Training for annual herb

خدمة استشارية

تم تقديم الخدمة الاستشارية

- ☒ في حقول مستخدمي الأراضي
- ☐ في مراكز دائمة

Name of method used for advisory service: Plant (native Agave, trees and herbaceous) production advises; Key elements: Plant selection, Management of plants under greenhouse, Field plantation design; 4. Process of the mature plants (Production of certified mescal, medicinal herbs...)

Advisory service is very adequate to ensure the continuation of land conservation activities; The extension system is very adequate to ensure continuation of activities

تعزيز المؤسسات

تم تعزيز/إنشاء المؤسسات

- ☐ لا
- ☐ نعم، قليلا
- ☐ نعم، باعتدال
- ☒ نعم، إلى حد كبير

على المستوى التالي

- ☒ محلي
- ☐ إقليمي
- ☐ وطني

صف المؤسسة والأدوار والمسؤوليات والأعضاء وما إلى ذلك

نوع الدعم

- ☒ مالي
- ☒ بناء القدرات/التدريب
- ☒ معدات

مزيد من التفاصيل

transport

الرصد والتقييم

area treated aspects were regular monitored by project staff, government, land users, other through observations no. of land users involved aspects were regular monitored by project staff, government through observations management of Approach aspects were regular monitored by project staff, government through observations area treated aspects were regular monitored by project staff through measurements economic / production aspects were regular monitored by project staff, government through measurements economic / production aspects were regular monitored by project staff, government through observations technical aspects were regular monitored by project staff through measurements bio-physical aspects were regular monitored by project staff through measurements bio-physical aspects were monitored by project staff, government through observations There were few changes in the Approach as a result of monitoring and evaluation: Too early to answer There were few changes in the Technology as a result of monitoring and evaluation: Too early to answer

البحوث

تناول البحث المواضيع التالية

- ☐ علم الاجتماع
- ☒ الاقتصاد / التسويق
- ☒ علم الأيكولوجيا
- ☒ تكنولوجيا

No information about condition of production of this agave species, especially to the sugar produce by the plant which will be used for alcohol production (better plant in the shadow or under direct sun? better old plants than young one? etc...). Effectiveness of soil control erosion system (density of Agave plantations on line of green walls...) have not been measured until now

Research was carried out on station

التمويل والدعم المادي الخارجي

الميزانية السنوية بالدولار الأمريكي لمكون الإدارة المستدامة

للأراضي

☐ < 2000

☒ 10,000-2,000

☐ 100,000-10,000

☐ 1,000,000-100,000

☐ > 1,000,000

Precise annual budget: غير متاح

Approach costs were met by the following donors: government: 80.0%; local government (district, county, municipality, village etc): 10.0%; local community / land user(s): 10.0%

تم تقديم الخدمات أو الحوافز التالية لمستخدمي الأراضي

☒ الدعم المالي/المادي المقدم لمستخدمي الأراضي

☒ إعانات لمدخلات محددة

☐ الائتمان

☐ حوافز أو وسائل أخرى

الدعم المالي/المادي المقدم لمستخدمي الأراضي

Parts comes from UE research project (DESIRE) and main part comes from environmental taxes funds managed by SEMARNAT (Sec environment)

	ممول جزئياً	ممول بالكامل
معدات: أدوات shovel, hammer, pickaxes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Greenhouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>
زراعة: بذور	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Plastic bags, soil, water	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Materials for greenhouse	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transports People, plants, materials	<input checked="" type="checkbox"/>	<input type="checkbox"/>

العمل من قبل مستخدمي الأراضي كان

☐ تطوعي

☐ الغذاء مقابل العمل

☒ مدفوع نقداً

☐ مقابل دعم مادي آخر

تحليل الأثر والتصريحات الختامية

آثار النهج

المحفر الرئيسي لقيام مستخدمي الأراضي بتنفيذ الإدارة

المستدامة للأراضي

☒ زيادة الإنتاج

☒ زيادة الربح (القدرة)، وتحسين نسبة التكلفة إلى العائد

☐ الحد من تدهور الأراضي

☐ الحد من مخاطر الكوارث

☐ انخفاض عبء العمل

☒ المدفوعات/ الإعانات

☐ القواعد واللوائح (الغرامات) / الإنفاذ

☐ الوجهة والضغط الاجتماعي/ التماسك الاجتماعي

☐ الانتماء إلى حركة/ مشروع/ مجموعة/ شبكات

☒ الوعي البيئي

☐ العادات والمعتقدات والأخلاق

☐ تعزيز المعرفة والمهارات في مجال الإدارة المستدامة للأراضي

☐ تحسينات جمالية

☐ التخفيف من حدة الصراع

☒ well-being and livelihoods improvement

استدامة أنشطة النهج

هل يمكن لمستخدمي الأراضي الحفاظ على استدامة ما تم تنفيذه من خلال النهج (بدون دعم خارجي)؟

☐ لا

☒ نعم

☐ غير مؤكد

The first step need external funds, but then, when the production will start, the benefits will cover all the costs of management and extension to cover more surface

الاستنتاجات والدروس المستفادة

نقاط القوة: وجهة نظر مستخدم الأرض

نقاط القوة: وجهة نظر جامع المعلومات أو غيره من الأشخاص الرئيسيين لمصدر المعلومات

- Productive project which generates economic benefits over the medium-term (How to sustain/ enhance this strength: As a result of the money earned, it will be possible to extend the area concerned and subsidies will not be necessary anymore.)
- The project is done in a participative way where different kinds of stakeholders are involved: administrators, politicians, scientists and the public (How to sustain/ enhance this strength: Maintenance of the interaction between stakeholders from the workshops, present results to other authorities and appropriate fora.)

نقاط الضعف / المساوئ / المخاطر: وجهة نظر مستخدم الأرض/كيفية التغلب عليها

نقاط الضعف / المساوئ / المخاطر: وجهة نظر جامع المعلومات أو غيره من الأشخاص الرئيسيين لمصدر المعلومات/كيفية التغلب عليها

- Selling alcoholic drink is not necessarily beneficial from a health and societal point of view Maintenance of campaign to reduce consumption and develop a responsible attitude to alcohol.
- Women particularly, are worried about the possibility of the increas in alcohol consumption Since alcoholic drink will be produced in a semi-industrial way for external market, it is not supposed to be consumed by the communities themselves.

الأشخاص الرئيسيين لمصدر المعلومات

Christian Prat (christian.prat@ird.fr) - متخصص في الإدارة المستدامة للأراضي - فرنسا

Alejandro Martínez Palacios (apalacios56@gmail.com) - متخصص في الإدارة المستدامة للأراضي - المكسيك

Eduardo Ríos Patrón (eduardo.rios@semarnat.gob.mx) - متخصص في الإدارة المستدامة للأراضي - المكسيك

WOCAT الوصف الكامل في قاعدة بياناتhttps://qcat.wocat.net/ar/wocat/approaches/view/approaches_2454/**بيانات الإدارة المستدامة للأراضي المرتبطة**Technologies: Land reclamation by agave forestry with native species https://qcat.wocat.net/ar/wocat/technologies/view/technologies_1114/Technologies: Land reclamation by agave forestry with native species https://qcat.wocat.net/ar/wocat/technologies/view/technologies_1114/**تم تسهيل التوثيق من قِبَل****المؤسسة**

- Institut de recherche pour le développement IRD (Institut de recherche pour le développement IRD) - فرنسا
- Instituto de Investigaciones Agropecuarias y Forestales (IIAF) - المكسيك
- SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES (SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES) - المكسيك

المشروع

- DESIRE (EU-DESIRE)

المراجع الرئيسية

- DESIRE project Mexico partner (IRD 22): <http://www.desire-project.eu/>

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