

**DOCUMENT OF THE INTERAMERICAN DEVELOPMENT BANK**



**MEXICO**

**EJIDO VERDE  
(ME-L1192)**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT REPORT  
(ESMR)**

**December 2015**

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### LIST OF ACRONYMS (optional)

#### I. BASIC FACTS

<b>Country:</b>	Mexico
<b>Sector:</b>	Forestry
<b>Project Name:</b>	Ejido Verde Reforestation
<b>Project Number:</b>	ME-L1192
<b>Borrower:</b>	Pinosa S. de R.L. de C.V. (Pinosa)
<b>Sponsors:</b>	Resinas Sineticas, S.A. de C.V.
<b>Proposed Proposed GEF Loan:</b>	A Loan: US\$500,000 US\$1.5 million
<b>Environmental Category</b>	B

#### II. INTRODUCTION

2.1 The following sections are based on the information provided by the client as well as the results of the identification/ Due Diligence mission.

2.2 Many rural areas in Mexico are plagued by poverty and a lack of employment opportunities. Although incomes have increased in recent years, the incidence of poverty is higher in rural areas (61.6%) than in urban areas (40.6%).<sup>1</sup> Climate change is becoming an increasingly important concern for Mexican agriculture. The sector suffered over \$10 billion in losses because of climate change between 1980 and 2005, approximately 80% of the damages experienced by the country. The proposed Project (the ‘Project’) would address these issues by supporting local *ejidos*<sup>2</sup> to invest in the planting of native pine tree species, which would supply income through the production of pine resin and sequester carbon dioxide.

2.3 The Project represents a Mexican coalition that has been working on a Brazil-inspired reforestation model for five years. This Project combines native tree reforestation, climate change mitigation, and heritage trade promotion on unutilized lands owned by Indigenous communities and *ejidos* in Mexico. Those communities have already been collecting the resin produced by native pine trees for hundreds of years (through a process called “tapping”, which is harmless to the tree). This pine resin is a commodity whose demand has been

<sup>1</sup> IDB Mexico Country Strategy 2013-2018.

<sup>2</sup> Ejidos in Mexico are village lands communally held in the traditional Indian system of land tenure that combines communal ownership with individual use.

steady over the last decade and whose prices have risen due to a decrease in global production. The Project will consist of a \$500,000 investment of IDB Ordinary Capital and \$1.5 million from the GEF-supported Climate Smart Agriculture Fund, which will assume a subordinated position. The Project will cover the planting and maintenance of 1,250 hectares of pine trees on *ejido* land in the state of Michoacán in Mexico.

- 2.4 The Project will contribute to environmental and social objectives by mitigating climate change and generating income for indigenous communities. The Project will sequester 18,750 tons of carbon dioxide over the life of the Project through the planting of trees on 1,250 hectares of deforested land, which will contribute to the mitigation of climate change. The Borrower will only plant tree species that are native to Mexico, helping to support local biodiversity and protect watershed function. Additionally, the Project will increase income for local indigenous communities of *ejidos* and provide the Borrower with an additional supply of pine resin for its processing facilities.

### III. PROJECT DESCRIPTION

#### A. Key Project Infrastructure Components and Schedule

- 3.1 Ejido Verde is the name of the project to be implemented by the “Union Nacional de Resineros”. The project consists in planting 1250 Ha of land with species of pine trees native to the state of Michoacán in Mexico. The trees will be planted in ejidos, which refer in Mexico to communal lands held by a community, as well as indigenous communities. Ejidos are organized under democratic principles, mainly through its “asamblea de comunidades”, which elects its representatives and establish the price and work conditions for the “jornales”. The Ejidos have a large degree of autonomy and follow their own habits and customs, including how they organize their work. At any rate, they abide by international work standards such as working hours as well as other work conditions.
- 3.2 The majority of the plots where the pines will be planted are currently not being utilized by the ejido and can be considered as “idle”. In a minority of the plots to be used they have had a history of being used for crops such as corn, oats and grass. It is worth mentioning that no native forest will be cut down in order to make space for the pine plantations.
- 3.3 Ejido verde has identified these plots among different ejidos and communities. Overall there are 26 identified plots located in 9 different ejidos and communities, which belong to 9 different municipalities. The new plantations will be established in mid 2016. The ejidos are: San Francisco Cheran, San Francisco Ichan, Patamban, Tumbisca, huiramba, Gabriel Zamora, La Cebadilla, tepenahua and San Agustin Ucareo. See Annex 1 for a larger description of the plots.

LAND_TYPE	LANDHOLDER	MUNICIPALITY
Indigenous community	San Francisco Cherán	Cherán
Indigenous community	San Francisco Ichan	Chilchota

Indigenous community	Patamban	Tangancícuaro
Ejido	Tumbisca	Morelia
Ejido	Huiramba	Huiramba
Ejido	Gabriel Zamora	Gabriel Zamora
Ejido	La Cebadilla	Ario
Ejido	Tepenhua y anexos	Nuevo Urecho
Ejido	San Agustín Ucareo	Zinapécuaro

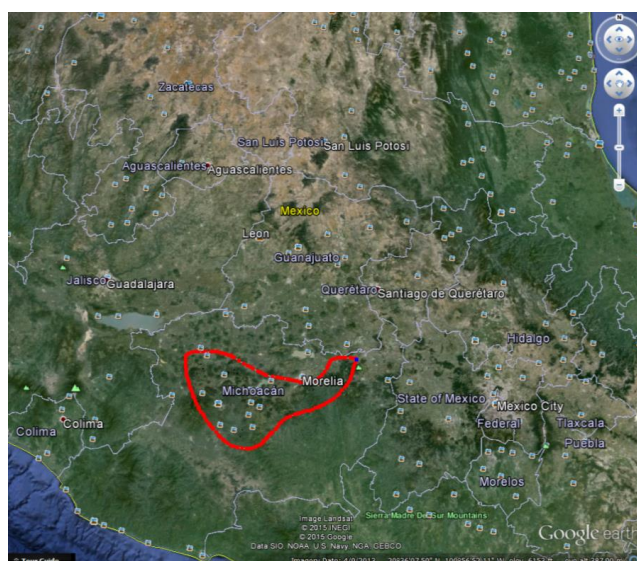


Figure 1- Area where the municipalities are located

3.4 The pine species to be planted are: *P. leiophylla*, *P. pringlei*, *P. lawsonii*, *P. oocarpa*, *P. pseudostrobus*. An important consideration is that there are currently test plots in which ejido verde has planted the pine species of : *P. elliotii*, which is considered to be an invasive species (see CABI compendium of invasive species for mre information<sup>3</sup>. The client has agreed not to plant any of this species in future plantations. AThe client has also agreed to monitor the area surrounding the plantation of *P. elliotii* to identify and destroy any individuals that have established outside of the area

<sup>3</sup> Pinus Elliotii - <http://www.cabi.org/isc/datasheet/41600>

- 3.5 Ejido Verde has a very close relationship with the ejidos and the communities since they have been buying the resin from them for years. Given the fact that the supply of resin has decreased in the last years given to the illegal cutting of resin trees in the area, PINOSA, the borrower, has a keen interest in increasing the supply of resin.
- 3.6 Through Ejido Verde and the Union Nacional de Resineros, they will make contracts with the communities and ejidos in order to plant the pine trees. Ejido verde will provide the trees to the ejidatarios in conjunction with knowledge transfer, an introduction to the program and the sharing of best practices to the ejidatario. Ejido Verde will hire the community members via the community as “jornales” or hired daily workers.
- 3.7 Ejido Verde doesn’t hire directly any of the workers for planting and maintaining the trees. Instead, the work is done and organized by the Ejido themselves according to terms agreed with Ejido Verde, specifying the work required and its price. Specifically, the amount agreed depends on the amount of work required, in number of “jornales” required, for which a price is set by the local community, based on local prices. In this process, Ejido Verde mainly validates that the price it is paying is within local standards. Ejido Verde then provides the seedlings, all the materials and tools required (including protective gear such as masks and gloves, corresponding to the needs of basic manual work) and pays the Ejido, who then execute the contracts independently (but with the support of Ejido Verde’s staff).
- 3.8 In exchange Ejido Verde, will expect as payment 10% of the resin once the trees become productive after 10 years normally. The ejidatario will be able to sell the other 90% of the resin to whoever they want. An important note is that the 10% will be charged only once the trees are productive and not under any other circumstances. If the trees are not producing resin t Ejido Verde cannot charge the ejido.
- 3.9 Ejido Verde as well will look in selling carbon offsets form the planting of the trees. The amount recovered from these offsets will be subtracted from the initial loan to the ejidatarios from the planting of the trees.
- 3.10 The Guarantor will provide sponsor support for the Project and guarantee purchase of pine resin from the ejidos, which is critical for the viability of the Project given the long payback period of the investment and the small size of the ejidos. The Guarantor will maintain the right of usufruct over the production of the trees for 30 years or until the loan is fully repaid. The Guarantor will then process pine resin into rosin, turpentine, and other derivatives for sale.

## **B. Environmental and Social Setting**

- 3.11 Michoacán is a state located in the central west part of Mexico. It is better known internationally for two UNESCO world heritage sites, the monarch butterfly wintering ground forests and the centre of the capital city of the state Morelia. The state is also well known for the lake of Patzcuaro, which was the center of the ancient Purepecha empire. Michoacán has in total 110 municipalities.

- 3.12 The state has many key biodiversity areas and has seen over the last years a vast amount of deforestation. It is regarded as well as the centre of biodiversity for pine species in the new world.
- 3.13 A biodiversity screening of the areas to be planted did not show any intersection with officially declared protected areas ( defined as Critical Natural Habitats per OP-703 Directive B.09) or other areas of unprotected high conservation value (critical or natural habitats). However some plots are in proximity to protected areas which can be seen in Annex 2.
- 3.14 All plots to be planted belong to ejidos and indigenous communities, who live in close proximity to the plots, commonly adjacent to crop small holdings as well as native forests. The locations of the plantations is given in Annex 1.

### **C. Alternative Analysis**

- 3.15 No alternatives analysis has been done for the project since the plots have been identified as a common agreement between Ejido Verde and the communities. No removal of native forests will be carried out under the program in order to open space for the pine plantations.

## **IV. COMPLIANCE STATUS AND PROJECT STANDARDS**

### **A. Environmental and Social Appraisal Process:**

- 4.1 SEMARNAT the national Ministry of the Environment did not require an EIA for this project. Given that this project falls under the umbrella of the GEF projects, no ESS was done by ESG and no Environmental Assessment was required for this type of operation.
- 4.2 The Secretaria de Agricultura, Ganaderia, Desarrollo Rural, Pesca y Alimentacion and the Secretaria de Medio Ambiente y Recursos Naturales are the most important regulatory bodies for the implementation of this project. The program will look as well at the possibility of receiving payments from the Comision Nacional Forestal for the reforestation that it supports in its operations. In case they receive these payments, this will go in to paying the loan from the ejidatario towards the project Ejido Verde.
- 4.3 In regards to Public Consultation, the negotiation of the contracts are carried out directly with the Junta or Consejo Ejidal, which are the representatives of the community. The junta ejidal is composed of several members of the community who are chosen unanimously by the community over a period of time. Once the community accepts the project then they present it in conjunction with Ejido Verde to all of the ejidatarios, who have been entitled parcelas (pieces of land) by the ejido. Then it is up to them to accept the opportunity to plant the pine trees in one of their parcelas or not.
- 4.4 Ejido Verde will present to the IDB the contracts with the junta ejidal and in addition they will perform a photo record of these consultations with a record of the participants. This will be used as proof of a consultation process.

## **B. Consistency with IDB Policies and Directives**

- 4.5 The key IDB Safeguard Policies and Directives that apply to this project are Directives B1 Indigenous People Policy, B1 Disaster Risk Management Policy– OP-704, B.01) Gender Equality Policy– OP-761, B2 National Regulations, B3 Clasification and preevaluation, B4Other risks, B6 Consultation process, B7 Monitoring and Supervision, B9 Natural habitats and cultural sites, B12 Operations already under construction, B16 In country systems are being used.
- 4.6 Based on the conclusions of the ESDD mission, the Project is consistent with the IDB requirements and where areas of potential non-compliance have been identified, specific measures have been developed between the Bank and Ejido Verde. Specific examples, such as the need for a monitoring plan for the propagation of the *P. eliottii* is mentioned on section V.
- 4.7 Based on the findings of the ESDD regarding the Project as well as the risks presented by the usage of *Pinus eliottii*, the need of systematizing certain introductory and safety procedures and to take note of consultations, the team proposes a classification of “B” under OP-703.

## **C. Project Standards and Requirements**

- 4.8 The Project requirements discussed in Section VIII have been established to ensure the Project is, and remains consistent with IDB requirements. The specific standards applicable to the Project, refer to monitoring of invasive species, formalization of an introduction and training plan, grievance mechanism, contingency wildfire control plan, and a plan for sharing best practices and formal record of consultation processes.

## **V. ENVIRONMENTAL AND SOCIAL IMPACTS AND RISKS AND MITIGATION**

### **A. Environmental Impacts and Risks**

- 5.1 The potential environmental impacts and risks for this proposed financing are primarily associated with the controlling of the invasive species plantations (see table below of current *P. eliottii* plantations). The risk of propagation of individuals to the native adjacent forests should be through monitoring and elimination of any individuals found . It is worth mentioning that Ejido Verde will no longer plant this species.

Current plantations administrated by Ejido Verde of P.elliottii

year	site	hectares p eliotti	total size predio
2010	canas	0	121
2010	la alberca	3.1	77
2012	ojo de agua	0	162.5
2012	puerto blanco	?20	25.9

2012	san marcos	?19.47	754
2013	san diego	2.7	6728
2013	cheran	4.7	20826
2014	la mesa	0	1040.38
2014	san diego	1.2	6728
2014	cheran	6	20826
2013	cheran atzicurin	1.07	2234
2014	cheran atzicurin	3.6	2234
2014	patamban		11952
2015	san jose de canas	0	1751
2015	cheran	33.3	20826
2015	cheran atzicurin	0	2234

- 5.2 As for mitigation of the invasive species of *P. elliottii* already planted a monitoring plan will be in place which will track the spread of *P. elliottii* as the age that pines first produce seeds is 5-7 years. The idea would be to set up transects that run from the plantation in the direction of the prevailing wind (as pine is wind dispersed), or to set up transects at 90 degrees to each other. The suggestion would be to have 4 transects which would be set up 500m long by 5m wide, and the idea is to look for and record any *P. elliottii* seedlings in the transect. This would need to be done once every 5 years. In addition if any young *P. elliottii* plants are found, they should be uprooted.



Figure 2- Plantation of P. Elliottii in Cheran



- 5.3 The project will involve the use of pesticides which do not represent a significant environmental risk. The pesticides to be used are: Herbicides Uniquat – active ingredients: 1,1` - dimethyl – 4`4- bipyridyl at 25% They are used on a needs-basis and effectively very small quantities are used. For the 700,000 trees planted this year, approx. 30 liters were used, mainly in warmer lands where weeds are very aggressive. FAENA – active ingredient: glyphosate 35% .It is used on a needs-basis and effectively very small quantities are used. For the 700,000 trees planted this year, approx. 20 liters were used, mainly in warmer lands where weeds are very aggressive. Rodenticides - to fight gopher and rat invasions- Rodenticide anticoagulant in paraffin blocks – active ingredient: brodifacoum 0.005% Rodenticide anticoagulant in pellets – active ingredient: difethialone 0.0025%.
- 5.4 These pesticides represent minimal risk to health, and their use is for systematic control when there is a problem. wherein the case of an accident, , Ejido Verde’s staff would intervene bring a doctor and pay for medical expenses of any affected persons. In any event, training to ensure safe handling and use of herbicides and pesticides will be provided, and details will be included in the operational health and safety plan
- 5.5 .

#### **B. Social Impacts and Risks**

- 5.6 Given that the project foresees an increased number of Resin tappers “ ejidatarios” to join the program, which might not have experience on the industry, they will require certain training and introduction on best practices for tapping resin as well as safety measures. Just in Cheran traditionally there had been 40 resin tappers, but with the recent increase of plantations the number has increased to 80 resin tappers. This number will increase once more ejidatarios decide to have some of their parcelas to be used in the program.
- 5.7 The project will implement a training and an induction plan in order to share best practices and to share equipment training as well. The project as well will implement a safety plan, grievance mechanism and contingency plan for the program

#### **C. Disaster and Climate Risks**

- 5.8 The project area is prone to earthquakes, but given the fact that no actual infrastructure will be constructed under the program and the trees are flexible to earthquakes there is no actual risk from this hazard. There is a risk of wildfires which traditionally the ejidatarios in this region and the resineros have managed over the years with a “ brecha corta fuego” which refers to opening a space between trees with no vegetation in order to prevent the fire spreading over an extensive area. A written process on how to prevent wildfires and how to set up brigades will be included in the contingency and safety plan.
- 5.9 In regards to climate change risk, the trees will not depend on manmade irrigation, therefore the water availability is not an issue nevertheless in case of a change in the

climatic patterns the ejidatario is only in debt with Ejido Verde once the trees become productive. In case there is a loss due to a force majeure he will not be held responsible.

#### **D. Cumulative Impacts**

- 5.10 There is the cumulative potential impact of displacing native species given the factor that the *P. elliottii* might have a better resin production above the local native species, it is unlikely, given that the altitude and climate favors the native species. Nevertheless this project will not use in the future any of the *P. elliottii* species. Sterile hybrids may be used for research purposes only.
- 5.11 Another cumulative impact might be the potential to cut down the native forest adjacent to pine plots in order to open space for the Ejido Verde pine plantations. Ejido Verde will not plant any trees on deforested areas, and will discourage and inform the local population by doing so outside of the program Ejido Verde.
- 5.12 The displacement of arable land for edible crops for pine plantations is a cumulative risk. So far there is no risk given that most of the plots that will be utilized by ejido verde are selected by the community in areas that are on marginal land.

#### **VI. Positive Impacts**

- 6.1 The project will provide direct and indirect benefits to rural and poor communities of the state of Michoacán. It is said that a healthy resin pine tree can provide resin up to 80 years. Therefore it will provide a livelihood to many poor communities. In addition the trees will reforest previously deforested areas or areas that are being unutilized by the local communities. In addition the trees will provide climate change mitigation by absorbing carbon dioxide from the atmosphere. The project will contribute to improved land use and climate change mitigation by reforesting 1,250 hectares of degraded land. It is expected that each planted hectare will sequester 18,750 tons of CO<sub>2</sub> equivalent over the life of the Loan. The project will reforest using a variety of native pine tree species, increasing local agrobiodiversity. Additionally, replanting these degraded areas will improve watershed management; this impact will be studied in greater detail as the project is implemented. The pine trees as well will improve the local ecosystem services since they have the quality of reducing landslides and floods risks.
- 6.2 The project as well will create habitat for the local biodiversity primarily birds and insects. In addition the local pine resin industry will have a larger supply of resin which will create more jobs by consequence.

#### **VII. IDB Additionality**

- 7.1 By blending IDB Ordinary Capital with GEF funds from the Climate-smart Agriculture Fund for Latin America and the Caribbean, ("Climate-Smart Agriculture Fund"), the IDB is able to offer conditions and terms that are unavailable from the commercial market. Because the planted trees take many years to mature and be able to be sustainably tapped, the Project requires a tenor of 14 years. Additionally the Climate-Smart Agriculture Fund

will charge a lower interest rate than IDB, permitting a blended interest rate that makes the project financially viable.

- 7.2 In addition the IDB will be providing a technical cooperation in which several options might be considered such as : a) a program to explore other crop growing potential such as grasses under the pine trees which will enable the utilization of cattle by the local communities b)Gopher control by the utilization of natural predators c)the design of a seed bank d)possible mechanization processes e) amongst others.
- 7.3 As well the IDB has required that certain processes that are being done currently by Ejido Verde verbally to be systematized and put in place such as: introduction and training plan, safety plan and consultations etc... As well as favoring local native species by removing invasive species from the the project.

## **VIII. MANAGEMENT AND MONITORING OF ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY AND LABOR IMPACTS AND RISKS**

### **A. Management Systems and Plans**

- 8.1 Ejido Verde will have to prepare:
- Health and Safety Plan
  - Emergency and response plan (wildfires)
  - Workers and Ejidatarios grievance mechanism
  - Training and introduction plan
  - Invasive species monitoring plan
  - Records of the consultation process of each ejido and communities while agreeing and signing of the contracts with the ejidos and communities.

### **B. The Environmental and Social Action Plan**

- No ESAP will be in place for this operation.

### **C. Monitoring and Supervision**

- 8.2 In addition to any locally required monitoring and supervision, the IDB will require monitoring and supervision throughout the life of the loan. Ejido Verde will be required to prepare and submit an Environmental and Social Compliance Report (ESCR) to IDB on a yearly basis. Supervision from the IDB should only be done in a period of every 3 years.

### **D. Environmental and Social Safeguard Performance Indicators**

- Results from the invasive species monitoring plan
- Number of accidents by the local population
- Number of ejidatarios trained through the training and response plan

## IX. REQUIREMENTS TO BE INCLUDED IN THE LEGAL AGREEMENTS

### A. Throughout the life of the Loan

9.1 The IDB will require within its Loan Agreement that the Project and each Project party – the Borrower (Ejido Verde and PINOSA) and other Project Environmental parties, including construction companies and operators, and any contractors and sub-contractors will, at all times during the life of the Loan Agreement, comply with the following requirements:

**Comment [I1]:** Confirm if this needs to be attached to the LA?

- Applicable Mexican ESHSL regulatory requirements.
- Requirements associated with ESHSL related permits, authorizations, or licenses that apply to the Project, the Borrower or any party responsible for executing the Project or its mitigation measures.
- ESHSL requirements of the Project contracts and subsequent modifications.
- All aspects and components of the Project's ESHSL documents.
- Relevant IDB policies such as the Environment and Safeguards Compliance Policy (OP-703), the Disaster Risk Management Policy (OP-704) and the Disclosure of Information Policy (OP-102), the Involuntary Resettlement policy (OP-710),
- Consultation with IDB before approving or implementing any and all non-trivial changes to the Project (including its environmental and social management and mitigation plans and any other ESHSL).
- Provision of notice of noncompliance with any ESHSL and any significant environmental, social, labor, health and safety accident, impact, event, claim, material complaint or other known risk.
- Ensure that the Borrower's contractors hired for construction and Project activities comply with the applicable ESHSL requirements of the loan agreement.
- Implement ongoing information disclosure and consultation activities related to ESHSL aspects of the Project, including disclosure of Environmental and Social Compliance Reports and, as applicable, participatory monitoring.
- Comply with the requirements stipulated on the :
  - Health and Safety Plan
  - Emergency and response plan (wildfires)
  - Workers and Ejidatarios grievance mechanism
  - Training and introduction plan
  - Invasive species monitoring plan
  - Records of the consultation process of each ejido and communities while agreeing and signing of the contracts with the ejidos and communities.

### B. Prior to first disbursement

9.2 Prior to First Disbursement of the Loan, the following plans shall be produced:

- Health and Safety Plan
- Emergency and response plan (wildfires)
- Workers and Ejidatarios grievance mechanism
- Training and introduction plan
- Invasive species monitoring plan
- Records of the consultation process of each ejido and communities while agreeing and signing of the contracts with the ejidos and communities.

### C. Reporting, Monitoring and Supervision throughout the life of the Loan

9.3 Ejido Verde will be required to prepare and submit an Environmental and Social Compliance Report (ESCR) to IDB on a yearly basis. Supervision from the IDB should only be done in a period of every 3 years. The bank will monitor the Project's environmental, health and safety, social and labor aspects via direct Bank supervision.

## X. Consistency with IDB safeguards screening

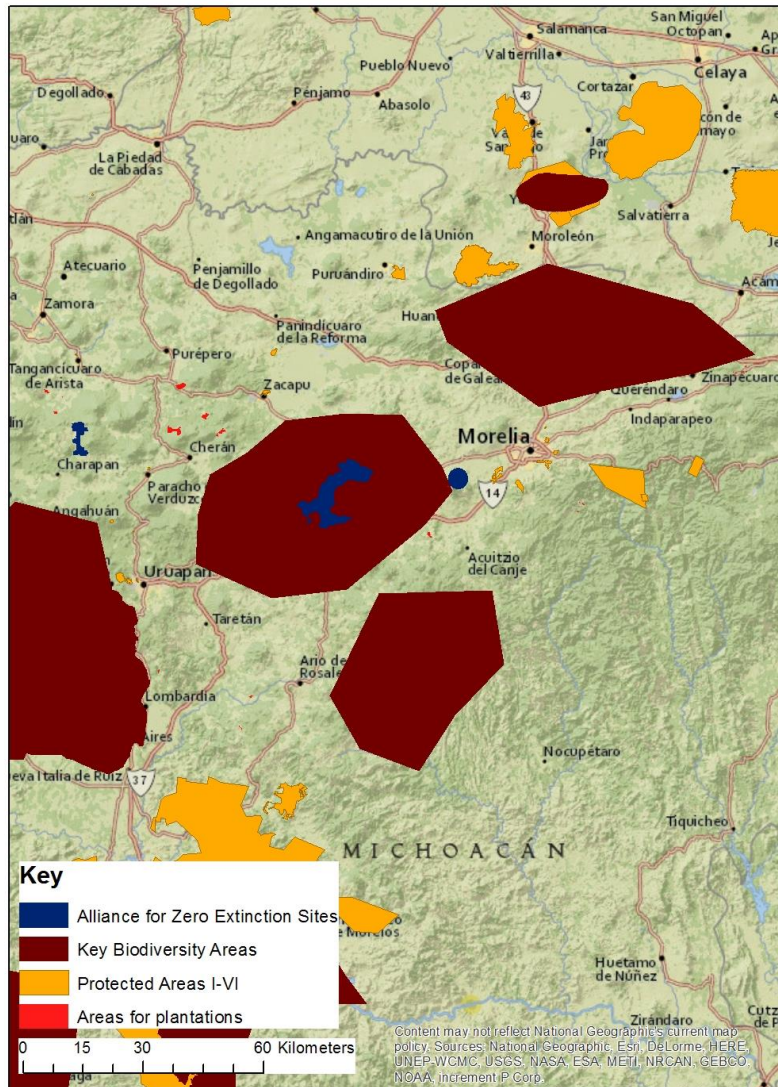
Policy / Directive8	Applicable aspect	Statement of how requirement is met or not met	Actions Required for Future or Continuous Compliance
<b>B-1 (765)</b>	Offer opportunities for indigenous peoples through its project	The project is providing livelihood and work opportunities for the local communities	Record of consultation process
<b>B-1 (OP-704)</b>	Disaster Risk	The project is susceptible to wildfires. The project will implement a safety and emergency and response plan.	Implementation of the mentioned plans
<b>B-1</b>	Gender equality	The project is currently hiring women in the nurseries.	The project will make it favorable for women to work at their nurseries.
<b>B-2 (OP-703)</b>	Compliance with country laws and regulations	Ejido Verde follows the local requirements of the ejidos as well as the state and federal regulations for an agroforestry project.	No Action

<b>B4 (OP-703)</b>	Associated facilities	Since the loan goes to PINOSA and Resinas sinteticas is the sponsor, any non compliance to any national ESHS measure should be informed	Inform the IDB of any non compliance with national ESHS from PINOSA and Resinas. .
<b>B6 (OP-703)</b>	Public consultations	Since the negotiations are taken directly with the community a record should be done.	Provide a consultation record to the IDB in the form of photos, summary and list of participants.
<b>B7 (OP-703)</b>	Compliance with safeguards stipulated in the loan agreement and project operating or credit regulations	Requirement will be met by putting in place the mentioned plans.	To provide to the IDB the ESCR
<b>B9 (OP-703)</b>	Invasive Species	There are plantations including the invasive species of <i>P. elliottii</i> . NO further plantation will be done.	Implementation of the invasive species monitoring plan in order to make sure there is no propagation of <i>P. elliottii</i> outside of the plots. No planting of any new <i>P. elliottii</i> or other invasive pine species.
<b>B12 (OP-703)</b>	Operation under construction	Some plots are existing already	Implementation of the invasive species monitoring plan in order to make sure there is no propagation outside of the plots.
<b>B16 (OP-703)</b>	In country systems are being used	National legislation is being used and local community regulations.	No further action. Provide the IDB the ESCR.
<b>OP-102</b>	Disclosure of information	The IDB will look for agreement from the client on publishing the ESMR.	Letter of agreement on publishing the ESMR.

### Annex 1 – List of plots to be planted in 2016 by Ejido Verde

RELACIÓN DE PREDIOS PROPUESTOS PARA PLANTACIONES FORESTALES COMERCIALES CON ESPECIES RESINERAS EN MICHOACÁN												
FID	Shape *	ID	LAND TYPE	LANDHOLDER	MUNICIPALI	PLANTING_M	PLANTING_Y	SPECIES	PLANTATION	AREA_HA	PERIMETER	
0	Polígono	1	Indigenous community	San Francisco Cherá	Cherán	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	24.6588	2271.17	
1	Polígono	2	Indigenous community	San Francisco Cherá	Cherán	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	105.749	5728.52	
2	Polígono	3	Indigenous community	San Francisco Cherá	Cherán	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	13.2161	2505.42	
3	Polígono	4	Indigenous community	San Francisco Cherá	Cherán	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	134.861	4975.43	
4	Polígono	5	Indigenous community	San Francisco Cherá	Cherán	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	347.463	11424.7	
5	Polígono	6	Indigenous community	San Francisco Ichan	Chilchota	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	227.258	5970.5	
6	Polígono	7	Indigenous community	Patamban	Tangancicuaro	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	5.50211	1233.09	
7	Polígono	8	Indigenous community	Patamban	Tangancicuaro	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	54.3279	2936.13	
8	Polígono	9	Indigenous community	Patamban	Tangancicuaro	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	61.2373	3451.01	
9	Polígono	10	Ejido	Tumbisca	Morelia	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	8.36142	1256.58	
10	Polígono	11	Ejido	Tumbisca	Morelia	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	0.483738	291.587	
11	Polígono	12	Ejido	Tumbisca	Morelia	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	3.6972	799.597	
12	Polígono	13	Ejido	Tumbisca	Morelia	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii, P. oocaropa	Plantation	24.4774	2278.97	
13	Polígono	14	Ejido	Huiramba	Huiramba	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	83.6714	5249.37	
14	Polígono	15	Ejido	Huiramba	Huiramba	June_July	2016	P. leiophylla, P. pringlei, P. lawsonii	Plantation	4.15715	1278.54	
15	Polígono	16	Ejido	Gabriel Zamora	Gabriel Zamora	June_July	2016	Pinus oocarpa, P. pringlei	Plantation	22.4834	2126.46	
16	Polígono	17	Ejido	La Cebadilla	Ario	June_July	2016	Pinus oocarpa, P. lawsonii, P. elliotii	Plantation	7.75984	1480.43	
17	Polígono	18	Ejido	La Cebadilla	Ario	June_July	2016	Pinus oocarpa, P. lawsonii, P. elliotii	Plantation	9.33186	1422.86	
18	Polígono	19	Ejido	La Cebadilla	Ario	June_July	2016	Pinus oocarpa, P. lawsonii, P. elliotii	Plantation	4.54476	937.914	
19	Polígono	20	Ejido	Tepenahua y anexos	Nuevo Urecho	June_July	2016	Pinus oocarpa	Plantation	30.956	2557.61	
20	Polígono	21	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	4.00298	821.706	
21	Polígono	22	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	1.715	576.871	
22	Polígono	23	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	7.55666	1294.91	
23	Polígono	24	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	7.85091	1399.33	
24	Polígono	25	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	13.7127	2230.35	
25	Polígono	26	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	4.47775	985.589	
26	Polígono	27	Ejido	San Agustín Ucareo	Zinapécuaro	June_July	2016	Pinus leiophylla, P. pseudostrobus, P. lawsonii	Plantation	6.23174	1244.16	
TOTAL										1,219.7451	68,728.8040	

## Annex 2 – results of the Decision Support System from the IDB





### Annex – 3 Photos



Figure 3 - Nursery at Cheran - teaching cooperation between ejido verde and the community



Figure 4- Resineros showing the tapping of a resin tree



Figure 5- Nursery and research facility fo Ejido Verde



Figure 6 - Nursery of Ejido Verde



Figure 7 - Plantation of *P. leiophylla* in Cheran