

## The Forest Carbon Partnership Facility (FCPF) (R-PIN) Template

March 8, 2008

### Guidelines:

1. The purpose of this document is to: a) request an overview of your country's interest in the FCPF program, and b) provide an overview of land use patterns, causes of deforestation, stakeholder consultation process, and potential institutional arrangements in addressing REDD (Reducing Emissions from Deforestation and Forest degradation). This R-PIN will be used as a basis for the selection of countries into the FCPF by the Participants Committee. Information about the FCPF is available at: [www.carbonfinance.org/fcpf](http://www.carbonfinance.org/fcpf)
2. Please keep the length of your response under 20 pages. You may consider using the optional Annex 1 Questionnaire (at the end of this template) to help organize some answers or provide other information.
3. You may also attach at most 15 additional pages of technical material (e.g., maps, data tables, etc.), but this is optional. If additional information is required, the FCPF will request it.
4. The text can be prepared in Word or other software and then pasted into this format.
5. For the purpose of this template, "Deforestation" is defined as the change in land cover status from forest to non-forest (i.e., when harvest or the gradual degrading of forest land reduces tree cover per hectare below your country's definition of "forest." "Forest degradation" is the reduction of tree cover and forest biomass per hectare, via selective harvest, fuel wood cutting or other practices, but where the land still meets your country's definition of "forest" land.
6. When complete, please forward the R-PIN to: 1) the Director of World Bank programs in your country; and 2) Werner Kornexl ([wkornexl@worldbank.org](mailto:wkornexl@worldbank.org)) and Kenneth Andrasko ([kandrasko@worldbank.org](mailto:kandrasko@worldbank.org)) of the FCPF team.

**Country submitting the R-PIN: CHILE**

**Date submitted: 12-15-2008**

### 1. General description:

**a) Name of submitting person or institution: Marta Abalos Romero**

**Title:** Executive Director

**Contact information: Address: Sucre 2397**

**Telephone: +56 2 3667100**

**Fax: +56 2 366 7132**

**Email: [mabalos@infor.cl](mailto:mabalos@infor.cl)**

**Website, if any:**

**Affiliation and contact information of Government focal point for the FCPF (if known):**

**R-Pin Coordinator:** Gerardo Vergara Asenjo

Forest Research Institute (INFOR)

**EMAIL:** [gvergara@infor.cl](mailto:gvergara@infor.cl)

---

### b) List authors of and contributors to the R-PIN, and their organizations:

Carlos Bahamondez (INFOR)

Javiera Vargas (Institute of Agricultural Development - INDAP)

Gerardo Vergara (INFOR)

Roberto Ipinza (INFOR)

Sabine Muller - Using (INFOR)

Marjorie Martin (INFOR)

M. Verónica Oyarzún (Forest Service -CONAF)

Dr. André Laroze (Bureau of Studies and Agrarian Policies – ODEPA)

**c) Who was consulted in the process of R-PIN preparation, and their affiliation?**

Arturo Barrera (Ministry of Agriculture)

Luis Duchens (Director (S) – (Forest Service - CONAF)

Maria Eliana Alvarez (Chile’s Environmental Agency - CONAMA)

Aquiles Neuschwander (Technological Innovation Foundation - FIA)

Jose Carter (Forest Consultant)

Gerardo Ludwig (Forest Consultant)

Angel Gallegos (Origins Program , National Agency of Indigenous People -CONADI)

Dra. Alicia Ortega ( Austral University of Chile)

Carlos Fuentealba (Representative from Small Owners Association - IX Region)

**2. Which institutions are responsible in your country for:**

**a) forest monitoring and forest inventories:**

National Forest Service (CONAF)

Forest Research Institute (INFOR)

**b) forest law enforcement:**

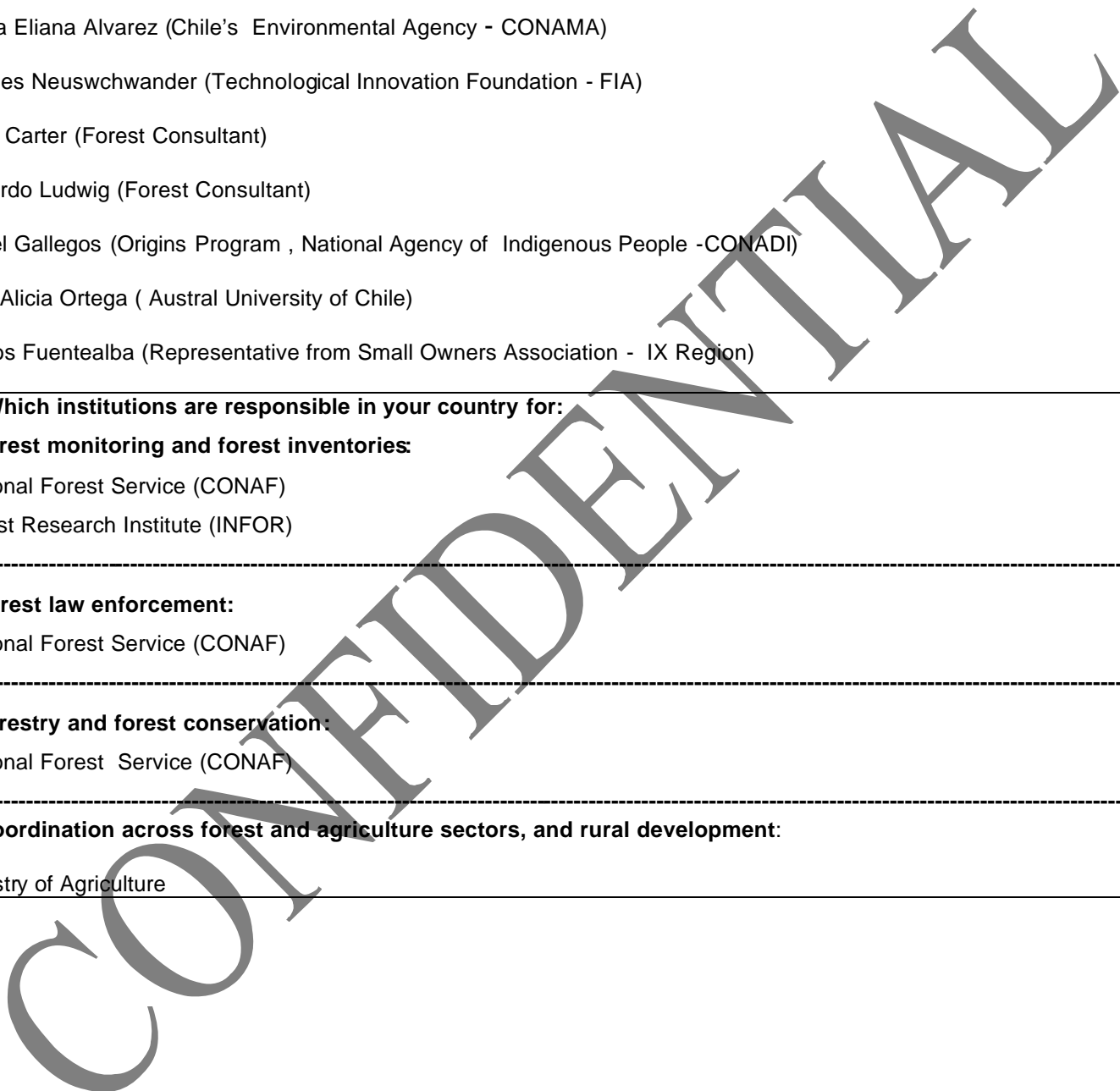
National Forest Service (CONAF)

**c) forestry and forest conservation:**

National Forest Service (CONAF)

**d) coordination across forest and agriculture sectors, and rural development:**

Ministry of Agriculture



**3. Current country situation (consider the use of Annex 1 to help answer these questions):**

**a) Where do forest deforestation and forest degradation occur in your country, and how extensive are they? (i.e., location, type of forest ecosystem and number of hectares deforested per year, differences across land tenure (e.g., national forest land, private land, community forest, etc.):**

According to official data, Chile accounts with a total surface of 75, 6 millions, of which 15,4 millions hectares are forests (20,4%), of these 13,4 million hectares are natural forests. This figure was generated in 1997 after a national land survey was performed by the National Forest Service (Corporacion Nacional Forestal - CONAF) and the Chile's Environmental Agency (Comision Nacional de Medio Ambiente – CONAMA)(Catastro Nacional de Formaciones Vegetacionales de Chile) after forcing a new definition of forests for the country. Since then, the rates of deforestation range between 0,1% to 0,2% (aprox. 10.000 ha ) by year, this land uses changes are periodically reported by CONAF.

Major problem on Chilean forests are not deforestation but degradation. The natural cool-temperate rain forest of Chile, an endemic forest ecosystem recognized by UNESCO, is the main source for firewood in most southern part of the country (regions de la Araucania, de Los Rios, de los Lagos ~4,0 million ha of private land; 39°S to 44°S), and the majority of that firewood comes from both unsustainable managed forest and illegally obtained logs from natural forests so far. Every year up to 10 millions of cubic meters of material are extracted, which are equivalent to almost 77,000 ha/year under unmanaged practices (see Annex 1 Question 3. Biophysical).

The most affected forest ecosystem corresponds to the evergreen forest, which is the most diverse forest of the country, geographically the degradation focused in the Coast mountain range and it is related to small landowners and indigenous communities. These practices produce an intense process of forest fragmentation and a progressive forest degradation, which is also accentuated with the inclusion of cattle into the fragmented and overexploited forest areas avoiding suitable forest regeneration. In the case of sclerophyllous forest in the Mediterranean zone of Chile, the pressure by deforestation and degradation is hardly defined by the expansion of urban areas and the industrial fruit growing.

In this context the deforestation in Chile is today considered as a consequence of a continuum process of forest degradation (from forest to degraded bushes populated lands) related to both the existence of an informal market for firewood and economies of subsistence that several small landowners are experiencing. In the case of Mediterranean forests, its deterioration is associated to its replacement by fruit-bearing cultivations and the urban expansion.

**b) Are there any estimates of greenhouse or carbon dioxide emissions from deforestation and forest degradation in your country? If so, please summarize:**

There are estimations in the National Inventory of GEI Emissions from the forest sector and land use changes (Gonzalez, 2004). Data of this areas availables from 1984 – 2003. Additional information in: [http://www.infor.cl/centro\\_documentacion/documentos\\_digitales/presentaciones\\_semi\\_cambioclimatico2007/sergio\\_gonzalez\\_inia.pdf](http://www.infor.cl/centro_documentacion/documentos_digitales/presentaciones_semi_cambioclimatico2007/sergio_gonzalez_inia.pdf) (see Annex 2, Point 1). These data could be improved using estimations based on allometric functions (see Annex 1) and the Continuous Forest Inventory data of the Forest Research Institute of Chile (Instituto Forestal-INFOR) for calculations of such emissions.

**c) Please describe what data are available for estimating deforestation and/or forest degradation. Are data published? Describe the major types of data, including by deforestation and forest degradation causes and regions if possible (e.g., area covered, resolution of maps or remote sensing data, date, etc.).**

Considering that forest degradation is the major problem in Chile, some institutions are doing efforts to evaluate this process. INFOR is implementing the Continuous Forest Inventory in some southern regions of Chile since 2001 under the Forest Ecosystems Monitoring Program, this data are based on permanent sample plots (field ground truth) under a statistical sampling design. These data take information on several components of forest ecosystem such as soil, water, non vascular and vascular vegetation, lichens, wildlife and arthropods, and are planned to be measured again every 8 years. Although the forest inventory is considered national, the strategy for implementation is regional (subnational) i.e., the statistical quality is explained regionally. Four major regions of the country are already under this design accounting today with 52% of total declared forest in the country (~6,9 million ha in southern regions VIII,IX,X,XI and XIV). The data are published by request to INFOR or by visiting web site [www.mapaforestal.cl](http://www.mapaforestal.cl).

Carbon sequestration estimations by forest types, biomass, growing stock, fragmentation, species richness and other diversity index are available. Data on state and condition of forests are recovered from field like overexploitation, soil

condition, cattle presence/absence, degradation (from the structure of trees), silvicultural treatment, among others are available. Thematic maps at 1:50.000 are produced for different users. On the other hand the National Land Survey from CONAF – CONAMA provide detailed information on forest types cover, and by means of a system of continuous subnational monitoring (regional), the changes that occur to surfaces level of natural and planted forests, land use movements and possible path for deforestation.

The system of monitoring is based on use of digital air photographs, identification of zones of changes and description of lands under the Lands Occupation Cartography methodology. The system of information is available in <http://conaf.siigs.cl> and statistics of change in the web page: [www.conaf.cl](http://www.conaf.cl). Also it counts with data of an extensive forest inventory that was carried out in 1997 for the surface covered with forests of the country, which can help to evaluate the forest degradation to the date.

**d) What are the main causes of deforestation and/or forest degradation?**

Main causes for degradation rely on the necessity of several small landowners in getting regular economics incomes from the forest lands they own, firstly by trying to extract as much volume of high value logs from the forest as they can, and then getting firewood material for both self consumption and for selling in the informal market; and finally, let the cattle to enter the forest for pasture, specially during winter season. The consequences of such a practice are increasingly fragmented forests, where open areas are later populated by cattle, producing excess of pasture on regeneration avoiding chances to recover forest cover. Underlying causes are poverty of landowners and their needs for a regular income from their lands (monthly income). In the case of Mediterranean forests, its deterioration is associated to its replacement by fruit-bearing cultivations and the urban expansion.

**e) What are the key issues in the area of forest law enforcement and forest sector governance (e.g., concession policies and enforcement, land tenure, forest policies, capacity to enforce laws, etc.?)**

Enforcement of existent laws are applied by the Corporacion Nacional Forestal (CONAF) organization in charge of apply the law and its regulations (mainly Decree of Law 701) and the Law 20.283 related to Natural Forest Recovery and Promotion. CONAF is in charge of control activities performed in the forests, in such a task CONAF defined two main tools, the requirement of a forest management plan, and the requirement of a simple forest management plan for small landowners. To be allowed for cutting the landowners should demonstrate legal land tenure, being this one an important issue for perpetrate forest cuts without forest management plans. A mayor strengthening in human and institutional capacities for law enforcement and control should be considered.

**4) What data are available on forest dwellers in lands potentially targeted for REDD activities (including indigenous peoples and other forest dwellers)? (e.g., number, land tenure or land classification, role in forest management, etc.):**

The indigenous communities and the majority of landowners are well defined and geographically located, there are also, id number cartography (Tax id ) for legally recognized lands. Information about forest dwellers working with forest management plans is stored in CONAF. The information is stored in digital format in forest related organizations like CONAF & INFOR and in the Natural Resources Information Center (Centro de Informacion de Recursos Naturales, CIREN) and the Chile's environmental agency (CONAMA). However, there is still a proportion of forest dwellers with land tenure problems, this particular situation generally produce areas with intensive forest degradation. Status of forest are contained in CONAF data bases defining status of protected, national monument, national reserve, national parks, conservation areas, etc.

There are suitable digital cartography on land use at national level at scale 1:50.000 coming from the National Land Survey (Catastro CONAF – CONAMA 1997) and the regional updates carried out since 1998. INFOR has thematic maps at 1:50.000 of growing stock of natural and exotic forests besides environmental information on forests. There is also information available for being used with the national census developed by the Statistics Agency (Instituto Nacional de Estadisticas-INE) which accounts with family profiles for social economical data at district level.

The country also counts on information organized in the National Territorial Information System (Sistema Nacional Integrado de Informacion Territorial- SNIT) data model which is devoted to store or link all the territorial auxiliary information of the country.

INFOR also accounts with auxiliary information to interact with thematic maps of forests state variables, like roads, digital elevation models, administrative limits, hidrography, climatics series, climatics stations records and locations, satellite imagery, aerial photos at several scales, soil information, etc.

There also exist detailed information about Chilean indigenous communities related to geographic location, sex, age, education, ethnic group, etc. Indigenous population concentrates mainly in the Araucanía Region, followed by Tarapacá, Bio-Bío, Los Lagos, and Metropolitan Region. Mapuche ethnica is the most numerous one, which represents 87.3% of the total and is mainly located in wooded areas of southern Chile (See Annex 2, Point 2).

**5. Summarize key elements of the *current* strategy or programs that your government or other groups have put in place to address deforestation and forest degradation, if any:**

**a) What government, stakeholder or other process was used to arrive at the current strategy or programs?**

Nowadays, after 15 years of discussion, the natural forest law (Law 20.283) has been recently approved by the parliament and one important aim of this law is protect, recover and improve native forest to support sustainability forest and environmental policy. This law which is the reference on natural forest activities from 2008 and coming years, was a result of a long negotiations among several stakeholders, landowners organizations, industry representatives, government institutions, NGO's and academy. The strategy of the law is to offer subsidies for some forest operations in field, activities to foster regeneration, recovery or protect sclerophyllous forest or native forest of preservation to pursue biologic diversity, activities to obtain wood and non-wood products. The strategy approached to reach a final law version was by using stakeholder group meetings from the very beginning until final consensus was achieved.

Other consulting processes that propose and address forest strategy in natural forests are: the Forest Bureau (la mesa forestal) which is wide forest committee with representatives from public and private institutions, the Consultative Counsel of the Native Forest (Consejo Consultivo Permanente de Ley de Bosque Nativo) which meet diverse delegates related to natural forest and, the Regional Council for Forest Development (Consejo Regional de Desarrollo Forestal) – COREDEFOR working with regional stakeholders around natural forest topics. Diverse private and public institutions, academy representatives, indigenous communities and small owners of forest, could participate of these dialogues and it permits to collect the demands of diverse interest groups. The initial thought is that several points of REDD strategy can be incorporated to the treated subject matter in these "Mesas" and not to create a new one, since would fortify the work and would permit to coordinate the efforts related to forests of the country.

**b) What major programs or policies are in place at the national, and the state or other subnational level?**

In Chile, forest policy is executed by the Ministry of Agriculture and is the agency under forest institutions of the country develop their work. Some of the most important instruments of politics corresponds to the Decree of Law 701 (since 1974) promoted the afforestation of highly eroded lands generated by several decades of excessive agricultural cultivation. The forests generated as a consequence of the DL701 have defined the current industrial development, which it is based mainly on exotic plantation species. This non written policy produced a gap in development among exotics plantations and its counterpart the natural forests, where the later is 30 years behind the technological development reached today by plantations. At present and of recent promulgation, there exists the Law 20,283 related to Recovery of the Native Forest and Forest Promotion whose main objective is the protection, recovery and the improvement of native forests, devoted to ensure the forest sustainability and environmental policy.

Given that, and, in absence of a natural forest law during the last decade, the government of Germany produced a cooperation agreement with Chilean government in order to generate capacity building on forest management for natural forests. This program last 15 years until cooperation ended during the year 2007. The target subject of this program was the small landowners and focused on forest considered as the most productive forest types known as *Roble-Rauli-Coihue* forest types, specifically second growth forests.

The main objective of such a program was to create capacity in the small landowners for practicing sustainable forest management, avoiding in such a way, the degradation of forests due to creaming or bad management practices. Institutions involved in this program were CONAF and GTZ Germany and some Universities.

The core problem this program addressed, was to break the economical barrier by increasing the value of forest by management through the simulation of the presence of a subsidy (Germany government provided the money). Key issue learned here is that without subsidy the forest operation in forests are not economically viable given the state of industry

and infrastructure at that time.

Currently different programs or projects are tackling several issues related to natural forest management in Chile. A GEF project called Evergreen GEF Project is working since this year in the regions X and XIV to design a bi-national system of protected areas. Last year a firewood certification program was launched to promote a more sustainable forest management and reduce contaminants originated from wood combustion (heating). Besides, several NGOs such as WWF, TNC are developing regional programs to protect forest biodiversity and local flora.

The Agrarian Research Group – GIA (Grupo de Investigaciones Agrarias) a Chilean NGO is developing a three-year project to sustainable forest management among indigenous people. The main objective of this project is to fortify the business management of 17 native Huilliches communities in Southern of Chile, in the perspective of the sustainable management of its forest and non-forest resources, contributing to increase the incomes of more than 600 leaders of family.

Due to the informality of firewood market is one of the main causes of social and environmental problems related to air pollution and the forest deterioration, in the year 2006, the National System of Firewood Certification was created (SNCL). The SNCL is a private public initiative of voluntary character, that has set standards of quality and origin for the commercialization of firewood in Chile. Through the certification is sought to create a formal and differentiated market, that adds value to products and improve the profits of forest management. This program works from Talca to Coyhaique in the Chilean Patagonia.

**6. What is the current thinking on what would be needed to reduce deforestation and forest degradation in your country? (e.g., potential programs, policies, capacity building, etc., at national or subnational level):**

In order to reduce degradation in natural forests the following actions are thought as needed:

1.- **Definition of degradation at national level.** Defining what is understood by degradation is one of the key issue to be solved by stakeholders in the country, besides forest state indicators that permit to define degradation. The adoption of international harmonized definition could be a right path although this topic is not totally resolved at international level.

2.- **Defining baseline methodology for identify and monitoring degraded forests.** Once the degradation of natural forests is suitably defined by stakeholders it is required to further establish the baseline on degraded forest in the country and goals to revert this condition in short stages (a 10 year goal could be reasonable). A priori situation at year 2000 seems reasonable given the permanent sample plots from the Continuous Forest Inventory reflects the state and conditions of forest for that date. Monitoring the actions performed on these areas is key for recognizing changes in the carbon pools from forests. Workshops and seminars toward a methodological approach are proposed here.

3.- **Linking existent legal bodies to the silvicultural activities required for recovering degraded forests.** There are several legal instruments that allow landowners to apply for government subsidies regarding forest activities and soil recovering, it is proposed a deep revision of such instruments at both national and subnational levels to be linked to the final goal of reducing degradation taking into consideration social, economics and ecological issues in order to avoid unmanaged logging and bad use of forest lands. It would be sought besides to fortify the Programs of Forest Promotion, adding the mechanism REDD, to fortify the Native Forest Law enforcement and to incorporate among its goals those proposed for the REDD strategy.

4.- **Coordination of forest related organizations programs** Several institutions related to forests are performing programs related to forests, among them CONAF National Land Survey and INFOR Continuous Forest Inventory spans to the whole country, both programs and other subnational initiatives should be coordinated toward a suitably and cost effective monitoring and preventive systems on carbon mitigation. Existent programs focused on sustainable forest management should be canalized toward small landowners to secure recovering of productive capacity of forests. Following the concept behind CDM projects the central idea of this capacity building on landowners is to produce a change of mind from seeing the degraded forest as useless and no valued to a value asset because of carbon as a new product of forests.

An additional aspect corresponds to improve the aspects of land tenure among those inhabitants or zones that still present problems. The communal properties of native groups will be incorporated as such to possible plans of clearing.

5.- **Taking advantage of worldwide recognized tools on forest management certification and carbon mitigation.** There exist several important and well established processes around the world regarding the sustainable forest management, the lessons learned in CDM projects of Kyoto protocol and also the experience gained by voluntary carbon market -specially in forest management-, all of these among others similar tools should be linked together in a suitable structure to secure accountability of reduction of emission by sustainable forest management (i.e., avoiding degradation).

The experience being developed in southern Chile related to firewood certification, will be considered and fortified, due to

it promote forest management and firewood certification.

**a) How would those programs address the main causes of deforestation?**

Main causes of degradation are poverty provoked by understocked forest, small piece of forest-agriculture lands (less than 200 ha according to Chile's definition of small landowner) ended in a cattle over grazing situation that force the landowner to invade forests area for pasture, the landowner clearly surpass their soil capacity to support animals, but do so to maintain regular income if possible, the forest lands then are forced to be part of the cattle production scheme.

Compensation due to carbon sequestration and degradation avoided could be an important new input in the economical equation of the small landowner, CDM A/R studies performed by INFOR has shown there is an important impact on economical revenue because of the simple inclusion of the carbon credit, moving from negative economical results to a positive one. One important characteristics of carbon sequestration from forest is found in the fact that carbon participates only as incomes and not involve additional costs of production. The concept behind the forest management then is that main objectives of management should consider also maximizing the carbon sequestration above traditional maximization of forest products based on some particular currently valued species although the later are still part of the production function.

**b) Would any cross-sectoral programs or policies also play a role in your REDD strategy (e.g., rural development policies, transportation or land use planning programs, etc.)?**

Yes, government programs related to soil recovering, dissemination to small landowners in agricultural techniques, water conservation and management, cattle management programs, artificial pasture genetic improvement, etc are cross sectoral issues to REDD strategy. At subnational level regional strategy for development are also part of transversal analysis because every administrative region has its own development strategy.

**c) Have you considered the potential relationship between your potential REDD strategies and your country's broader development agenda in the forest and other relevant sectors? (e.g., agriculture, water, energy, transportation). If you have not considered this yet, you may want to identify it as an objective for your REDD planning process.**

Chile has designed a Plan of National Action in Climatic Change for the period 2008-2012, that constitutes the frame of reference for impacts evaluation activities, vulnerability and adaptation to climate change, and mitigation of emissions of greenhouse gases in the country. Its materialization pursues to give answer to a need that is revealed indispensable in sight of the last scientific evidences on climatic changes that are projected for the 21st century, of which our country is not exempt. Besides it seeks to give compliance to the commitments acquired upon ratifying the Convention Framework of the United Nations on Climatic Change.

All the climate change related topics are considered under an special high level Committee (Comite interinstitucional de Cambio Climatico) which is presided by the Ministry of Agriculture in person, this committee coordinate the different efforts and initiatives regarding climate change and different issues such as water, species adaptation, vulnerability, etc. This committee is also connected to the other minister through the Ministry Committee (CONAMA) under the presidency of the President of the Republic of Chile, by these mechanisms all broader agenda will consider the issues of REDD thoroughly.

The REDD strategy of the country is concordant with the features of the National Action Plan, since inside the axes to mitigate emissions GEI, has been proposed to seek mechanisms that promote the protection, management and recovery of the native forests of the country. The committee will revise and will propose mechanisms to coordinate and to harmonize different instruments such as the bonuses of the DL 701, the bonuses of the law of native forest related to the forest, as well as other instruments related to the agriculture and the environment.

**d) Has any technical assistance already been received, or is planned on REDD? (e.g., technical consulting, analysis of deforestation or forest degradation in country, etc., and by whom):**

It has not. This R-PIN application would provide an option to apply for technical assistance if necessary.

**7. What are your thoughts on the type of stakeholder consultation process you would use to: a) create a dialogue with stakeholders about their viewpoints, and b) evaluate the role various stakeholders can play in developing and implementing strategies or programs under FCPF support?**

There is a solid basis and lessons learned to call for participation derived from past experience (Natural Forest Law Bureau) where all stakeholders (NGO's, government, academy, industry, indigenous community etc.) were invited and had the chance to give their opinion and participate, this methodology allowed for a great deal of discussion and finally achieved the consensus in a very difficult theme like the future natural forest law.

**a) How are stakeholders normally consulted and involved in the forest sector about new programs or policies?**

They were invited to participate in a consultation group, the invited person must be a representative of some group of interest.

**b) Have any stakeholder consultations on REDD or reducing deforestation been held in the past several years? If so, what groups were involved, when and where, and what were the major findings?**

No yet. But this topic was indirectly considered under the discussions of the Natural Forest Law.

**c) What stakeholder consultation and implementation role discussion process might be used for discussions across federal government agencies, institutes, etc.?**

It should be utilized the processes of consultation that already are functioning such as the Consultative Counsel of the Native Forest. This group should be the platform for topics like REDD to national level since would permit the coordination with the instruments utilized in the forest sector. The regional consultations would operate in a second level but with the same logic of participation of different organizations of our society.

**d) Across state or other subnational governments or institutions?**

At subnational level the same model is proposed in order to get a bottom up flux of information and opinions.

**e) For other stakeholders on forest and agriculture lands and sectors, (e.g., NGOs, private sector, etc.)?**

Same as d)

**f) For forest-dwelling indigenous peoples and other forest dwellers?**

Same as d) This year, the Chilean Government signed the Convention N° 169 under the International Labor Organization (ILO). The convention aims to promote the rights of indigenous and tribal peoples, encourage dialogue on the issues affecting them, and to build the capacity of these peoples to promote and protect their own rights. The REDD strategy will be respectful and will promote all this points.

Currently, the government -through CONADI- is doing consultations to several indigenous communities to validate proposals to implement this convention on September 2009.

**8. Implementing REDD strategies:**

**a) What are the potential challenges to introducing effective REDD strategies or programs, and how might they be overcome? (e.g., lack of financing, lack of technical capacity, governance issues like weak law enforcement, lack of consistency between REDD plans and other development plans or programs, etc.):**

Potencial Challenges to REDD Strategies	Possible Solutions
Strengthening Institutions	<ul style="list-style-type: none"> <li>▪ Improve baseline and monitoring capacities in forest degradation</li> <li>▪ Increase frequency of monitoring</li> <li>▪ Increase professional capacities in REDD activities.</li> <li>▪ Increase fines and sentences for illegal cuts.</li> <li>▪ Define a expert committee on climate and REDD issues.</li> <li>▪ Fortifying capacity of promotion of governmental forest institutions, promotion of practices of sustainable management and human capacities</li> <li>▪ Strengthening in human capacities, goods and services related to forest enforcement.</li> </ul>
Sociocultural Barriers (social conflicts in same regions, land tenure between small and median size owners)	<ul style="list-style-type: none"> <li>▪ Increase Indigenous and forest owner consultations.</li> <li>▪ Increase coordination between public and private sectors.</li> <li>▪ Promote land property programs through government institutions.</li> <li>▪ To know vision and knowledge relate to forest management in indigenous people</li> </ul>
Economic Barriers (land owners with lack of financing, rural poverty, sustainable forest management)	<ul style="list-style-type: none"> <li>▪ Develop studies related to underlying causes of forest degradation</li> <li>▪ A performance-based payment on priority areas.</li> <li>▪ Coordination of social programs between public institutions.</li> <li>▪ Conduct studies on underlying causes of forest degradation and land use change.</li> <li>▪ Promote other ecosystem services payments to improve financial issues.</li> <li>▪ Development of capacities for carbon trade and support to forest owners.</li> </ul>

These challenges will be considered during the readiness phase through wide stakeholder consultations. The future strategy must include all current programs focusing on forest degradation.

**b) Would performance-based payments through REDD be a major incentive for implementing a more coherent strategy to tackle deforestation? Please, explain why. (i.e., performance-based payments would occur *after* REDD activities reduce deforestation, and monitoring has occurred):**

Yes, a performance-based payment system in carbon markets could encourage a improvement in forest management in several areas of the country. Chile has a strong tradition in market instruments. Different government institutions have knowledge and experience with economic instruments that can improve the application of performance-based payments.

Many areas with natural forests are cut without sustainable practices producing a loss of structure, biomass and native species diversity. This situation is strongly produced by factors such as rural poverty and lack of opportunities. Considering these aspects, a potential payment for avoided degradation could improve rural income and in this way, reduce pressure on cut trees and reduce emissions. Payment based in REDD would be a complement to current financial assistance offered by the government., such as the bonuses of DL 701 for A/R and the bonuses for sustainable forest management of Natural Forest Law (see Annex 2, Point 3). In this last case, as Preservation forest as Conservation and Protection forests have a big possibility of complementation with carbon credits from the REDD strategy.

Due to payments are influenced for land-use allocations. A prioritization of potential areas for being considered in REDD schemes, seems mandatory. At first, priority areas should be located in lands occupied by small owners as well indigenous people.

Since actual forest are generally located near the mountains, it has usually low intensity land-use allocations. This fact open a wide chance to the possibilities of carbon trade. An opposite condition can be seen in the central valley of Chile, where agriculture and cattle raising make difficult to revert degradation processes.

**9. REDD strategy monitoring and implementation:**

**a) How is forest cover and land use change monitored today, and by whom? (e.g., forest inventory, mapping, remote sensing analysis, etc.):**

Forest cover and land use change is mainly perform by CONAF. This institution is responsible for the National Land Survey and their updatings, which is a tool to evaluate land use changes every ten years. Aerial photographs were used in the last edition of the survey; it produced a minimum resolution of 1 hectare. The monitoring of surfaces is done by means of digital photography, the detection of changes with respect to baseline and the description of changes occurred in land, as well as the new variables of state of forests such as height, cover, and dominant species. The results are expressed in thematic maps scale 1:50.000 (cartography) and databases. They are available in the webpage of the institution.

INFOR is responsible for a continuous forest inventory at national level since 2001 under the Forest Ecosystems Monitoring Program, this data are based on permanent sample plots under a statistical sampling design. This inventory can show forest condition across wide areas, thus, it can identify forest degradation (see Anex 1, question 9)

**b) What are the constraints of the current monitoring system? What constraints for its application to reducing deforestation and forest degradation? (e.g., system cannot detect forest degradation of forest stands, too costly, data only available for 2 years, etc.):**

The current system of monitoring has a good evaluation of land uses change but, It can not detect forest degradation at big scales. This is an important point to the Chilean proposal due to forest loss is developed through a reduction of forest coverage and biomass reduction. Other constraint is related to high costs of monitoring it make difficult to develop an evaluation in the country with short intervals of time. The national land survey in Chile is carry out by regions, which produce results in different periods (years) which make difficult to realize an integrated analysis of land use changes in the country.

A new high resolution satellite will be operating in Chile at the end of 2009. This new tool, besides the Forest Inventory and the National Survey, promise to tackle monitoring barriers allowing improve the current system of forest evaluation (see Annex 2, Punto 4).

**c) How would you envision REDD activities and program performance would be monitored? (e.g., changes in forest cover or deforestation or forest degradation rates resulting from programs, using what approaches, etc.)**

Forest degradation under a REDD system in the country could be implemented using medium/high spatial and temporal resolution imagery as a auxiliary information and with a statistical design using land plots to measure forest variables. It can be possible from 2010 when a new satellite permit obtain images that could detect forest coverage changes or biomass variations. This means that the national survey developed by CONAF will measure land use changes and the Forest Inventory will evaluate forest degradation among other important variables. This new tool would be a complement to the current monitoring systems in Chile.

The institutional strengthening should consider improve law enforcement capacities as well as land use promotion and monitoring. The REDD strategy and its goals should be connected to current goals of Chilean Institutions and forestry sector. A institutional strengthening can be envisioned through the current forest inventory developed by INFOR. A systematic sampling scheme with a bi or triannual frequency, could improve the measurement of logging impacts on biomass or other indicators applying international protocols, for example, IPCC guidance or Winrock methodologies.

A system evaluating socio-economics impacts of REDD strategy in rural populations and its relation to sustainable forest management is an important approach to be considered. A permanent plot control in all forests under REDD focus would support requirement of information to decision making for strategy analysis.

**10. Additional benefits of potential REDD strategy:**

**a) Are there other non-carbon benefits that you expect to realize through implementation of the REDD strategy (e.g., social, environmental, economic, biodiversity)? What are they, where, how much?**

A positive effect of forest conservation is related to the protection of another ecosystem services such as biodiversity, water, landscape and tourism and, non-wood forest products. It could be a relevant support to the hydrographic basin integrated management that is currently developed in Chile.

In the same way, social and economic benefits of a potential REDD scheme are thought as a one of the main focus of this strategy. A special attention will be applied to reduction of poverty between indigenous and non indigenous populations that depend on forest activities.

**b) Is biodiversity conservation being monitored at present? If so, what kind, where, and how?**

Biodiversity conservation is considered under the national biodiversity strategy directed by CONAMA. This strategy has a main objective to define policy aspects to promote, conserve and improve ecosystems, of course, forests are one of them. However, there is no a national program to monitor biodiversity throughout the country. Nevertheless, efforts are being developed by INFOR is evaluating forest biodiversity between IX to XI regions through of the Forest Ecosystems Monitoring Program, but is necessary to expand this program to other regions of the country. The main sources of information of this monitoring are associated to satellite images and permanent sample plots.

Additionally, CONAF is evaluating biodiversity through the national system of protected areas in different regions of the country, the country is doing efforts to complete the representation of all forest ecosystems in the system.

**c) Under your early ideas on introducing REDD, would biodiversity conservation also be monitored? How?**

Biodiversity conservation under REDD strategy can extend non-carbon benefits. In this way, biodiversity could be considered as a additional variable to be monitored in the REDD process. Initially, it could be evaluated through the time by remote sensing and existent permanent plots, currently there is an methodological proposal (INFOR 2007) to assess biodiversity in a sampling design linked to Continuous Forest Inventory sampling design (based on Stohlgren T. 1998). Is still necessary to further determine what specific aspects of biodiversity should be measure can be choose in a broader technical consultation. This could be evaluated during the periods when the Forest Inventory is carried out in the forest ecosystems.

**d) Are rural livelihood benefits currently monitored? If so, what benefits, where, and how?**

The National Statistic Institute (INE) develop a national survey every 10 years throughout the country. This survey includes urban and rural areas, and evaluate a complete set of socioeconomics indicators. The last edition was carried out in 2002.

INE also implement a rural survey (Forest and Agricultural Census) that focus on measure socio economic variables of rural welfare. It also is developed every 10 years and the last one was executed in 2007. This information is detailed to different levels and has associated variables to its respective geographical areas, this instrument will be important in the definition of the final strategy for REDD.

MIDEPLAN (Department of Planning) applies the survey of National Socioeconomic Characterization (CASEN), which is a

survey of representative homes at national, regional, communal, rural and urban levels and it is focused to evaluate levels of welfare and poverty.

**e) Under your early ideas on introducing REDD, would rural livelihood benefits also be monitored? How?**

Rural livelihoods impacts related to REDD program should evaluate potencial benefits or negative impacts on rural or indigenous populations. This monitoring could consider measure the effects of REDD scheme such us access to information, land use allocation for participating in the program, life quality changes and others potencial impacts, it should be executed by a specialized institution such as CONADI.

This information will be relevant to evaluate the performance of the REDD program, continuous adjustments could be necessary. At program level, the Forest and Agricultural Census should be permit evaluate diferent social aspect of people participating of this program.

**11. What type of assistance are you likely to request from the FCPF Readiness Mechanism ?**

- Identify your early ideas on the technical or financial support you would request from FCPF to build capacity for addressing REDD, if you are ready to do so. (Preliminary; this also could be discussed later.)
- Include an initial estimate of the amount of support for each category, if you know.
- Please refer to the Information Memorandum and other on-line information about the FCPF for more details on each category:

ITEM	Año				Total (US\$)
	2009	2010	2011	2012	
<b>1. Consulta a grupos de interés (Instituciones de gobierno, ONGs, Comunidades indígenas y rurales etc)</b>					<b>245.000</b>
Consultas Regionales y Locales	50.000	40.000	30.000	30.000	150.000
Consultas Nacionales	35.000	20.000	20.000	20.000	95.000
<b>2. Evaluación de Emisiones Históricas</b>					<b>710.000</b>
Diseño Metodológico	70.000	70.000			140.000
Imágenes Satelitales	50.000	150.000	70.000		270.000
Evaluación de emisiones históricas		150.000	150.000		300.000
<b>3. Estrategia Nacional REDD</b>					<b>450.000</b>
Diseño de estrategia REDD	100.000	100.000			200.000
Análisis e integración Políticas REDD a nivel nacional		70.000	50.000	50.000	170.000
Comunicación y Publicaciones		40.000	20.000	20.000	80.000
<b>4. Sistema de Monitoreo REDD</b>					<b>1.190.000</b>
Diseño de Monitoreo	50.000	50.000	40.000		140.000
Software y hardware		200.000	50.000		250.000
Implementación del sistema de monitoreo		300.000	250.000	250.000	800.000

<b>5. Fortalecimiento Institucional</b>					<b>760.000</b>
Unidad REDD (creación e implementación)	50.000	100.000	50.000	50.000	250.000
Fortalecimiento local (CONAF, Municipalidades, comités)	50.000	100.000	100.000	100.000	350.000
Coordinación institucional integrada	40.000	40.000	40.000	40.000	160.000
<b>TOTAL</b>	<b>480.000</b>	<b>1.425.000</b>	<b>810.000</b>	<b>450.000</b>	<b>3.355.000</b>

**a) Setting up a transparent stakeholder consultation on REDD (e.g., outreach, workshops, publications, etc.):**

A transparent stakeholder consultation constitute a structural way to success in the REDD strategy. To tackle this challenge, support will be required to develop a integral communication among all the stakeholders in the process. It will be developed big efforts to assure indigenous participation in this stage. Regional and national workshops will be organized, different media will support the inicial steps of the REED scheme in the country.

**b) Developing a reference case of deforestation trends: Assessment of historical emissions from deforestation and/or forest degradation, or projections into the future.**

Degradation and deforestation trends requires a big effort due to lack of national information at national scale. Financial support will be necessary to carry out methodological design of the current main source of carbon emission –degradation-, satellite images adquisicion and degradation forest trend evaluation. Technical assistance would be probably required for design and estimate future trends related to deforestation and degradation forest that consider socioeconomic and cultural aspects asociated to forest degradation.

**c) Developing a national REDD Strategy: Identification of programs to reduce deforestation and design of a system for providing targeted financial incentives for REDD to land users and organizations (e.g., delivery of payments, governance issues, etc.):**

A national REDD strategy development will require financial and technical information from the FCPF. Despite chilean experience with market instruments, REDD financial incentives will demand more understanding and will establish a new focus to pursue goals. Some of aspects considered in this area are relate to the creation of a REDD unit to coordinate, negotiate and execute payments. It also has been considered an institutional strengthen in national and local levels as well as a communicational strategy to inform the scope and potencial benefits of this REDD strategy. A better rol definition and a major integration among institutions are anothers barriers to be considered.

For the development of this strategy it is considered the analisis and integration of the strategy REDD with the current programs and politics that are executed in the country, especially those related to the forest. A campaign of socialization between population and actors involved (communities and rural inhabitants) will also be developed.

**d) Design of a system to monitor emissions and emission reductions from deforestation and/or forest degradation:**

A financial and technical support will be necessary to monitor emissions and emission reductions. The emphasis will be given to strengthen the current system developed in the country. This will require to adapt and incorporate all the aspects related to REDD activities, in particular, methodological aspects of degraded forest monitoring.

**e) Other?:**

Other topic considered in this proposal is the strengthen of institutional capacities. A major institutional integration is considered, besides the creation of a REDD unit of coordination and negotiation.

**12. Please state donors and other international partners that are already cooperating with you on the preparation of relevant analytical work on REDD. Do you anticipate these or other donors will cooperate with you on REDD strategies and FCPF, and if so, then how?:**

At this time, there are no donors and international partner cooperating with Chilean institutions. Besides, it is not clear what potential donors could help on REDD strategies in our country.

**13. Potential Next Steps and Schedule:**

**Have you identified your priority first steps to move toward Readiness for REDD activities? Do you have an estimated timeframe for them yet, or not?**

Currently, there is not an estimated timeframe to move toward Readiness for REDD activities but the following stages supported by FCPF could be required:

- Institutional definition that will implement and coordinate REDD strategy
- A wide stakeholder consultation
- Definition of degradation at national level
- Definition of indicator of forest degradation
- Definition of Baseline of emissions
- Assesment of historical emission and carbon baseline construction
- Definition of a national REDD strategy, incorporating current instruments
- REDD monitoring and methodological design
- Institutional strengthen and communicational integration.

**14. List any Attachments included  
(Optional: 15 pages maximum.)**

CONFIDENTIAL