FAO/GLOBAL ENVIRONMENT FACILITY
PROJECT DOCUMENT

PROJECT TITLE: **Mainstreaming conservation and valuation of critically endangered species and ecosystems in development-frontier production landscapes in the regions of Arica y Parinacota and Biobío** **PROJECT SYMBOL:** GCP/CHI/033/GFF	
COUNTRY: CHILE	
FINANCING PARTNER: Global Environment Facility GEF	
FAO PROJECT ID: 623646 **GEF PROJECT ID**: 5429	
EXECUTING PARTNER(s): Ministry of Environment - MMA, Ministry of Agriculture – MINAGRI (National Forest Corporation- CONAF, Livestock and Agriculture Service – SAG)	
EXPECTED EOD (STARTING DATE): JULY 2016	
EXPECTED NTE (END DATE): JUNE 2019	
Contribution to FAO's Strategic Framework	**a. Strategic objective/Organizational Result:** Strategic Objective 2 (SO 2) Increase supply of goods and services from agriculture, stockfarming, forestry and fishery in a sustainable manner **b. Regional Outcome/Priority Area:** Regional Initiative 3 Climate change and natural resources **c. Country Programme Framework Outcome:** Pillar 2: Governance of natural resources and farming, forest and cattle and fishery systems under climate change scenarios. Outcome 3: Protection of biodiversity, natural and genetic resources conservation for food security.
GEF FOCAL AREA: BIODIVERSITY	
GEF STRATEGIC OBJECTIVES: BD 2 (outcomes 2.1 and 2.2, outputs 2.1 and 2.2)	
SOCIAL AND ENVIRONMENTAL ASSESSMENT CATEGORY: Moderate	

Financing Plan:	
GEF Allocation:	**USD 2,411,416**
Co-financing:	
MMA	USD 1,640,921
CONAF	USD 1.623,447
SAG	USD 200,319
Etica en los Bosques (NGO)	USD 301,000
Fundación Keule (NGO)	USD 28,000
AUMEN (NGO)	USD 221,400
Aves Chile (NGO)	USD 1,451,272
Private contribution	USD 813,252
FAO	USD 331,000
Subtotal co-financing:	USD 6,610,611
Total budget:	**USD 9,022,027**

EXECUTIVE SUMMARY

Chile's biodiversity is characterized by a relatively high species endemism in varied and small ecosystems, which are a source of abundant marine, coastal, terrestrial and insular environments that house about 30,000 species among plants, animals, mushrooms and bacteria. The economic development of Chile depends heavily on its natural resources, so unsustainable practices and extractive mentality, together with high immediate productivity has speeded up habitats degradation and soil erosion in productive territories. Loss, degradation and fragmentation of ecosystems remain a major threat. Change in land-use is the main anthropic factor affecting Chilean natural terrestrial ecosystems. This includes the forest industry, through illegal logging of forests and plantations of alien species; the agricultural industry, through release cutting for the establishment of grassland and crops and urbanization, all of which represent major threats to these changes in the central and south-central zones.

These poor productive practices and unawareness of the importance of biodiversity have a negative impact. The ability of the territories to provide agro-ecosystem services to sustain local livelihoods, has declined over the last decades, especially in regions of "development border", meaning that the border is a space that separates the “developed” productive areas (agriculture) from “undeveloped” non-productive areas (native forests) in the country[1], such as Arica y Parinacota and Biobío regions. Three of the four demonstrative areas identified for this project are located in the Biobio region, in the transition zone between the Mediterranean ecoregion and the Valdivian temperate forest. The last area is located in the northern valleys of Arica y Parinacota, transverse valleys (from east to west) with very special characteristics, an oasis in the middle of a desert landscape.

Due to all of the above, various types of unique species and their habitats are critically endangered in Arica y Parinacota and Biobio regions. In particular, the "emblematic landscape species", those whose needs are being considered in the protected landscape and have been selected for this project, at least one of each selected area is endangered species, namely: the Chilean woodstar (*Eulidia yarrellii*) found in the desert valleys of Arica y Parinacota region, the Darwin’s Fox (*Pseudalopex fulvipes*[2]) found in Cordillera de Nahuelbuta, the Chilean huemul (*Hippocamelus bisulcus*) found in the Biosphere Reserve “Biological Corridor Nevados de Chillán – Laguna del Laja” (RBNCHLL), and Keule (*Gomortega keule*).

Despite national efforts, it has not been possible to reduce pressures affecting the species under consideration because these species have very extensive habitat requirements. Limited sectoral approaches of public agencies responsible for land management in these areas have made it difficult to implement effective actions, including the valuation of biodiversity and incentives to production. No conservation effort in one region and sector could ensure the stabilization of the population of these species. Public policies and regulations concerning the production and conservation of biodiversity are scattered and even contradictory. On the other hand, the value of these species is not incorporated into the social and cultural levels and agents living and producing in the development border areas are not sufficiently aware of its importance.

The objective of the project is to integrate conservation criteria of four critically endangered species (Darwin's fox, Chilean huemul, keule and Chilean woodstar) into the management of main "development border" territories in Arica y Parinacota and Biobio regions, through the implementation of best production practices for sustainable forestry, farming and cattle and forest production and

[1] http://eial.tau.ac.il/index.php/eial/issue/view/85 “**Cross-breeding" and "Border" as Iberoamerican cultural categories.** The European concept of border always referred to, as noted, to a line, the place to meet and conflict with the "other”, which represented the “barbarian”, and the border was the line that separated the "civilization" from "barbarism." In line between "civilization from barbarism"

[2] Scientific name *Pseudalopex fulvipes.* Synonyms: *Canis fulvipes; Dusicyon fulvipes; Lycalopex fulvipes* Source: National Inventory of Endangered Species http://especies.mma.gob.cl/CNMWeb/Web/WebCiudadana/ficha_indepen.aspx?EspecieId=16

conservation of biodiversity, through the development of local capacities and awareness and inclusion of conservation into local policies and regulatory frameworks, in order to avoid extinction and reduce pressure on the ecosystems they inhabit.

From the definition of their habitat and distribution of each endangered species, intervention areas were selected based on (1) its potential to generate biological corridors, (2) distribution within areas of influence of protected areas, and (3) production practices implemented with negative impact on the species. The areas selected for the project intervention areas are:

- Darwin's fox in Cordillera de Nahuelbuta, including Contulmo, Los Álamos, Curanilahue and Cañete communities (Biobio Region)
- Chilean huemul in the Biosphere Reserve Nevados de Chillán that includes Antuco, Pinto and San Fabián communities (Biobio Region)
- Keule in Talcahuano, Tomé and Curanipe communities (Biobio Region)
- Chilean woodstar, in Camarones, Vitor, Azapa Valleys (Arica y Parinacota Region)

To achieve this objective, the Project is structured in three components: 1 Awareness and development of capacities to support the protection of four endangered species in Arica y Parinacota and Biobío Regions; 2 Integrated territorial management based on best forestry, farming and cattle and forest practices aimed at the recovery of four endangered species habitats in Arica y Parinacota and Biobio regions; and 3 Mainstreaming conservation criteria of endangered species in public policies and municipal regulatory frameworks in Biobio and Arica y Parinacota regions.

Project expected outcomes are: (i) strengthened capacity of local actors to implement best forestry, farming and cattle and forest practices including the conservation of the endangered species habitat (Chilean woodstar, Chilean huemul, Darwin's fox and keule); (ii) populations of the four endangered species are stabilized by reducing pressure on their habitats, on account of planning and management of the territory with due consideration to biodiversity conservation, and (iii) public policies and regional regulatory frameworks incorporate conservation criteria of the four endangered species from territorial management experiences.

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Acronyms

AWP/B	Annual Work Plan and Budget
CAM	Municipal Environmental Certification
CLP	Chilean peso (acronym used in foreign currency market)
CMS	Convention on Migratory Species
CMWS	Coordinated Information, Monitoring and Early Warning System
CODEFF	National Committee for the Defence of Flora and Fauna
CONAF	National Forestry Corporation
ES	Ecosystem Services
FNDR	National Fund for Regional Development
GEB	Global Environmental Benefits
GEF	Global Environment Facility
GAP	Good agricultural practices
HCVA	High Conservation Value Area
LOA	Letter of Agreement
MBN	Ministry of National Assets
MIC	Integrated Crop Management
MINAGRI	Ministry of Agriculture
MIP	Integrated Pest Management
MMA	Ministry of Environment
NBSAP	National Biodiversity Strategy and Action Plan
PADEM	Municipal Education Development Programme
PIF	Project Idea Form
PIR	Project Implementation Review
PMU	Project Management Unit
PPR	Project Progress Report
RBNCHLL	Biosphere Reserve “Biological Corridor Nevados de Chillán – Laguna del Laja”
RCE	Wild Species Classification Regulation
RECOGE	Recovery, Conservation and Management Plans

SAG	Chile’s Livestock and Agricultural Service
SBAP	Service of Biodiversity and Protected Areas
SCR	Social Corporate Responsibility
SEREMI	Regional Ministerial Secretariat
SMEs	Small and medium-sized enterprises
SNASP	National System of Protected Wild Areas
SNASPE	National System of Protected Wild Areas of the State
TPA	Arica Port Terminal
UNCBD	UN Convention on Biological Diversity
WPA	Protected Wildlife Areas

SECTION 1- RELEVANCE OF THE PROJECT

1.1 PROJECT CONTEXT

1.1.1 National context

a) Context of development related to the project

Chile's biodiversity is characterized by a relatively high species endemism in varied and small ecosystems, which are a source of abundant marine, coastal, terrestrial and insular environments that house about 30,000 species among plants, animals, mushrooms and bacteria. Thus, the central and southern zone of the country is considered one of the 35 global hotspots of biodiversity[3]. Given its critical conservation state, the Global 200 Initiative of the WWF and the World Bank has also ranked it as one of the most threatened zones.

The country has a wide range of ecological zones, including deserts, Pacific Islands, Mediterranean ecosystem, steppes and wetlands in highlands and temperate forests, among others. These various ecoregions contribute to the Chilean biodiversity, which is characterized by a breath-taking scenic beauty and very favorable conditions for its successful agri-food and forestry sector.

It is estimated that ecosystems with native vegetation represent about 76% of the total surface, of which, 20% corresponds to native forests. In recent years, the loss of native forest in the central region has been significant, reporting loss rates between 3.5% and 4.5% annually. On the other hand, ecosystems affected by anthropic use represent the 12% of the country surface, due to the transformation of natural ecosystems, forests, shrubs, deserts and steppes, which have been used for the construction of houses, roads and productive activities. A recent study to evaluate the remaining area of natural terrestrial ecosystems, showed the presence of ecosystems that, at present, have just a 15% of its historical distribution, and another 10 ecosystems that have less than 40% of the remaining area. All of them are located in coastal areas and inland between the V Region of Valparaiso and the VIII Region of Biobío[4].

Between 2002 and 2013 the knowledge of the biodiversity of species in Chile has increased; the 28,490 species reported in 2002 have raised to 30,893 species described in 2013, that is, an increase of 2,403 species[5]. While this is the information known in 2014, there is a lack of knowledge about the existing biota in the country, particularly invertebrates, unicellular organisms and marine life, so it is expected that the described species continue to increase as the knowledge of Chilean biodiversity increases.

The species wealth and level of endemism are heterogeneously distributed throughout the country. 67% of the 1,008 genera of Chilean continental flora is found only in Chile and 49% of these represents one single species. As regards mammals, about 150 species are native and 100 of them are land mammals. The largest wealth of mammals is located in the XV Region of Arica y Parinacota and in the I Region of Tarapacá, where the predominant species are the micro mammals, mainly on the puna and the altiplano. Moreover, between the VII Region of Maule and the IX Region of the Araucania, mammals are highly diverse due to the existence of forest environments and Andean scrub. In relation to landbirds, the wealth of species is found in the puna and coastal dessert. Thus, in the puna of the XV Region of Arica y Parinacota there are about 75 species of birds.

In terms of the contribution of biodiversity and ecosystem services to the economic development of our country, it is important to mention that the economic dynamics of Chile is based on export of natural resources. While the core of this dynamics is represented mainly by the extraction and export of mineral resources, renewable natural resources also play an important role in our economy. Over the last 30 years (1980-2010), Chile has had an important economic development, with an annual rate of real GDP growth of 6.2%. The

[3] Ministry of Environment, 2014. Fifth National Report on Chilean Biodiversity - Convention on Biological Diversity (CBD). Ministry of Environment. Santiago, Chile.
[4] Idem
[5] Idem

agriculture and forestry sector is one of the main productive sectors, which depends on ecosystem services, with a contribution of 2.6% to total GDP and USD 15,367 million in exports.[6]

Arica y Parinacota Region is the northernmost territory of the fifteen regions in which the country is divided and the one where Chilean woodstar is located. It borders the Peruvian department of Tacna on the north, the Bolivian departments of Oruro and La Paz on the east, Tarapaca Region on the south and the Pacific Ocean on the west. Its surface area is 16,800 km^2 and a population of 239.126[7] inhabitants. The economy of the region is mainly based on the extraction of natural resources, especially mining and fishing resources. Agriculture and stock farming are activities threatened by the aridity of the land. The region covers 0.2% of the agricultural land in the country (6,641 hectares). Of this, 46.6% is planted with vegetables, 26.7% with citrus fruit and mangoes and 23.6% with forage. There is also a high production of olives. The most profitable agricultural activity concentrates in the coastal valleys, particularly in the Azapa Valley. Stock farming, mainly auquenidos, concentrates on the altiplano, Putre Andean foothills, Camarones Valley and Lluta Valley, with a commercial activity. Poultry production supplies the north of Chile and south of Peru.

The Arica y Parinacota Region is strongly shaped by the plate tectonics phenomenon that gives rise to the Cordillera de la Costa, the Andes, coastal cliffs and the impressive Altiplano[8]. It presents a variety of environments ranging from the coastline, valleys, desert to high plateau bofedales (marshes), salt flats, Andean foothills and the Andes. The altitudinal range starts at the border and coastal cliffs to volcanoes over 6,000 meters above sea level, with average monthly temperatures that can reach -10°C in the coldest months and up to 26°C in hot months, with areas without any precipitation records in the last 30 years and others where it rains about 300 mm per year. The priority sites are places of importance to biodiversity that were identified by the National Environment Commission (now the Ministry of Environment) together with national scientists and professionals of public services with environmental competence. At present, (2013) the Arica y Parinacota Region has fourteen priority sites located in Gorges and Valleys, Rivermouths, Wetlands, Desert, Andean Foothills and the High Andean mountains.

They cover an area equivalent to 4.5% of the region. There are more than 2000 species in this region, which corresponds to 63.1% of animals 29.4 of vascular and nonvascular plants[9]. About 1400 animal species have been identified, 650 species of plants and 58 species of mushrooms. Among the animals there are 7 amphibians, 258 birds, 12 reptiles, 57 mammals and more than one thousand invertebrates. From a floristic point of view, this is a very interesting unit due to existing endemism, concentrated on high sectors of some coastal cliffs and on rocks of peaks near the sea.

Biobio Region borders Maule Region on the north, Argentina on the east, Araucania region on the south and the Pacific Ocean on the west. Its surface area is 37,069.7 km^2 and a population of 2.114.286 inhabitants[10], the second most populated region in the country. This region is characterized by a variety of forestry, farming and cattle activities and agro-ecological conditions. The regional agriculture consists of annual crops, small and large fruit trees, vegetables, stock farming, plantations and growing agro-industrial and export activities

[6] Idem

[7] According to the 2015 INE projection

[8] Univesidad de Chile et, al. *Terrestrial biodiversity of Arica y Paranicota Region.* Chile 2014

[9] The most outstanding species of cacti are *Islaya iquiquensis*, *Eulychnia aricensis and Haageocereus decumbens*; other common herbaceous species are *Leucocoryne appendiculata*, *Alstroemeria violacea*, *Cristaria molinae.* Besides, the four-banded Pacific iguana (*Microlophus quadrivittatus)* (JHE). *Zephyra elegans*, the pingopingo (*Ephedra breana*) and *Oziroë biflora*; and as shrub vegetation *Nolana sedifolia* is frequently observed. Among the most representative fauna in this environment there is a typical reptile of sandy and rocky areas, the Four-banded Pacific Iguana (*Microlophus quadrivittatus*). It is possible to observe marine mammals such as the chungungo (*Lontra felina*) and the sea lion (*Otaria flavescens*) on the rocks. Birds are represented by numerous species, in special, some of the order of Charadriiformes such as the Belcher's gull (*Larus belcheri*), the Grey gull (*Leucophaeus modestus*), the Peruvian tern (*Sternula lorata*), and the Elegant tern (*Thalasseus elegans*). It is also easy to observe the Peruvian pelican (*Pelecanus thagus*), the Neotropic cormorant (*Phalacrocorax brasilianus*) and the American oystercatcher (*Haematopus palliatus*).

[10] According to the 2015 INE projection

that accounts for 28.1% of the agricultural land in the country.[11] The main use equivalent to the 79% of the total consists of forest plantations, with a small share of cereals and fodders. At present, there are 953,000ha of forest plantations; 787,000ha of native forest; 658,000ha of prairies and 249,000ha of agricultural crops. The region is considered the forest hub of the country with 1,7million hectares, a sector that accounts for 76% of forestry exports of the country. It is characterized by a massive presence of small farmers with 57.359 agricultural production units equivalent to 20.6% of the country's total production. The gross domestic product of the region is approximately 10% of the national total.

The Biobio region contains six agro-ecological zones: coastal dry, mountain range of the coast, interior dryland, central Valley, Andean foothills and Andes. The Darwin's fox is located in the coastal mountain range, the Chilean huemul in the Andean foothills and Andes, and the Keule in the coastal dry and mountain range of the coast. It is part of one of the most diverse temperate biomass on the planet, called "The Eco-Region of the Valdivian Temperate Forest". International institutions have highlighted the important role of the Valdivian Eco-Region to conserve the global biodiversity. The Biobio region houses the greatest diversity of plants within the country and in the Eco-region which is highly threatened[12]. According to the Strategy and Action Plan for the conservation of biodiversity in the Biobio region, over 90% have high diversity of endemic species of global priority, about 60% are highly endangered and more than 80% have already been proposed with detailed scientific background[13]. Central Chile is one of the 25 regions of the world with abundant diversity and only a 3% of its surface is under protection. It is considered one of the most ecologically vulnerable areas of the world (Mittermeier R.A. et al., 1999). The Nevados de Chillan is considered a top priority site for conservation of biodiversity in Chile (Muñoz M. et al., 1996) due to its high animal and plant diversity, especially entomological. Studies in the area show that of the 241 plant species currently identified, 17% is endemic and seven species are endangered. In terms of fauna, of a total of 149 species, there are 27 endemic species (18%), and at least 40 species at different levels of threat.

Various types of unique species and their habitats are critically endangered in Arica y Parinacota and Biobio regions. In particular, the "emblematic landscape species", those whose needs are being considered in the protected landscape and have been selected for this project, at least one of each selected area is endangered species, namely: the Chilean woodstar (*Eulidia yarrellii*) found in the desert valleys of Arica y Parinacota region, the Darwin's Fox (*Pseudalopex fulvipes*[14]) found in Cordillera de Nahuelbuta, the Chilean huemul (*Hippocamelus bisulcus*) found in the Biosphere Reserve "Biological Corridor Nevados de Chillán – Laguna del Laja" (RBNCHLL), and Keule (*Gomortega keule*).

b) Institutional framework

[11] According to the agricultural census of 2007.

[12] Strategy and Action Plan for Biodiversity Conservation in Biobío Region.

[13] In Caramavida the endangered flora species are Berberidopsis coralline and Gomortega keule. In terms of fauna, the batrachians are Rhinoderma darwinii, Telmatobufo bullocki (rare); vulnerable reptiles are Liolaemus chiliensis, L. tenuis, L. Pictus, Tachymenis chilensis. Vulnerable birds are Columba araucana, leptorhynchus, Strix rufipes, Campephilus magellanicus and Campephilus magellanicus (rare). Vulnerable mammals are Galictis cuja, Puma concolor, and Pudu pudu; endangered species are Oncifelis guigna and Pseudalopex fulvipes (rare). In Nevados de Chillan the same document refers to vulnerable flora such as Austrocedrus chilensis and rare Ulmo Eucryphia cordifolia, Orites mirtoidea, Eucryphia glutinosa, Maytenus magellanica, Prumnopytis andina. Vulnerable birds are Columba araucana, Campephilus magellanicu; rare birds are Vultur gryphu, Accipiter bicolor. Vulnerable reptiles are Telmatubufo venustus, Liolaemus tenuis, Liolaemus pictus, Phylodrias chamissonis, Tachymenis chilensis. Endangered reptiles are Pristidactylus torquatus and Phymaturus flagellifer, Liolaemus chillanensis (rare). Endangered mammals are Hippocamelus bisulcus, Lynchailurus colocolo, Oncifelis guigna, Lagidium viscacia. Vulnerable mammals are Puma concolor Vulnerable Pudu pudu, Octodon bridgesi, Conepatus chinga.

[14] Scientific name *Pseudalopex fulvipes.* Synonyms: *Canis fulvipes; Dusicyon fulvipes; Lycalopex fulvipes* Source: National Inventory of Endangered Species http://especies.mma.gob.cl/CNMWeb/Web/WebCiudadana/ficha_indepen.aspx?EspecieId=16

The Ministry of Environment (MMA) is the State institution mandated with the design and implementation of environmental policies, plans and programmes; protection and conservation of biological diversity and renewable natural and water resources; promotion of sustainable development, integrity of the environmental policy and its regulatory framework. In regards to biodiversity, the MMA is responsible for ensuring that the Protected Areas System fulfils its role of adequately protecting biodiversity, issuing regulations for sustainable use of natural resources (e.g. soils and water), and establishing preventive criteria and measures to favor conservation and recuperation of the country´s biodiversity. In terms of information generation and management, the MMA is responsible for elaborating periodic reports on the state of the environment and manages the National Environmental and Territorial Information System.

The **Ministry of Agriculture (MINAGRI)** is responsible for promoting, guiding and coordinating agricultural, forestry and stock farming in the country. Its objective is to augment national production; conserve, protect and improve the renewable natural resources; and improve the population´s nutrition status. MINAGRI comprises several services that are key to the implementation of the ministry´s multiple tasks, among them the National Forestry Corporation (CONAF), the Livestock and Agricultural Service (SAG) and the Agricultural Development Institute (INDAP).

CONAF is a private entity of the MINAGRI with the mandate of managing Chile´s forestry policy and promoting the development of the sector. Its mission is to contribute to the country´s development through the sustainable management of forest ecosystems and mitigation of climate change impacts by means of promoting and monitoring the implementation of the forest and environmental regulatory framework; protecting the vegetation resources and managing the Protected Wild Areas of the State for current and future generations. CONAF manages 100 Protected Wild Areas of the State.

SAG is the official agency of the State of Chile responsible for supporting the development of agriculture, forestry and stock farming, through the protection and improvement of animals and plants' health. It has regulatory authority regarding biosafety and hunting, exercised through the Renewable Natural Resources Protection Division, DIPROREN (acronym in Spanish). Chile's Livestock and Agricultural Service (SAG – acronym in Spanish) under the Ministry of Agriculture, is responsible for the implementation of the Hunting Law, which regulates hunting and capture of wild fauna and implement raising awareness activities and field supervision. This normative regulates the different activities that may endanger the survival of native wild fauna species, including the regulation of hunting or capturing that incorporates the conditions of animals in captivity, their trade, risks from import of new species or release into the wild, possession of alien species included in international agreements and transport conditions. In addition, the SAG is the competent authority responsible for managing and supervising the National Agricultural Organic Products Certification System (see Section 1.1.1. c) and controlling the use of official hallmark of organic agricultural products.

INDAP is in charge of supporting activities to promote and finance the sustainable productive development of small and medium scale producers by developing their capacities and strengthening the integration of small farming products and services in the national and international markets. INDAP pursues an inclusive development by providing loans to small farmers who do not have access to private banking services, improving coverage and quality of development programmes for vulnerable populations, promoting inclusive development through productive investment and training to improve individual and associative competitiveness in the sector. Among the programmes implemented by INDAP, there is the Local Development Programme (PRODESAL, acronym in Spanish) with the objective of supporting small farmers[15] and families, in the development of sustainable agricultural activities by strengthening production systems, increasing income and improving their quality of life. PRODESAL is implemented through the municipalities

[15] In Chile, a small farmer meets the following requirements (i) manages a surface equal or less than to 12 ha of basic irrigation, regardless of the land tenure regime, (ii) assets must not exceed 3,500 UF, (iii) income must come mainly from farming activity. Increase awareness of the existence of the species, their unique biological characteristics and the importance of habitat conservation, can generate social responsibility towards the species conservation. http://www.indap.gob.cl/como-puedo-acceder-los-servicios-de-indap

which receive resources from INDAP on the basis of detailed cooperation agreements. These resources are used to hire local technical teams who provide continuous support to farmers participating in the programme (organized in operational units of 60 and 180 people).

The **National Service for Tourism (SERNATUR)** is a government agency under the Ministry of Economy, responsible for promoting and disseminating the development of tourism in Chile through plans and programmes that encourage private sector participation and competitiveness, promote the tourist offer, the advertising of tourist destinations safeguarding the sustainable development of the activity that benefit domestic and foreign visitors, tourism service providers, communities and the country as a whole. SERNATUR promotes the conservation of endangered species and ecosystems as tourist attractions. Finally, it supports campaigns of rural tourism with conservation of species and ecosystems and brings knowledge and expertise in marketing.

The **Ministry of National Assets of Chile (MBN)** is responsible for guiding and implementing the policies of the Government of Chile regarding management and use of State property. To do this, it prepares cadasters, administers and disposes State property according to the requirements of other government agencies, in order to contribute to the implementation of public policies and sustainable development. Among its functions, the MBN is entitled to acquire, manage and dispose State property in the country for the conservation of territories with special characteristics and the development of sustainable projects in protected wild areas, ensuring citizens access to State territories through a planned management of the State assets.

Regional Governments (GORE) are responsible for the higher administration of each region of Chile and are mandated with promotion of the social, cultural and economic development of the same. To carry out their duties, the GOREs enjoy the status of public corporations and have their own capital assets. They are chaired by the Mayor, as a natural and immediate representative of the Presidency on the territory of its jurisdiction. The general functions of the regional government are to develop and approve policies, plans and development programmes as well as the estimated budget, which shall be in line with the national development policy and the national budget. The **GOREs of Arica y Parinacota and Biobio** will participate in the implementation of the project**.**

The **National Fund for Regional Development** (FNDR acronym in Spanish) is a financial instrument created in 1974, through which the Government of Chile transfers budgetary resources to each of the regions in the country. These funds are used to develop regional development programs and projects. The Fund is administered by the Governments and the Sub secretariat of Regional and Administrative Development of the Ministry of Interior. According to the Organic constitutional Law 19.175 on Government and regional administration, the FNDR is a public investment program, with territorial compensation purposes, destined to the financing of shares in the different aspects of social and economic infrastructure of the region. Its purpose is to obtain a harmonious and equitable territorial development. With these resources, the regions finance investment projects in basic public services (potable water, sewage, electricity, roads, etc.), social investment in infrastructure for the health and education sectors, and productive development activities. The Fund is constituted by a portion of the total amount of public investment expenses that the Budget Law stablishes annually, via fiscal contribution, and through external credits from different international organisms, including the Inter-American and Development Bank and the World Bank. To access funds, municipalities and public services prepare projects and present them to the Integrated Project Bank (BIP) of the Ministry of Social Development. The regional Intendent then prepares a proposal based on the projects in the BIP. Based on this proposal, the Regional Council prioritizes and approves the resources to carry out the investments.

Municipalities are autonomous public corporations, having legal status and equity capital, whose responsibility is the administration of a community or a group of communities[16], and the economic, social and

[16] **Communities** are the smallest and basic administrative division in Chile. It corresponds to what in other countries is known as "township". It is only a division for local administration, as in Chile the state government only it extends to regional and provincial levels. The community can be urban, rural or a combination of both.

cultural management of the community or a group of communities. The Organic Constitutional Law N° 18.695 of Municipalities assigns municipalities the responsibility for environmental protection, in coordination with national institutions that maintain its own competencies. The following municipalities will participate in the project: **Contulmo, Los Alamos, Curanilahue and Cañete** (Cordillera de Nahuelbuta), **Antuco, Pinto and San Fabian** (Biosphere Reserve of Nevados de Chillán), **Talcahuano, Tomé and Curanipe** (Keule distribution area) (in the Biobio region), and **Arica and Camarones** (Arica y Parinacota Region).

Non-governmental organizations have an important participation in environmental issues and in special, the conservation of vulnerable Chilean ecosystems. **AUMEN** is a Chilean non-governmental organization that works on environmental issues, scientific research for the conservation of natural systems and improvement of living conditions of local human communities. It focuses on four lines of action: environmental protection, scientific research, environmental education and heritage recovery. AUMEN has documented the life cycle of the Chilean huemul and prepared audio visual material to raise awareness of the importance of the species. **Ética en los Bosques** is a Chilean non-governmental organization devoted to promoting sustainable forest management, with years of experience in managing threats to biodiversity and endangered species in Nahuelbuta. **Fundación Keule** is a newly created organization that brings together some of the leading activists and researchers working in the conservation of keule. It is based and works in the keule distribution area in Biobio region. **Fundación Aves Chile** (former Sociedad Ornitológica de Chile) is the leading non-governmental organization dedicated to the conservation and study of birds nationwide. The organization is a pioneer in promoting the conservation of the Chilean woodstar and has been commissioned and financed by the MMA to take the census of the species.

The **private sector** is represented by three main groups which are active in areas of forest plantations: 1) large international companies with high capacity for negotiation and transaction; 2) small owners with less than 100 hectares, and 3) workers in the forestry sector. Companies such as **Pioneer (DuPont Group)** and **Forestal Arauco** are designing Corporate Social Responsibility (CSR) programmes to ensure the conservation and sustainable use of hectares of forest where they carry out activities and in adjacent areas. Forestal Arauco has more than 100 thousand hectares of land in the Biobio region and is involved in existing conservation activities in the region through its CSR strategy, while Pioneer has a CSR strategy, which aims to improving local participation in the northern valleys.

c) *Legal Framework*

The current *Endangered Species Protection Policy* aims at protecting the endangered biota (flora and fauna *sensu lato*) in the country, characterized by: (i) species and ecosystems of significant singularity, endemism and global ecological value; (ii) the presence of worldwide recognized sites of high ecological value; (iii) the provision of environmental services of high ecosystem value; (iv) high biological productivity; (v) the significant socio-economic value of natural resources as the basis for country development, and (vi) the ethnocultural value that many of these species have for local communities and indigenous peoples throughout the country.

This policy was the basis for the approval of the Wild Species Classification Regulation (see subsection 1.l.1, paragraph b). This Regulation establishes the procedure through which the allegedly endangered species are classified. Thus, the specific scope of this Policy is constituted by flora and fauna species that by virtue of the rules and procedures established in said regulation, are classified under some risk category.

The objective is to recover the state of conservation of endangered species to a not-endangered condition, through the following: (i) promote the compilation and production of scientific-technical information on native biota, in order to determine threat factors and its conservation state, to recognize endangered species, facilitate its classification and recovery; (2) involve and effectively engage related agencies and citizens in protection

of the endangered native biota; (iii) adapt the regulatory and institutional framework for better conservation of endangered native biota, including threats mitigation; (iv) establish, improve and implement tools for recovery endangered species; (v) strengthen and promote financing mechanisms for the conservation of endangered species, and (vi) promote the protection of endangered species through education, training and dissemination. All conservation activities for endangered species in the country are carried out according to this policy.

At a national level, the environmental management is also regulated by Law N° 19.300, which includes public participation, environmental education, environmental impact assessment, and management, prevention and decontamination plans. The MMA is mandated to design and implement environmental policies and programmes and create related organisms.

The Law 19.300 on General Bases for the Environment states the importance of taking inventory and control of species considered extinct, endangered, vulnerable, rare and insufficiently known for better conservation and preservation of the same (art. 38). In Chile, between 2005 and April 2012, this classification was made under Decree N° 75 of 2004 of the Ministry General Secretariat of the Presidency of the Environment, through which a standardized procedure called "Wild Species Classification Regulation" (RCE) was issued. On 27 April 2012, this regulation was replaced by Decree N° 29 of 2011 the Ministry of Environment that issued the new Regulation for Species Classification according to the Conservation State (RCE – acronym in Spanish). This Regulation is the official procedure that has to be used in Chile. The classification of plants, algae, mushrooms and wild animals according to their conservation state allows for assessing the level of threat to biological diversity and, therefore, contribute to prioritize resources and efforts towards the most endangered species, develop conservation plans and programmes, increase research on them and consider them in the development of territorial planning and investment, among others.

In 2010, the Law 20.417 created the figure of Recovery, Conservation and Management Plans (RECOGE- acronym in Spanish), to protect those species classified under the Wild Species Classification Regulation. It gives authority to the Ministry of Environment to carry out research, protection and biodiversity conservation programs. RECOGE are public instruments to protect endangered species outside of protected areas.

The main objective of these instruments is to improve the state of conservation of native species of Chile, and improve coordination between different State administrative bodies to ensure effective management in the conservation of native species and involve the private sector and civil society in the conservation of biodiversity. The plans contain actions, measures and procedures to be executed to recover, conserve and manage the species included in the Wild Species Classification Regulation (RCE – acronym in Spanish) based on scientific-technical information and according to the state of conservation of the species. RECOGE plans are based on scientific evidence, to implement conservation techniques and are aimed at the execution of local activities funded with public and private funds.

Law 20.417 that creates the Ministry of Environment (MMA) and Law 19.300 on General Bases for the Environment (Articles 69 and 70) vest the MMA with the authority to protect the biodiversity and protected areas. Article 8 of Law 20.417 calls for the creation of a Service of Biodiversity and Protected Areas (SBAP), thus enabling the MMA to accomplish its mandate. At present, the protected areas (the National System of Protected Wild Areas, SNASP – acronym in Spanish) are still managed by the National Forestry Corporation (CONAF), given that the creation of the SBAP is in process at the Parliament. In the bill at the Senate, Articles 6 and 78 assign broad responsibilities to this future institution in terms of prevention and conservation of endangered species.

Conceptually, the SNASP includes protected areas managed by the state (SNASPE - the National System of Protected Wild Areas of the State) and private protected areas. Biosphere reserves[17] are also included. At present, Chile has 10 Biosphere Reserves that cover about 11.4 million hectares, of which 3 million hectares

[17] http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/

correspond to marine areas. From this perspective, the following space protection framework is considered for the protection of highly endangered species:

Table 1.1 Spatial protection framework

Property Permanence	**Public or public-private**	**Private**
Permanent	SNASP National Reserve Natural Monument	SNASP Nature Sanctuary
Non-permanent	Self-allocation (MBN)	FSC Certification HCVA
Informal	Self-allocation (MBN)	Voluntary commitment

In addition, the management of a biosphere reserve in Chile represents a process that contains several milestones or key stages: (i) preparation of the nomination record to UNESCO, either for a new reserve or the update of a pre-existing one, considering its expansion and/or its zoning; (ii) the management committee structure; (iii) management plan elaboration; (iv) starting of the implementation and permanent update of the management plan[18]. The process is illustrated in the Appendix 9.

CONAF is responsible for the implementation of Law 20.283 aimed at protecting native forests (prevention of illegal logging and forest fires).

With regard to access to information, according to Law 20,417 everyone has access to the environmental information held by the Administration. This includes:

a) The state of elements of the environment, such as air and atmosphere, water, soil, landscapes, protected areas, biodiversity and its components, including genetically modified organisms; and the interaction between the same.
b) Factors, such as substances, energy, noise, radiation or waste, including radioactive waste, emissions, discharges and other releases into the environment, which affect or may affect environmental elements mentioned in the previous paragraph.
c) Acts of the governmental authority regarding environmental matters that affect or may affect the elements and factors referred to in points a) and b), and measures, policies, standards, plans, programmes that serve as the basis for the same.
d) Reports of compliance with environmental legislation.
e) The economic and social analysis as well as other studies used in making decisions concerning administrative acts and basics.
f) Health and safety of people, human life conditions, cultural heritage assets when they are or may be affected by the state of elements of the environment.

According to Law N° 20.417, the Ministry of Environment will manage a National Environmental Information System, broken down regionally, which will include, among other things, reports on the state of the environment.

Regarding certification processes, Law 20.089 created the National Agricultural Organic Products Certification System and its regulations, which aims to ensure and certify that organic products are produced, processed, packaged and handled in accordance with said regulations. For this purpose, the term "*organic agricultural products*" refers to those from holistic management systems from agricultural, livestock or forestry production, which promotes and enhances agro-ecosystem health and, in particular, biodiversity, biological cycles and soil biological activity. Membership is voluntary for those involved in any way in the domestic and foreign market for organic products. However, only producers, processors and other participants

[18] http://www.conaf.cl/wp-content/files_mf/1363982052wp39Final2.pdf

who have formally adhered to the system and meet their standards may use in the labeling, identification and description of the products they handle, the terms "*organic products*" or its equivalent, such as "*green products*" or "*biological products*" and use the official seal that expresses that quality. In the case of direct sale to consumers either in fairs, shops, local markets or others, organic farmers (small producers, family farmers, peasants and natives) who are embedded within organizational and social control processes and that are registered with the regulatory agency may have their own and alternative certification systems once product traceability and free access to production or processing premises by consumers and the supervisory body is assured.

Certification can be according to international standards or equivalent Chilean technical standards registered in SAG. Likewise, in the case of imported products, SAG may recognize third party national certification systems of organic products.

At a Municipal level, there exist ordinances for the management of natural resources in the farming and forestry sectors. They are key local instruments for protection as they regulate the economic activities that present challenges and threats to the biodiversity that this project wants to address. The analysis carried out during the project design stage suggests that the local Governments are interested in assuming responsibilities in the Natural Resources Management, because of the current decentralization process in Chile. In addition, the Municipalities are responsible for the Community Development Plan (PLADECO- acronym in Spanish), which is the main planning and management instrument of the municipal organization. Its purposes are the community administration and promotion of study initiatives, programs and projects assigned to impulse the economy, social and cultural progress of its habitants. It must be addressed as a common task, result of the work between the Municipality and the community.

1.2 CURRENT STATUS

1.2.1 Threat to Global Environment Benefits

The economic development of Chile depends heavily on its natural resources, so unsustainable practices and extractive mentality, together with high immediate productivity have speeded up habitats degradation and soil erosion in productive territories. Loss, degradation and fragmentation of ecosystems remain a major threat. The reasons are diverse and due to anthropogenic and natural causes. Change in land-use is the main anthropic factor affecting Chilean natural terrestrial ecosystems. This includes the forest industry, through illegal logging of forests and plantations of alien species; the agricultural industry, through release cutting for the establishment of grassland and crops and urbanization, all of which represent major threats to these changes in the central and south-central zones.[19]

Likewise, this situation has affected the state of conservation of the species: of all the species classified in Chile (1009 species), 623 are threatened (61.9%), that is, in one of the CR, EN or VU categories. Of all the species that have been described, amphibians are the most endangered species (58.1%), followed by mammals (27.2%) and reptiles.[20]

These poor productive practices and unawareness of the importance of biodiversity have a negative impact. This is observed in the deterioration of native forest and soil degradation, with the corresponding impact on food security and fostering vicious circles such as the misuse of the resource and requirement of inputs to improve it, migration to territories of better lands and water supply. The ability of the territories to provide agro-ecosystem services to sustain local livelihoods, has declined over the last decades, especially in regions of "development border", meaning that the border is a space that separates the “developed” productive areas

[19] Ministry of Environment, 2014. Fifth National Report of the Government of Chile to the Convention. Ministry of Environment. Santiago, Chile

[20] Idem, when considered the number of species of each taxonomic group that has been studied extensively.

(agriculture) from “undeveloped” non-productive areas (native forests) in the country[21], such as Arica y Parinacota and Biobío regions.

Three of the four demonstrative areas identified for this project are located in the Biobio region, in the transition zone between the Mediterranean ecoregion and the Valdivian temperate forest. The last area is located in the northern valleys of Arica y Parinacota, transverse valleys (from east to west) with very special characteristics, an oasis in the middle of a desert landscape. All of them are currently affected by complex dynamics of drivers of biodiversity loss which occurs primarily in the areas known as the "development borders", causing a growing pressure on the habitat and remaining wild species. The drivers and their impacts are detailed below:

Biobío Region

Major threats to biodiversity in this region are: the explicit change in land use[22] (mainly land clearing), urban growth and construction of infrastructure, and forest fires that lead to habitat fragmentation and destroy all environmental values in selected areas, producing emissions of greenhouse gases. These are the most visible threats and represent the most of quantifiable biodiversity losses. In this region, only forest land in inaccessible areas maintain a significant level of integrity and connectivity. In the development border areas, a high level of fragmentation and degradation affects the relatively pristine remaining forests. Forest degradation occurs gradually or suddenly due to regulated and unregulated wood extraction for commercial purposes and livelihoods, overgrazing and ranching, unsustainable extraction of timber and non-timber products (many of them with low value added). The sudden forest degradation is mainly the result of forest fires. This degradation and fragmentation lessens the resilience of forest ecosystems to other external stressors, such as invasive species, pests and diseases, forest fires, droughts and climate change. Keule is under this context of pressure.

This type of extraction is the result of legal gaps that allows unsustainable forest management practices to be carried out. Likewise, this puts pressure on forests and related natural resources, preventing natural regeneration, without improving the living conditions of people. Unsustainable extraction is carried out by micro, small and medium-size producers, who are excluded from formal trading systems and work in an "informal sector" within an unregulated market dominated by a large number of industries focused on international markets. As an example, we can observe that agribusiness and mining sector, set high costs of capital and profitability.

Arica y Parinacota Region

In the northern valleys ecoregion, where the selected demonstrative site is located within the region of Arica y Parinacota, change in land use is linked to unsustainable intensification of crop production and changes in related agricultural practices. This region is characterized by transverse valleys that extend from east to west, against the normal arrangement of geographical features in Chile, parallel to the Andes, crossing one of the driest deserts in the world, what features them as longitudinal oasis. Because of its isolation and sunny climate, the scarce agricultural land in these valleys is highly demanded for the production of vegetables (especially out of season) and other high-rotation crops that require controlled pollination.

The "border" production systems such as agriculture, stock farming and forestry that divert from non-commercially productive areas, have become unsustainable, affecting unique ecosystems with species adapted to withstand the arid desert, of high level of endemism. The area for agricultural or industrial forestry use in both regions more than doubled during the twentieth century and the population has intensified the use of

[21] http://eial.tau.ac.il/index.php/eial/issue/view/85 “**Cross-breeding" and "Border" as Iberoamerican cultural categories.** The European concept of border always referred to, as noted, to a line, the place to meet and conflict with the "other”, which represented the “barbarian”, and the border was the line that separated the "civilization" from "barbarism." In line between "civilization from barbarism"

[22] Land can be permanently burnt, over-exploited and an unregulated overgrazing. So, the land is degraded, become wasteland and many times reclassified as “urban land”.

resources in available areas, increasing threats to vulnerable ecosystems, such as change in land use, forest degradation and construction of infrastructure with impact on ecosystems connectivity. Today, this situation is critical and requires effective changes to reduce pressure on densely populated areas (the central third of the country, where at least ten of the seventeen million inhabitants live).

The population benefits from the exceptional biogeographical conditions of these areas (periods of extended growth, biological isolation, continuous pollination), but they are not aware of the hidden threats that unsustainable practices have on landscape and have no incentive to modify them in the short term. In these development border areas, environment and development are commonly seen as complementary concepts, even opposed. Concerns about biodiversity are second after short-term economic achievement. The lack of understanding of the dynamics of species, ecosystems and their interaction with sustainable livelihoods has prevailed in selected landscapes.

Another root cause of this problem is the lack of awareness and mutual trust between local economic agents, that is, medium-size and big companies engaged in forestry exports and agri-businesses, small and medium-size enterprises (SMEs) engaged in domestic markets in the same sectors in Biobio, and Arica y Parinacota regions.

Due to all of the above, various types of unique species and their habitats are critically endangered in Arica y Parinacota and Biobio regions. In particular, the "emblematic landscape species", those whose needs are being considered in the protected landscape and have been selected for this project, at least one of each selected area is endangered species, namely: the Chilean woodstar (*Eulidia yarrellii*) found in the desert valleys of Arica y Parinacota region, the Darwin's Fox (*Pseudalopex fulvipes*[23]) found in Cordillera de Nahuelbuta, the Chilean huemul (*Hippocamelus bisulcus*) found in the Biosphere Reserve "Biological Corridor Nevados de Chillán – Laguna del Laja" (RBNCHLL), and Keule (*Gomortega keule*).

Species 1: Darwin's Fox

The first demonstrative area is Cordillera de Nahuelbuta where the Darwin's fox (*Pseudalopex fulvipes*) is critically endangered. A map with the fox's distribution in Biobío Region based on information gathered during the project design phase and provided by the MMA and other partners is attached to Appendix 7.

McMahon (publications in 1998-2002) describes it as a climax species associated with undisturbed forests. There would be four populations in Chile located in Nahuelbuta, Gorbea (isolated individuals), Valdivia and Chiloé. The behavior is different in Chiloé where it is recognized as culminal carnivorous, while in Nahuelbuta (Jiménez 1991) it has a much more elusive behavior and omnivorous, changing diet according to seasons, eating vertebrates in winter and invertebrates in summer; it also eats pine nuts. The original population after glaciation is Nahuelbuta (Yanke 1996). It was considered a subspecies of the South American Grey Fox (*Pseudalopex griseus*) until the description of the population (Medel et al 1990) and is now recognized as a separate species (Yanke 1996).

It is one of the most endangered carnivorous on the planet, endemic and with small and disjunct populations. This species prefers mature native forest (not ecotones) in high areas (they have preference for the Valdivian forest over the Mediterranean forest), it moves in family groups on areas of one to two square kilometers, it is nonterritorial, with the possibility to find between four to six foxes per km^2 on good sites. In Chiloé the fox is bigger and the territory can reach up to four km^2. The occupation of the territory is not continuous, and each family group can be separated by as much as five Km. Litters of two to three animals are born between May and June, reaching the adult weight at the sixth month. The annual survival is 0.7 individuals, both juveniles and adults. It is adversely affected by competition with Guiña (Leopardus guigna), Gray Wolf (Canis lupus) and Culpeo (Lycalopex culpaeus). It is estimated that the population size is less than 100 individuals, of which

[23] Scientific name *Pseudalopex fulvipes.* Synonyms: *Canis fulvipes; Dusicyon fulvipes; Lycalopex fulvipes* Source: National Inventory of Endangered Species http://especies.mma.gob.cl/CNMWeb/Web/WebCiudadana/ficha_indepen.aspx?EspecieId=16

50 to 70 would be concentrated between 40 and 50 thousand hectares in Nahuelbuta. The main threat is the limited availability of related habitat which is also decreasing due to the implementation of productive practices that do not take into account aspects of biodiversity conservation. That is, land use change, competitors in a small habitat, and diseases passed on by stray dogs (distemper, parvovirus and others). The map of threats to the fox in Biobío Region is attached to Appendix 7. There is social acceptance of Darwin's fox conservation activities in Nahuelbuta (Zorondo et al 2014).

Species 2: Chilean huemul

The second demonstrative area is the Biosphere Reserve "Biological Corridor Nevados de Chillan - Laguna del Laja" where the Chilean huemul (*Hippocamelus bisulcus*, Molina 1872) is negatively affected. The map with the distribution of this species is attached to Appendix 7. The Chilean huemul is the only endangered deer in America and a well-known species in terms of taxonomy and conservation biology. It is classified in Appendix 1 of the Convention on Migratory Species (CMS) and as endangered species in the Chilean legislation. Under the Chile-Argentina Environment Treaty (1991) and its Specific Additional Protocol on the Conservation of Wild Flora and Fauna shared between the Argentine Republic and the Republic of Chile (2002), a Memorandum of Understanding between the Argentine Republic and the Republic of Chile on the Conservation of the South Andean Huemul (*Hippocamelus bisulcus*) was agreed on in 2010 and a Binational Action Plan (2012), whose implementation has significant gaps.

Analyses conducted by academics from the Universidad de Concepción[24] on a simulation model that includes life history and environmental changes related to survival rates, number of litters and capacity of the existing ecosystems, suggest that if the current state and anthropological threats to the species remained the same, there is high probability of extinction within 20 and 40 years. The study suggests protective measures and habitat restoration, establishment of corridors and even transfer of species from the southern region of the country. Two populations have been recently separated in Chile, being the existing one in Biobio the original population after glaciation. At present, there is a cut between the northern and South-central population, limited and isolated by Las Trancas zone due to the accumulation of infrastructure and human activity. While the population of Aysen, Cochrane and Bernardo O'Higgins has been widely studied, in Biobio mainly signs have been monitored (excreta, footprints). According to another study[25], the Chilean huemul has disappeared in at least five primary habitat sites since 1987.[26]

Chilean huemul census made by SAG, MMA, CONAF and universities provided information in 2013 stating that there are 18 groups consisting of one or more males, females, young of the year and last year offspring, whose territoriality would be wider than in the southern population, whose territories usually consist of 300-700 ha. These groups are distributed as follows: four in public PWA; four owned by private forest companies classified as High Conservation Value Area (HCVA) (Forestal Arauco and Forestal Mininco); and the rest in land of small and medium-size private owners. In up to five groups reproduction every one to three years is reported. With the latest available monitoring data, 50+ individuals are reported.

Data from CONAF, reports of SAG, CODEFF and the National Commission for the Environment (current Ministry of Environment) that have studied the species during 35 years, in the RBNCHLL of 560,000 ha, 300,000 ha would be main potential habitat for this specie (CODEFF, 2005). During this ongoing monitoring, a more recent analysis[27] was carried out, which still sheds little data about winter, but shows that due to cold and snow, the size of available habitat is highly reduced and the Chilean huemul is confined to lower areas, mainly open forest under the snow limit, that is, 1000 masl. These places are steep and rocky, with many

[24] Assessment of an scenario of extintion for the last Hippocamelus bisulcus population (Molina, 1782) in central Chile (K. García et al 2008)
[25] Current status of the Chilean huemul (Hippocamelus bisulcos) in central Chile (Povilitis A. 2002)
[26] http://dx.doi.org/10.4067/S0717-65382002000100008
[27] *Ecological Study of the Huemul Deer in the Andes of Central Chile: searching for the footprints of the ghost*, published by CODEFF, 2007.

gorges and complex vegetation cover. Such type of habitat minimizes the visibility of the species, increases chances to run away and, at the same time, provides shelter from winter storms and a feeding source.

In spring these places are gradually abandoned and animals disperse in search of better feed and higher areas. In summer, the Chilean huemul moves to higher altitude, up to the upper altitudinal limit of forest formations and the lower limit of the Andean prairie formation. In the habitat of the central zone (Chillán), succulents grow at higher altitude in summer and woody slopes of beech and oaks facing south offer plenty of water and lower temperatures. The use of forest gradually decreases in autumn and individuals move towards the oak shrub and chusquea, with herbaceous vegetation.

The Ministry of Environment of Chile performed an analysis of threats in 2013 using the methodology recommended by *Conservation International* and concluded the following:

- Very high Threats: development and urbanization (hydroelectric developments and roads), stock farming, habitat substitution
- High threats: competition with alien species (red deer, wild boar), fires, hunting, diseases
- Change in land use (from native forest to grassland and/or commercial crops)

Incidental hunting with a bias against females should also be considered since they are easily found. The map of threats to the Chilean huemul is attached to Appendix 7.

Species 3: Keule

The third demonstrative area is the distribution range of keule *Gomortega keule* (Molina) (Baillon, sin. *Lucuma keule* Mol., *Gomortega nitida* R. and Pav., *Adenostemum nitidum* Per., *Keulia chilensis* Mol., *Gomortega keale* Baillon) where it is threatened. The map with the distribution for this species is attached to Appendix 7. The keule is a tree with a straight trunk and pyramidal crown, usually measuring around 15m high, although it can exceptionally reach 30m. Queule wood is highly prized for its characteristics of durability, weight and color. It is a species of Laurales Order, monotypic, monospecific endemic and threatened, declared a Natural Monument in 1995 and a representative tree of the municipality of Talcahuano in 2013. It grows in the coastal Mediterranean ecoregion of Chile, between 50 and 800 masl from Cauquenes (Maule Region) to Caramávida (Biobío Region), while there is a Keule cove south of Araucanía Region and in Paredones, south of O´Higgins Region, in valleys with oceanic influence, watercourses and associated with other species. It has a specific pollinator (Diptera *Syrphidae*, Lander et al 2009) and its abundance depends on the size of the native forest area.

According to the Ministry of Environment, there would be 30 distribution sectors with about 100 individuals per sector, totaling 3000 individuals. It is estimated that about 60% of the individuals would be on land owned by forest companies (Arauco, Mininco, Tierra Chilena and Masisa), by the Chilean Navy and the rest in smallholder areas (Cobquecura and Tomé). The species has protected territory of occurrence only in the National Reserve Los Queules (Pelluhue, Maule). At present, it grows in nine communities and 22 subpopulations of less than 100 individuals each have been characterized. There are nurseries for the reproduction of the species in Hualemu-Ralbún (Arauco) and Tomé (municipal).

Threats to the species are those of the native forest: change in land use from native forest to commercial crops, forest degradation due to illegal logging and forest fires, overexploitation of firewood and fruit, grazing livestock for regeneration, climate change and less precipitation and water availability in the northern part of the distribution and poor sexual reproduction of the species, probably due to the combination of stress and few/absence of pollinators. The map of threats to keule is attached to Appendix 7. Therefore, the project will focus on nursery production, recovery of areas and corridors, and raising awareness programmes to know the importance of the species, prevent logging, and protect seedlings.

Species 4: Chilean woodstar

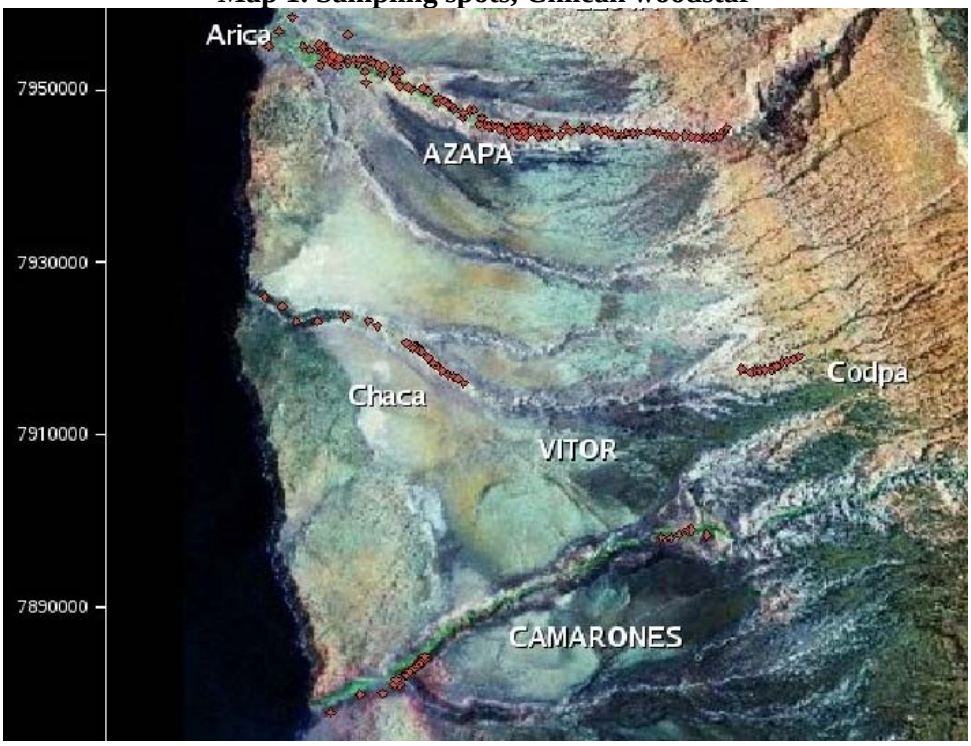
A demonstrative area has been selected in the region of Arica y Parinacota due to the pressures on the Chilean woodstar (*Eulidia yarrellii*), located in Azapa, Vitor, Chaca and Camarones valleys (northern valleys). The Chilean woodstar is an endemic species of desert valleys of northern Chile and southern Peru (del Hoyo *et al*. 1999). It is the smallest Chilean bird and one of the smallest hummingbirds in the world. The female reaches between 7 and 7.5 cm, while the male can reach measures between 8.5 and 9 cm with an approximate weight of 2.5 to 3 g (Estades, 2010). The original habitat of *E. yarrellii* is unknown because the valleys where the species lives have been farmed lands for centuries (Estades *et al*., 2007). This activity has increased exponentially in recent years, reducing the habitat of the species and limiting its distribution; therefore, this hummingbird is probably the most endangered bird in Chile, with a high probability of extinction over the next decade (Estades, 2010).

As for population trends, in four decades, the Chilean woodstar went from being apparently the most common hummingbird in the valleys of northern Chile to be the scarcest and officially declared as endangered by the Wild Species Classification Regulation (RCE – acronym in Spanish) and the International Union for Conservation of Nature (IUCN) since 2000. It was later declared Natural Monument under Decree 2, 2006, and was also declared the symbol of the city of Arica by a municipal decree.

In addition, the Chilean woodstar competes for resources and space with other two hummingbirds somewhat bigger: the Oasis hummingbird (*Rhodopis vesper)* and the Peruvian sheartail (*Thaumastura cora*), whose populations are increasing, according to estimates by the MMA. These species compete for food and nesting space in an area that is getting smaller due to farming intensification and change in the closed cycle practice, reducing the extension of the habitat, and the lack of biological corridors.

It is important to point out that, since the first population estimate in 2003, the population has shrunk by more than 70%, with less than 400 individuals estimated for 2009 (Estades & Aguirre, 2009). On the other hand, in Peru the species seems to be extinct (Cruz, 2006) because there are no records since 1986 (BirdLife International, 1992). In the studies carried out in 2010, three population centers were identified in the valleys of Azapa, Vitor and Camarones. The Vitor valley houses the largest number of individuals distributed in the area of Chaca and Codpa (Estades, 2010).The map 1 drawn during the project design phase shows the distribution of the species in the valleys. Map 1, raised during the design phase of the project, shows the distribution of the species in the valleys.

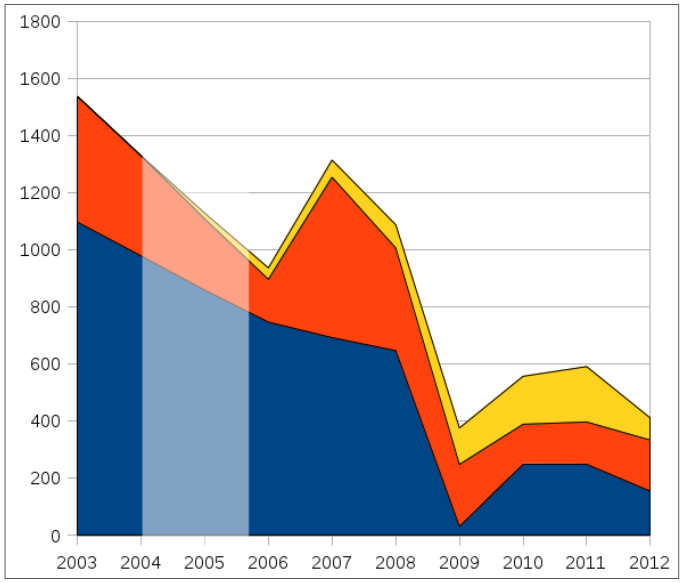
Map 1. Sampling spots, Chilean woodstar



Source: Ministry of Environment (2012)

Based on the information gathered during the project design phase from MMA and Aves de Chile data, we can observe the drop in the population between 2003 and 2013 per valley and its distribution in each (yellow Valle Camarones, red Valle Vitor, blue Valle Azapa).

Figure 1. Abundance of Chilean woodstar, 2003-2013



Source: Ministry of Environment (2012)

Given the existing evidence, it is reasonable to think that the species could become extinct in less than 5 years, as it happened in Peru (Cruz, 2006).

The gradual increase of agriculture in the area, the substitution of traditional land management practices by intensive farming and greenhouse crops, substitution of trees with high rotation tress, over-occupation of agricultural land and river banks and the intensive use of agrochemicals, have caused habitat loss and fragmentation, endangering the hummingbird species and its reproduction means (including high pollination cycles).

The following Table 1.2 shows the legal classification of the species, the causes, unsustainable practices, threats, and impacts on the species, the best estimations of the remaining population and its fragmentation and the ecosystem services in risk for each region, which affect the four species' habitat. While IUCN identifies general threats to these species, during the project design, local assessment were carried out with MMA staff and park rangers to identify threats. The table below presents information specific to the project site and will be addressed in this project. Also, IUCN Red List refers to total population in the country, while the project makes references to specific project areas that do not contain the whole country's population of the species. This is so for Chilean huemul (another, healthier subpopulation occurs in Aysen region) and Darwin's fox (two other subpopulations occur in Chiloé Island and Los Lagos region).

Table 1.2 Threats, causes, impacts, ecosystem services at risk, agents of impact, desirable practices and project actions

Concept/Species	Darwin's fox	Chilean huemul	Keule	Chilean woodstar
Legal classification (MMA and UICN)	Critically endangered (Chile: DS 151/2007) and Endangered (IUCN Red List)	Endangered (Chile: DS 151/2007 and IUCN Red List)	Endangered (Chile: DS 151/2007 and IUCN Red List)	Critically endangered (Chile: DS 151/2007 and IUCN Red List)
Threats	Change in land use (from native forest to agriculture and/or commercial crops), stray dogs	Very high Threats: development and urbanization (hydroelectric developments and roads), stock farming, habitat substitution High threats: competition with alien species (red deer, wild boar), fires, hunting, diseases Change in land use (from native forest to grassland and/or commercial crops)	Change in land use (from native forest to commercial crops), forest degradation due to illegal logging and forest fires, overexploitation of firewood and fruit, grazing livestock for regeneration, poor sexual reproduction of the species, probably due to the combination of stress and few/absence of pollinators.	Farming intensification and change in the closed cycle practice
General causes	Unsustainable extractive mentality, lack of awareness of the species value and their habitats, public institutions with sectoral view.			
Specific causes (unsustainable practices)	Inefficient agricultural and stock farming practices, lack of awareness of the species value and their habitats	Extensive stock farming and unsustainable commercial forestry, competitive use of natural resources for cattle and goats raising.	Substitution of native forest for commercial crops done by forest companies and private owners, illegal logging by small and medium-sized owners, forest fires, use of agrochemicals.	Substitution of traditional land management practices by intensive farming and greenhouse crops, substitution of trees with high rotation trees, over-occupation of agricultural land (river bank) intensive use of agrochemicals.
Impacts	Habitat loss and fragmentation, increase in mortality rate due to infectious diseases, increasing competition for habitat and food	Habitat loss and fragmentation	Reduction of individuals, little regeneration / difficult, decrepitude	Habitat loss and fragmentation
Endangered population/subpopulation (total ex., project area)	50	80	5000	400
Subpopulations (fragmentation of endangered population)	5	2	22	3
Area	Cordillera de Nahuelbuta	Biosphere Reserve Nevados de Chillán	Coastal Range (Cauquenes, Maule Region until Caramavida, Bio Bio Region)	Northern Valleys of Arica (Azaca, Camarones, Vitor, Codpa)

Concept/Species	Darwin's fox	Chilean huemul	Keule	Chilean woodstar
Pests and diseases control	X			
Soil fertility	X	X	x	X
Regulation of water quality	X	X		X
Specific pollination			X	X
Aesthetic/recreational value	X	X	X	X
Direct impact agents	Forest companies, private land owners (mostly medium and smallholders) sectorial public agencies	Forest companies, private land owners (mostly big owners) sectorial public agencies	Forest companies, private land owners (mostly medium and smallholders) sectorial public agencies	Agricultural companies, private land owners (mostly medium and smallholders) sectorial public agencies

1.2.2 Baseline initiatives

Policies for the conservation of endangered species

The MMA is responsible for developing Recovery, Conservation and Management Plans (RECOGE) and implementing them with State agencies, in consultation with the private sector, civil organization, academia and others, according to a regulated and agreed process that ends with a national plan.[28] These administrative instruments contain a set of actions, measures and procedures that should be executed to recover, conserve and manage species classified under the RCE. A development procedure, the public information system and the contents for all relevant species is defined according to different priority factors. The MMA leads the design of plans in coordination with CONAF and private institutions, if necessary.

RECOGE are the only type of plans (recovery, conservation and management, not separately) that involve agencies according to their competencies on relevant species. Although these are national plans, they should not necessarily include the whole range of distribution of endangered species because they can be applied to part of the population in a specific territory. They consider the direct participation of the central level through the Council of Ministers for Sustainability that approves the plans, the Ministry of Environment and the regions involved with active citizens' participation. One major difference with existing Conservation Plans is that they are not only indicative but must have real impact on threats affecting the species, although they cannot violate constitutional rights (a limitation to establish regulations or restrictions). Processes undertaken by the MMA regarding design and implementation of RECOGE plans have been coordinated in detail with this project during the design phase.

Before designing the RECOGE, incipient planning efforts were made. In the case of the Chilean huemul, in 2001 CONAF published the first National Conservation Plan (NCP) of a wild species in Chile, precisely for the Chilean huemul (CONAF & CODEFF. 2001), which was updated with the support of various public and private institutions for the period 2008-2012. Both plans establish priority action lines for the conservation of the species, in terms of research, education and in-situ and ex-situ conservation, throughout the national distribution of the species and undertaken by various public and private institutions (CONAF, SAG, MMA, WCS and CODEFF), in order to reverse the population decline of the species in the country. This plan has allowed for the conservation of the species within protected areas. With the keule something similar occurred when in 2004 CONAF designed the five-year keule Conservation Plan (and pitao).

These plans did not address the complexity of the territorial conservation, they worked under a single-sector approach, without further coordination and produced information of the state of conservation of each species. They PROVIDE the scientific basis for RECOGE.

From May 2002 a process was carried out in each region of the country to elaborate regional strategies for the conservation and sustainable use of biodiversity. This included a diagnosis of the regional biodiversity conservation, identification of anthropic activities that affect —positively or negatively— the regional biodiversity and an agreement on strategic guidelines and priorities. These regional studies have been essential to develop the biodiversity conservation strategy with 18 priority sites in the country[29].

On the other hand, the MMA manages the National System of Environmental Protection (SINIA – acronym in Spanish), which consists of a set of database (cartographic, graphic, documentary, legal, etc.), IT and human resources, programmes and procedures to manage the environmental and natural resources information available

[28] According to Law 19.300 (art. 37) and regulations for the development of RECOGE plans, the MMA is empowered to approve the Recovery, Conservation and Management Plan.

[29] http://www.mma.gob.cl/librobiodiversidad/1308/articles-45421_recurso_2.pdf

in the country in a comprehensive and construable manner. This web Portal provides environmental information on three main areas:

- Environmental Themes: information of main environmental issues from different aspects such as legal, geographical, documentary, information, etc.
- Environmental Management Instruments: information of the acts of the governmental authority regarding the functioning of the environmental institution, compiling information in different aspects such as legal, information, etc.
- Access to regional information: access to environmental information from a regional perspective, in aspects such as georeferencial, documentary, legal information, etc.

This portal provides direct access to the different information systems that are part of the SINIA:

- Electronic Environmental Impact Assessment System (e-SEIA)
- National System of Territorial Environmental Information (SINIA)
- Integrated Air Quality Management System (SIGCA)
- Record of Emissions and Transference of Pollutants
- Online application system to the environmental protection fund (e-FPA)
- Online documents center
- Ley Chile, of the National Congress Library

It is also in charge of the implementation of developing management plans for the Ñuble National Reserve (NR), Huemules de Niblinto NR, Laguna del Laja National Park (NP) and Nonguén NR, all located in the Biobío region. CONAF also maintains nurseries in both regions for the production of 300 annual plants with artisanal methods.

Species conservation actions

The declaration of protected areas is the primary mechanism for the conservation of the species mentioned. In the case of Darwin's fox, part of its main distribution area it is within the Nahuelbuta National Park, which is located in the highest part of the Cordillera de Nahuelbuta located between Biobio and Araucania regions. It covers an area of 6,832 ha, and is characterized by large forests of Araucaria (*Araucaria araucana*), with individuals of estimated age close to 2000 years which at higher altitudes grows almost alone.

Something similar happens with the Chilean Huemul. A joint investment of the government through the declaration of High Conservation Value Area and land bought by the Committee for the Defence of Flora and Fauna (CODEFF – acronym in Spanish) allowed to have about 35,000 hectares for the conservation of the Chilean huemul, before the declaration of Biosphere Reserve "Biological Corridor Nevados de Chillan - Laguna del Laja" (RBNCHLL). It reaches 565,807 hectares, is recognized as Area under Official Protection for the purposes of the Environmental Impact Assessment System and is delimited from two decrees that make up a protection zone of flora and fauna, while preserving the beauty of landscape, prevent the destruction of the soil and protect the habitat of the Chilean huemul.

At private level, thanks to the Frankfurt Zoological Society, CODEFF owns the Nature Sanctuary "Los Huemules de Niblinto", an area of 7,500 hectares located near the Nevados de Chillan. This national reserve is inhabited by the northernmost population of the Chilean huemul and complements the efforts of the Government conservation.

Regarding keule, the conservation measures taken by the State seek to expand the areas of "shelters", so that the Government of Chile declared a "Natural Monument"[30] (1995), which must be protected and respected by the inhabitants of country, forbidding its felling. To this same end, the "National Reserve Los Queules", that houses one of the 22 existing populations and which is the only one protected by the Chilean state, was created.

Regarding the Chilean woodstar, the Ministry of National Assets granted a concession of nine hectares to the Ornithologists Union of Chile (UNORCH) (at present, Fundación Aves Chile), with a view to create a micro reserve for this species.

SAG implements specific actions for these species. Regarding Darwin's fox, SAG pays special attention and controls hunting by domestic livestock owners who consider it a threat. This species is also affected by diseases passed on by domestic dogs. Regarding Chilean huemul, SAG controls and signal paths, as these individuals are at risk of getting hit by vehicles and incidental hunting. Regarding Chilean woodstar, SAG monitors threats associated with the use of bats (rabies vector) control nets and indiscriminate use of chemicals. In addition, SAG developed the first initiative to recovery of the species, during the years 2003 and 2004, the "Programme for recovery of Chilean woodstar and inventory of its population size," executed in conjunction with the Ornithologists Union of Chile (UNORCH/AvesChile) with the collaboration of Universidad de Chile. This initiative continues under the Ministry of Environment.

On the other hand, SAG is responsible for implementing the **National Agricultural Organic Products Certification System**. The need to certify organic production arises whenever direct links between producers and consumers are broken and there is the need to somehow assure the customers that the products they are buying meet their expectations and with an established and known standard. In the case of Chile, Law N° 20.089 Law offers two possibilities of certification for organic products: certification by certification bodies and certification by organizations of organic farmers, in order to accommodate to the reality and economies of large, medium and small businesses. Both types of certification require to meet the organic production standard, and only products certified by a certification body can be sold in any point of sale in the domestic as well as international market.

According to SAG, and based on the information provided by certification bodies, the national total of organic surface certified in 2011 was 119,953 hectares, mainly concentrated in the Biobio Region, followed far behind by Maule Region and the Aysen Region, no hectares in Arica y Parinacota. This area represents a growth of almost 3% compared to that in 2001. In the period 2010-2011, growth is led by the wild collection with 80,870 hectares and grasslands with 14,341 hectares. Another area of importance is large fruit trees, where apple trees, olives, avocados and kiwis outstand. It is also worth noting the boost of olives growing organically what relates to the production of olive oil. Avocado maintains an outstanding production like kiwi.

According to the information supplied by certification bodies to SAG, the major market for fresh fruit from large fruit trees is the United States. The main product is the fresh apple with more than 15,000 tons, followed far behind by exports of kiwi and avocado. As regards the export of small fruit trees such as "berries" the major market is North America, where blueberry is the main export followed by raspberries. In the year 2012 the new customs tariff came into force which allows for the identification of organic products entering and leaving the country. This way, it is possible to estimate and quantify the economic impact these products have in the agricultural balance of trade of the country.

[30] In Chile, the term **Natural Monuments** is understood as the regions, objects or **living species of animals or plants of aesthetic interest or historic or scientific value, which are given absolute protection**. Natural Monuments are created in order to preserve a specific object or a species of flora or fauna declaring a region, an object or a single species, inviolable natural monument except for scientific research or duly authorized government inspections.

Additional to the SAG certification system, MINAGRI, through the Office of Agricultural Studies and Policies, ODEPA and INDAP, along with the Universidad de Chile, conducted in 2014 the "*Study for a Seal of Products and Services from Family farming*", a research aimed at identifying, investigating and analyzing the possible factors valued by the market (supply and demand) regarding products and services from Family Farming (AFC – acronym in Spanish) producers and to develop, the most suitable strategy and platform for the implementation of a seal for AFC's products and services.

The analysis of the consumers' segment shows that the "peasant" and "rural" concepts evoke positive feelings, because they are associated with products from the countryside, craft, natural, made with effort, healthy and with cultural identity. In addition, there is a strong association of the concept "peasant" with clean production, that is, with few agrochemicals, pesticides or pollution or environmentally friendly. More than 50% of respondents express their willingness to pay more for products bearing a seal. The information gathered allowed to build four farm produce consumer profiles, using variables related to attitudes and perception. Based on that, the profiles identified are "committed" (prefers farm produce), "willing, demanding" (looking for good products) and "reticent" (not appealed by farm produce). According to the perception of these consumers, the seal to ensure farm produce or services should be managed, preferably by a government institution and should not be granted to all producers, since the quality of the product has to be certified, validate the geographical origin and promote economic development of communities. Likewise, from the prospective consumer's perspective, places to purchase farm produce are markets and fairs, as the retail would not be recognized as a place to purchase these products.

From this study, in December 2015 INDAP creates the accreditation "Sello Manos Campesinas" which supports attributes of products and services from small producers throughout the national territory, under their specific standards, to foster local economic development of farming families. The seal seeks to make these products and services attributes visible to consumers, appreciating their natural, human and social factors together with recognizing the ancestral practices and traditional wisdom embedded in their production process. It is managed by INDAP and by a Technical Committee composed of representatives of national farmers' organizations, representatives of the Universidad de Chile and representatives of INDAP. This Committee is responsible for the technical evaluation of applications from those who want to use this seal. The criteria for certification are the following:

- **Peasant origin:** only from small producers.
- **Artisanal:** mainly handmade processes, at small scale and with a low environmental impact.
- **Fair:** Promote de economic development of small producers.
- **Healthy:** Meet healthy requirements of current legislation.

In 1999 CONAF created the Programme for the Conservation of Endangered Wild Flora and Fauna in Chile. The Programme contributes to the conservation of biological diversity, with emphasis on the endangered wild flora and fauna included in the SNASPE, in other areas of high ecological value and sectors linked to forest activity. The Programme established 14 flora and 17 fauna priority species for conservation within SNASPE which are the main focus for CONAF. Darwin's fox, Chilean huemul, keule and Chilean woodstar are included in this Programme.

There is national interest in promoting and valuation of ecosystem services, although no concrete initiatives have been undertaken. The Agricultural Development Institute (INDAP – acronym in Spanish) under the Ministry of

Agriculture, focuses on improvement of agricultural practices in the management units, covering the regions of Arica y Parinacota and Biobio and intends to implement incentives to promote best agricultural practices.

In order to make use of State property for the fitting out and management of patrimonial public spaces, the Ministry of National Assets has implemented the "Patrimonial Routes" programme, comprising 65 routes throughout the country, aimed at socializing State spaces of high social, natural, scenic and historical-cultural value. To do this, there are vehicle, free-walking, bicycle and horse riding tours, where landscapes and cultural traditions are valued and preserved through sustainable tourism. There are four categories to establish a patrimonial route. The "natural route" category is a tour through circuits of natural landscapes which enhances its attributes from the point of view of flora and fauna species and physical geographical aspects that characterize certain areas of the territory.

In Arica y Parinacota Region, the Patrimonial Route “Andean foothills and Altiplano; Los Altos de Arica Circuit” includes landscapes and ecosystems with different ecological environment of pampas, desert, Andean foothills and altiplano. In Biobio Region the “Patrimonial Route of Nahuelbuta: Cordillera, Coast and Culture” has three circuits. The third circuit, “Landscapes: Cordillera, Valley and Lake”, has five milestones on a 140 km route that begins in Cañete and includes Nahuelbuta National Park, Lanalhue Lake and Elicura y Contulmo Valley.

Education and awareness programmes on endangered species

The MMA carries out education and awareness activities regarding the conservation of endangered species across the country. In 2009, CONAMA published the book *“Endangered Species of Chile, lets protect them and avoid extinction”,* general disclosure document on national biodiversity, with special attention on the classification of wild flora and fauna species according to the state of conservation.

In Arica y Paranicota the environmental education, training and awareness programmes focus on (i) establishing at least 10 public or private sites of preferential use for the conservation of the Chilean woodstar along the historical distribution range of the species in Chile, with a population no less than 1000 mature individuals; (ii) strengthening the capacity of local actors involved in the conservation of the species, with emphasis on habitat restoration; (Iii) promoting citizen participation in the conservation of the Chilean Woodstar, through environmental education at schools and mass dissemination in social media.

The MMA staff is trained in technical aspects of habitat recovery and development of best production practices (reduce the use of chemicals), to favor the species nesting. Likewise, radio campaigns, newsletters, school activities, delimitation of trails, cleaning of premises, among other actions, have been carried out to sensitize the local population, create local identity and social responsibility related to endemism of the species.

The company Pioneer, which operates in the northern valleys (Region of Arica y Parinacota), established the department of Corporate Social Responsibility focused on the local community, and is developing programmes to improve the educational conditions, contribute to community health and welfare and improve the environmental conditions in the area. Pioneer joined the environmental education, awareness and training campaigns led by the MMA.

In Biobío, awareness campaigns of endangered species in the area are carried out through mass media, radio, press, interviews. During 2014-2015 a dogs vaccination programme was developed a protection measure of the Darwin’s Fox which included workshops and awareness campaign of the local community in Cordillera de Nahuelbuta. Regarding the Chilean huemul, and specifically in the Biosphere Reserve “Biological Corridor Nevados de Chillán-Laguna del Laja”, an environmental education programme was implemented in 2015, and awareness campaign for the communities San Fabian de Alico and El Carmen, including an environmental fair,

trekking, farmers' market and talks in schools and to the community. Also awareness sporting events, called "Corrida del Huemul", where the people can know about of the conservation state of the species and help to protect it.

There also joint work initiatives by NGOs of the Region: CODEFF, AUMEN, led by the MMA. Isolated activities are carried out by the communities with a view to generate values and attitudes to act in harmony with the natural environment and develop habits, skills and behaviors compatible with the environmental protection. Its educational approach is holistic and aim to achieve a constructive learning processes, which is fed back through practice and experience of the various stakeholders from the public/ private sphere and/or the community. One of the latest initiatives is the production of the documentary "*Chilean Huemul, the Shadow of a species*", co-funded by Forestal Arauco.

In 2014, the MMA carried out a campaign to raise awareness of the threat that different illnesses in dogs and cats represent, as they can be transmitted to the Darwin's fox. This campaign included vaccination and deworming of dogs and cats in the Nahuelbuta National Park. Its objective was to decrease the risk of illnesses contagion to this specie and contribute to its protection. Pet ownership impacts wildlife, therefore MMA is urging owners to keep vaccinations up-to-date and that a veterinary examines them at least once a year. 100 homes located in the Nahuelbuta National Park were visited and nearly 800 pets were vaccinated.

Biodiversity monitoring

With a funding of CLP20 million from the Environmental Protection Fund (FPA – acronym in Spanish) of the Ministry of Environment, the project "Conservation of Darwin's fox in the interface Nahuelbuta Park-border areas: integrating environmental and social factors" was carried out between 2012 and 2013, together with Universidad de Concepcion, the Initiative Committee Nahuelbuta and the private sector. This project allowed for the monitoring of the species with camera traps in places that had not been previously monitored and quantify the size of populations with non-invasive methods. It was possible to conclude that there are new Darwin's fox records outside the range known during the 90's, as an indication of subpopulations located 25 to 30 km distant from the park. These would be associated with native forest and are also in conditions of using more "human intervened" areas such as forest plantations associated with native forest. It was once thought that Darwin's fox was only within the territory of Nahuelbuta National Park. A second conclusion is that this species would not be using only well-preserved primary forest, but is also able to use much more disturbed forests and forest plantations; therefore, we can see that forest plantations would not be such a desert environment, in ecological terms. If properly managed, it would be possible that the fox could occupy such type of environment. As the landscape has been historically modified, it is possible that this species changed their behavior or find resources that are not available in other better preserved environment.

Since the 70s, CONAF has carried out research on the endangered Chilean huemul population surviving in Nevados de Chillan. This research consists of walking around the mountains looking for evidence of the presence of the species, in order to assess its distribution, movement and relative abundance in different sectors within the National Reserves Ñuble and Los Huemules del Niblinto, in the latter with the collaboration of CODEFF. Between 2011 and 2014, this traditional monitoring methodology has been complemented by the use of "camera traps" by CONAF. These cameras are an automatic device used to capture photographic images or videos of animals in the wild. A motion sensor shoots the camera automatically. CONAF has monitored, during certain periods, areas previously chosen to evaluate the use of the same by the Chilean huemul within the two aforementioned National Reserves, as well as the presence other species of fauna, especially those that are potential threats to Chilean huemul.

On the other hand, civil society organizations are also working on biodiversity protection in these two regions. The National Committee for the Defence of Flora and Fauna (CODEFF) bought lands for conservation of the Chilean Huemul in Nevados de Chillan, what is constituted as private reserves for conservation. Likewise, Aumen has taken actions to monitor the Chilean Huemul population, environmental education programmes and building capacities for best agricultural practices that favor the conservation of this species. The NGO Ética en los Bosques works in Nahuelbuta on the conservation Darwin's fox, monitoring the population, establishing interpretative trails and developing awareness programmes in urban schools.

At present, the programmes of the National Service for Tourism (SERNATUR) promote the value of biodiversity as a tourist asset, in particular, the "*National Plan of sustainable tourism*" that focuses on the diversification of the supply of tourist products of special interest, improving the offer of destinations in the country's protected areas.

Studies for the conservation of endangered species

The MMA developed the Study of Threats to Conservation Objects in the Biosphere Reserve Nevados de Chillan, in the Biobio Region, and is financing actions in the area.

The Study of Conservation Priorities for the Chilean Huemul (specific analysis of species) is being prepared by WWF. The document proposes to continue the research related to the species, *in situ* conservation (conservation of cloven-footed aliens, control of livestock and dogs, habitat recovery) and *ex situ* conservation for repopulation and reintroduction of the Chilean huemul.

Forestal Arauco has developed a study with camera traps for Darwin's fox and supports management plans in high conservation value areas of Caramávida and Huemules de Niblinto (Biobío), whose investment has been CLP104 million a year (about USD1,5 million) during the last five years.

1.2.3 Remaining Barriers

Despite national efforts, it has not been possible to reduce pressures affecting the species under consideration because these species have very extensive habitat requirements. Although conservation plans have been already designed for these four species, they have focused on sectoral conservation areas and there is no public-private intra-inter institutional coordination. This prevents these plans from becoming effective policy instruments. Limited sectoral approach of public agencies responsible for land management in these areas have made it difficult to implement effective actions, including the valuation of biodiversity and incentives to production. No conservation effort in one region and sector could ensure the stabilization of the population of these species

Public policies and regulations concerning the production and conservation of biodiversity are scattered and even contradictory. On the other hand, the value of these species is not incorporated into the social and cultural levels and agents living and producing in the development border areas are not sufficiently aware of its importance.

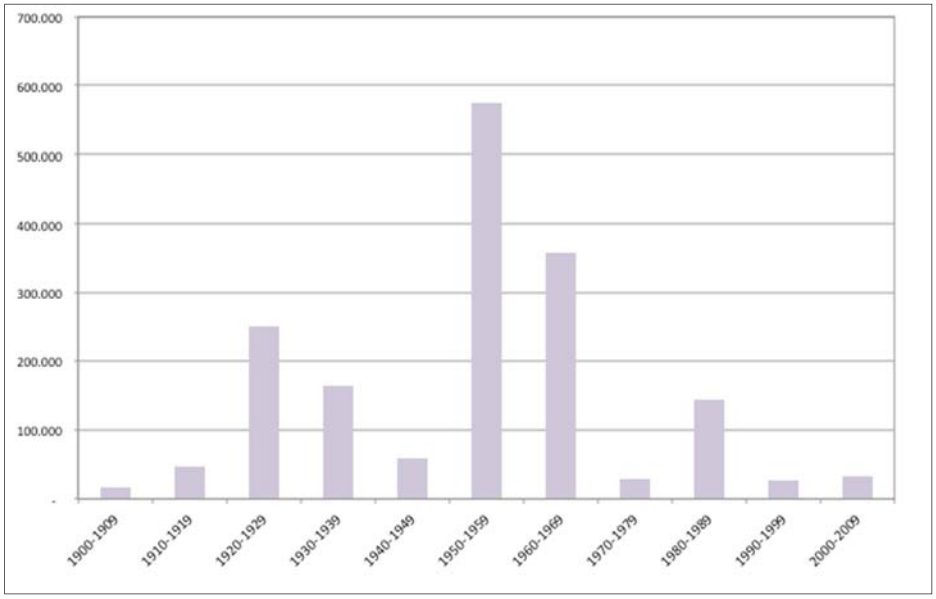
There are three main barriers that should be addressed in order to integrate the conservation of those critically endangered species and ecosystems into these three development border areas:

Barrier 1: Weak capacities and lack of knowledge to incorporate biodiversity conservation into productive practices. The lack of awareness and social and cultural valuation of the species and their habitats, as well as weak capacities of the civil society, private sector and government institutions operating at local and regional level, generate practices against the protection of the four species selected and the ecosystem services that need their vulnerable habitats in Arica y Parinacota and Biobio.

The National Government has implemented some technical assistance programmes for individual farmers, in order to promote consistency between farming practices and productivity policies; however, there is no integrated approach considering biodiversity conservation. At regional level, training tools and information resources are insufficient to reach the target audience and leverage efforts through the dissemination of experiences and lessons learned. Many local producers do not have enough knowledge on how to maintain or increase land productivity, while preserving endangered habitats of endangered species. Local knowledge about species life cycle is limited. Landowners have few skills and knowledge about the adoption of ecological wisdom principles (e.g., good water management and preservation of connectivity). Pro-sustainability activities are isolated and scattered. The approach to transfer and improve best agricultural and forestry management practices remains inconsistent and fragmented. Although there is no lack of motivation, it is required to have the knowledge and ownership to adopt these practices and sustainable systems before reaching a critical point. Innovative processes do not advance quickly enough to avoid permanent loss of biodiversity.

Barrier 2: Widespread use of unsustainable forestry, farming and cattle production means incompatible with biodiversity. Unsustainable extractive mentality in forestry, farming and cattle activities on a large scale and small and medium-sized rural properties, causes change in land use, conversion or degradation of native forests, farming intensification and competition for natural resources, posing growing environmental threats, leading to habitat loss and fragmentation and reducing connectivity between protected areas. Chile has safeguarded some of its most valuable and pristine ecosystems through the declaration of Protected Wild Areas (ASP – acronym in Spanish), mainly in remote areas where population dynamics and economic development are less intense due to harsh living conditions. The most densely populated and intensely used ecoregions, as well as areas of high agricultural and forestry value in the development border, as those located in Arica y Parinacota and Biobio have been neglected. ASP here face the risk of becoming relatively small and isolated islands of good quality habitat in a wider landscape devoid of significant biodiversity. The connectivity between existing suitable habitats and protected areas is particularly limited.

Figure 2. Average size of the declared protected wild area (per decade, ha)



Source: Ministry of Environment, 2010

Moreover, the national prioritization of agriculture and forestry for export (to change the focus on mining in the national economy) have undermined the attainment of the status of protection of other vulnerable ecosystems and species of global and local importance in Arica y Parinacota and Biobío. Agriculture and forestry are the main sources of income in Biobio: 32.4% of the population of Arauco province (where Cordillera de Nahuelbuta is located), and 23.9% of people living in Ñuble province (where BR Nevados de Chillan is located) depend on these two sectors. Although in Arica this figure is lower (only 9.7% of the population works in agriculture), high mechanization and commercial approach of the two sectors generate amplified impacts and threats to fragile ecosystems in the region.

This narrow approach on exports has fueled an unsustainable extractive mentality in areas of Chile with greater availability of natural resources and/or suitable climatic conditions for forestry, farming and large scale stock farming. As explained before, unsustainable extraction is also practiced by micro, small and medium-sized producers who are excluded in an unregulated market, dominated by the high volume of the agro-industry and the mining sector, which set the cost of capital and expected profitability at high levels.

In Arica y Parinacota and Biobio, the unsustainable extractive mentality (along with a purely sectoral normative intended to regulate high-impact activities, described below in Barrier 3) is causing to unsustainable increase in productivity, depletion of agro-ecosystems services and weakening of the local socio-environmental resilience. This approach on production has spread over these regions, preventing long-term global and local environmental benefits, and the understanding of sustainable agriculture/forestry models. In the light of this, there is little motivation to establish public-private partnerships that take the approach "more production / more environment" where everyone benefits. The commercialization of non-traditional products and services, certified agricultural products or other goods produced in a sustainable manner, is rarely implemented in these areas, limiting the ability of economies of scale to market these products.

Barrier 3: Lack of policies and coordination between government institutions to implement mechanisms for biodiversity conservation in the **in the forestry, farming and cattle sector.** Regional and national bodies responsible for land management and related public policies and regulations have only a sectoral approach regarding high-impact activities (i.e.: intensive farming, forest industry), and indirectly undermine actions aiming at including the valuation of biodiversity and sustainable production incentives in the regions of Arica y Parinacota, and Biobío.

Sectoral legislation in Chile concentrates in each activity within a property, but it does not have specific tools to manage ecosystems in large land extensions. This limited approach creates incentives for unsustainable land management and all processes that degrade biodiversity described above. In general, public agencies responsible for land management apply sectoral regulations to high-impact activities (i.e., intensive farming, forest industry) that indirectly undermine actions aiming at including the valuation of biodiversity and sustainable production criteria. This also reduces the capacity to create alliances among experts, private sector and NGOs and establish mechanisms for mutual benefit.

In Arica y Parinacota and Biobío, sectoral government agencies favour an isolated and limited land tenure approach to improve agricultural/forest productivity, leaving aside the interactions with the landscape. Municipalities have very limited capacity to influence policy formulation processes at the national level. Regional policies and regulatory frameworks are weak to identify and promote the adoption of sustainable practices and production systems in landscapes of high biodiversity value or vital for generating ecosystem services. Coordination mechanisms are insufficient to get more economic benefits and carry out activities that generate sustainable income. Participatory planning has not been implemented. Both, regional and municipal governments have not developed public policies to explicitly integrate the valuation of biodiversity and ecosystem services,

productivity and demand for development. There are many contradictions between sectoral policies at regional and national level (e.g., agriculture-biodiversity, forestry-water, biodiversity conservation-economic development, among others) and municipal policies (more complete from the sectoral point of view but more limited in terms of geographical outreach) that need to be evaluated and reduced.

1.3. THE GEF ALTERNATIVE

1.3.1 Project strategy

FAO emphasizes that the conservation of biological diversity, its sustainable use and appropriate use of natural resources are needed to provide food, improve the economic and social situation of people and meet the needs of future generations, especially in rural areas. The current form of production in the areas of intervention of the project has increased dependence on pesticides and fertilizers and the use of water, which can degrade soils and water resources. The expansion and intensification of agriculture has a direct impact on local biodiversity through landscape modification, which results in the loss of native habitats of various fauna and flora species, especially Darwin's fox, Chilean huemul, Chilean woodstar and keule.

The project strategy is to promote the conservation of these four emblematic species and their habitats, building capacities for the implementation of good agricultural and livestock practices and sustainable forest management, to reduce pressure on the ecosystems in which they live. When analyzing the impact of poor agrosilvopastoral practices on the survival of these endangered species, attention is drawn to the conservation of their habitat and the need to adapt the way natural resources are used to avoid their impact. Raising awareness of the urgency of implementing sustainable production of these species ensures that these good practices are maintained.

To do this, the approach will be on the development, implementation and systematization of best agricultural practices and sustainable forest management by local organizations with the support of regional public institutions and civil society, to incorporate conservation criteria of the four endangered species into the management of "development border" priority territories. Policies and legal frameworks that have direct impact in this area, as well as awareness of the society on the values of biodiversity are also considered. Table 1.3 shows the incremental analysis.

Good agricultural practices and sustainable forest management

For FAO, Good Agricultural Practices (GAP) are a set of standards, principles and technical recommendations applied to the different stages of the agricultural production, which include Integrated Pest Management (IPM) and Integrated Crop Management (ICM). Its aim is that farmers produce healthy, high-quality and nutritious food using sustainable production techniques, under the following five principles: (1) efficient use of natural resources, (2) sustainability to better conserve, protect and improve natural resources; (3) protection of livelihoods and promotion of equity and social welfare; (4) increase the resilience of individuals, communities and livelihoods, and (5) implementation of clear governance systems for food and agriculture. FAO proposes a transition from unsustainable to sustainable food and agriculture, through dialogue among sectors (agriculture, forestry, fisheries, livestock), to harmonize procedures, increase production efficiency and adaptation of institutional frameworks to facilitate its implementation.

Care of the environment reduces pollution, conserves biodiversity and values natural resources as soil and water. The irrational use of chemicals has caused soil and water pollution and pesticide residues remain in the environment and its accumulation can cause loss of biodiversity, besides human poisoning. By contrast, the environmental care has benefits for producers, maintains higher productivity over time by preventing loss of soil

fertility, reduces water and soil pollution, etc. Moreover, the impact on workers' welfare improves their quality of life and health and prevents poisoning. Production according to GAP means the adoption of proven management methods for which purpose it is essential to train on health and safety, application of agrochemicals, handling during harvesting, among others. It also means an expenditure or investment in time and money, both in training and infrastructure, supplies and services. The adoption of GAP involves keeping records of all the activities performed, hence, producers have a clearer and orderly view of what is happening in their farms. The basic components of best agricultural practices relevant to this project in which FAO has experience are described in Appendix 8.

Sustainable forest management (SFM) is a process of planning and implementing practices for management and use of forests and other wooded land, in order to meet specific environmental, economic, social and cultural objectives. SFM has to do with all economic, legal, social, technical and scientific aspects related to natural and planted forests. It can also relate with various degrees of deliberate human intervention, from actions aiming at safeguarding and maintaining forest ecosystems and their functions, to those favoring species of social or economic value, or groups of species that allow for improving the production of forests' goods and services.

This project will be supported by the SFM[31] Toolbox, a package of instruments, good practices and application examples, designed by FAO, to put SFM into practice. This tool brings together a wide range of guidelines, manuals, practical knowledge, case studies and other tools produced by FAO and associates of the Collaborative Partnership on Forests (CPF), as well as other organizations and member countries. The set of SFM tools is global, covering all types of forests, and is designed to be progressively broaden, including specific tools at regional, country and territorial level.

Within the SFM, planning and management of protected areas is a key component. Planning of a protected areas system must determine the various objectives of protected areas and should determine the type of activities that must be carried out in the buffer or influence zones. Such a system should include representative samples of ecoregions and natural areas, critical biodiversity points and habitats for viable populations of endemic and endangered species. A protected areas system plan should provide a way to establish a viable national system of protected areas. This plan specifies the scope and objectives of said area, including the allowed activities in buffer zones. The project will facilitate biological corridors in productive spaces that ensure the survival of the four species and connect the core zones of protected areas and micro-reserves, avoiding fragmentation of ecosystems.

Good practices recognition systems that contribute to the conservation of biodiversity

The application of GAP standards is voluntary, as it is sustainable forest management. However, it is believed that in a near future, the GAP will be essential to place products on the main local and international markets. Consumers are increasingly interested in healthy food, produced with respect for the environment and welfare of workers and employees, as shown by the experiences of SAG and INDAP in Chile, analyzed during the project design and described in the baseline. The GAP stem as new requirements from buyers transferred to suppliers. For producers, the main advantage is to market a differentiated product. The "difference" for the consumers is to know that it is a healthy food, of high-quality and safe, that when eaten does not present a health risk. This type of differentiated product gives producers the chance to sell them at a better price.

Pursuant to these considerations, the project seeks to design a system of recognition of biodiversity conservation, which reflects the commitment of the communities to adopt production systems that promote the conservation of endangered species. Such recognition would be based on the communities and regional institutions realization

[31] http://www.fao.org/forestry/sfm/85086/en/

that agricultural, livestock and forestry production cannot threaten the survival of emblematic species like the Darwin's fox, Chilean huemul, Chilean woodstar and keule.

Cross-cutting themes

The project strategy is based on the development of capacities under an inclusive approach, with broad participation of men, women and young people, incorporating local knowledge and public-private partnerships. The project will promote the participation of stakeholders through tools such as: a) contacts with community leaders or authorities, b) socialization of the information about the project, c) community meetings, d) participatory assessments, e) consultation workshops and validation, f) training, g) conservation monitoring. The project will emphasize the participation of women, empowering them to increase their participation in planning and decision making, and improve their productivity, income and living conditions. The participation of women and young people will be promoted through workshops, consultation and validation. Training activities for the community will consider the time when men, women and young people perform their normal duties, as well as planting and harvesting times, so they can participate without altering their daily activities.

Mutual collaboration with the private sector is also included. According to FAO[32] Strategy, to work with the private sector, mutual collaboration means the active collaboration of the private sector with the FAO to support its strategic framework, in line with government priorities, influencing any kind of cooperation and benefitting from technological knowledge, experience and other kind of mutual support. In this project, the private sector can complement the technical work of government programmes and FAO at the local level, and thus, strengthen the national capacity to boost markets, provide agricultural inputs and improve production techniques.

[32] http://www.fao.org/3/a-i3444s.pdf

Table 1.3 Incremental analysis

Expected global environmental benefits	Baseline activities	Incremental GEF support
Objective: prevent the extinction of four critically endangered species as described below		
Darwin's fox	Inefficient practices in agriculture and livestock continue under the baseline, leading to the loss and fragmentation of the habitat used by the Darwin's fox. In particular, lack of awareness of the value of the species and their habitats. The following programmes and activities are part of the project baseline: • Gathering of information for the design of RECOGE plan, from the study "Conservation of the Darwin's fox in the interface Nahuelbuta Park-border areas: integrating environmental and social factors" between 2012 and 2013, providing important information on the status of the population. This study was conducted with the participation of local people and municipalities to identify an adequate protection figure for Cordillera de Nahuelbuta, beyond the National Park area, with the Darwin's fox as one of the main conservation species together with the araucaria. • The SAG controls hunting by domestic livestock owners that identify it as a threat. • The MMA has conducted small-scale sporadic vaccination of dogs and cats, with the aim of controlling diseases that can be transmitted to Darwin's fox.	The project aims to prevent the extinction of Darwin's fox, through activities focused on conservation plans, including monitoring of Darwin's fox, and the preparation of an environmental education programme to raise awareness of the importance of the species. In particular, the following activities will be carried out with GEF resources: • Public information system to disseminate information on the species. • Environmental education programme that complements, structures and strengthens environmental education activities. It will have three target populations: municipal schools, civil servants in charge of outreach services and general public. Thus, it is expected to raise awareness to prevent hunting. • Development of local community capacities to implement best agricultural practices related to the reduction of extensive stock farming, soil restoration. The project will also publish good practices manuals for tourism, stock farming and forestry for Biobio region. • Coordination with the MMA for cats and dogs' vaccination and deworming programme to prevent contagion. • Development of local community capacities to implement best agricultural practices related to the reduction of extensive stock farming, soil restoration. The project will also publish good practices manuals for tourism, stock farming and forestry for Biobio region. • Regarding the protection of Darwin's fox habitat, the project will support the proposal of Man and Biosphere Reserve of Nahuelbuta and the development of management plans for areas of influence. Good practices will be implemented in these areas to be submitted to UNESCO. • Based on the RCE and previous experience, the project will support the development of RECOGE plan for the Darwin's fox, which will be conducted with the participation of the community, in coordination with public institutions related to the conservation of the species, mainly MMA, MINAGRI, local governments. This will be carried out under a regulated procedure that will allow for a systematic and monitored resources allocation. • The project will also expand RECOGE plan to Chiloe, Araucania and Los Rios.
Chilean Huemul	The main threat to Chilean huemul comes from change in land-use (from native forest to grasslands and/or commercial plantations). Current practices include extensive stock farming and unsustainable commercial forestry, competitive use of natural resources for cattle and goats raising and lack of awareness of the value of species and their habitats. These threats cause further habitat loss and fragmentation.	The project aims to prevent the extinction of the Chilean huemul through activities focused on conservation plans of the species, standardization of monitoring and information exchange. In particular, the following activities will be carried out with GEF resources:

	At present, the following activities of the project baseline are carried out: • National Conservation Plan for the Chilean huemul, designed in 2001 and updated for the period 2008-2012. The plan sets the priorities for the conservation of the species in terms of research, education and in-situ and ex-situ conservation along the national distribution of the species, undertaken by various public and private institutions (CONAF, SAG, MMA, CODEFF and WCS), in order to reverse the population decline. This plan has facilitated the conservation of the species within protected areas and proposes further research related to species, in-situ conservation (control of cattle and dogs, habitat recovery) and ex-situ conservation for restocking and re-introduction of the Chilean huemul. • SAG controls and signal paths, to prevent Chilean huemul getting hit by vehicles and incidental hunting. • The population of the Chilean huemul is scattered among the following protected areas: Ñuble National Reserve, Huemules de Niblinto National Reserve, Laguna del Laja National Park and Nonguén National Reserve, Biosphere Reserve "Biological Corridor Nevados de Chillan - Laguna del Laja "(RBNCHLL), all in the Biobio region. • An environmental education programme and an awareness campaign for the communities San Fabian de Alico and El Carmen was implemented in 2015, which included an environmental fair, trekking, farmers' market and talks in schools and to the community. Also sporting events called "Corrida del Huemul". The programme ended with the systematization of activities. There is no continuous awareness process. • Regarding initiatives outside the government, the NGOs CODEFF and Aumen carry out lobbying among the population for the conservation of Chilean huemul. In the same vein, Forestal Arauco sponsored the documentary "*Chilean huemul, the Shadow of a species*". These are short-term isolated, unstructured activities.	• Public information system to disseminate information on the species. • Standardized monitoring and information exchange system on Chilean huemul. • Environmental education programme that complements, structures and strengthens environmental education activities. It will have three target populations: municipal schools, civil servants in charge of outreach services and general public. • Development of local community capacities to implement best agricultural practices related to the reduction of extensive stock farming, soil restoration. The project will also publish good practices manuals for tourism, stock farming and forestry for Biobio region. • Community training on mountain tourism. • Regarding the protection of the Chilean huemul habitat, the project will design the management plan for the area of influence of the RBNCHLL, where good practices will be implemented.
Keule	Main threats to keule are the replacement of native forests by commercial plantings from forestry companies and private landowners, illegal logging by medium and smallholders, forest fires. These threats cause keule forests degradation, to a state of decline with little regeneration. At present, the following activities of the project baseline are carried out: • Between 2004 and 2009 the Keule Conservation Plan (and pitao), allowed to identify threats, but did not address the intersectoral cooperation. This plan highlights the importance of in-situ and ex-situ conservation. • It was declared "Natural Monument" in 1995, as a measure to expand the distribution areas. For the same purpose The "National Reserve Los Queules" was created for the same purpose that hoses one of the 22 existing populations and which is the only reserve protected by the Chilean government.	The project aims to prevent the extinction of the keule through conservation plans, awareness and good practices implementation. In particular, the following activities will be carried out with GEF resources: • Public information system to disseminate information on the species. • Standardized monitoring and information exchange system on Chilean huemul. • Environmental education programme that complements, structures and strengthens environmental education activities. It will have three target populations: municipal schools, civil servants in charge of outreach services and general public. •

	• There is only one nursery for the production of 300 plants a year with artisanal methods without sustainability plan or use for restoration.	• Development of local community capacities to implement good practices: nursery management for ex-situ conservation includes sexual propagation protocol, reforestation.
Chilean woodstar	At present, the Chilean government has performed the following actions that are part of the baseline: • SAG developed the first initiative for recovery of the species, during the years 2003 and 2004, the "Programme for the recovery of Chilean woodstar and inventory of its population size," executed in conjunction with the Ornithologists Union of Chile (UNORCH / AvesChile) with the collaboration of the University of Chile. It is the first conservation effort prior the RCE. It provides a sectoral approach to conservation and has facilitated the identification of the species distribution sites (primarily focused on inventory). It lacks of inter- and intra-institutional coordination, to approach the Chilean woodstar conservation from land management, and has no elements to develop partnerships with the private sector • The Chilean government has identified priority conservation sites for the Chilean woodstar habitat protection in Camarones, Vitor and Azapa Valleys in Arica Region. None of these areas has been designated as a protected area. There is a conservation effort by Aves Chile, in nine hectares granted in concession by the Ministry of National Assets. There are no protected areas that are part of the National System of Protected Area • Environmental education activities have been carried out in 22 schools, delivering dissemination material, consisting of a video about recyclable waterers the hummingbird, images of the species, contact telephone numbers for information, and a coloring figure. These isolated activities have yet to be integrated to better structured education programmes, which should not include only considerations of conservation of the species, but also threats to the species from human activities. • A private sector level, the company Pioneer, through its Corporate Social Responsibility department, works with local communities in developing environmental programmes and supports the MMA with awareness activities.	The project aims to build on baseline initiatives to prevent Chilean woodstar extinction. • Public information system and Website to disseminate information on the species. • Environmental education programme that complements, structures and strengthens environmental education activities. It will have three target populations: municipal schools, civil servants in charge of outreach services and general public. • Development of local community capacities to implement best agricultural practices related to comprehensive land management including land restauration and substitution of agrochemicals by organic fertilizers. • Creation of the Micro-Reserves Network, connected by biological corridors that allows for the survival of the species. It is expected to implement best agricultural practices in the zones of influence of micro-reserves to reduce the impact on habitat. • Good practices recognition systems that contribute to the conservation of the species through public-private partnerships between public services and private companies, especially Pioneer already working in the area. • Based on the RCE and previous experience, the project will support the development of RECOGE plan for the Chilean woodstar, which will be conducted with the participation of the community, in coordination with public institutions related to the conservation of the species, mainly MMA, MINAGRI, local governments. This will be carried out under a regulated procedure that will allow for a systematic and monitored resources allocation. • Likewise, it will support the duplication of the experience in Arica y Parinacota and Tarapaca regions.

1.3.2 Project objective, outcomes and outputs

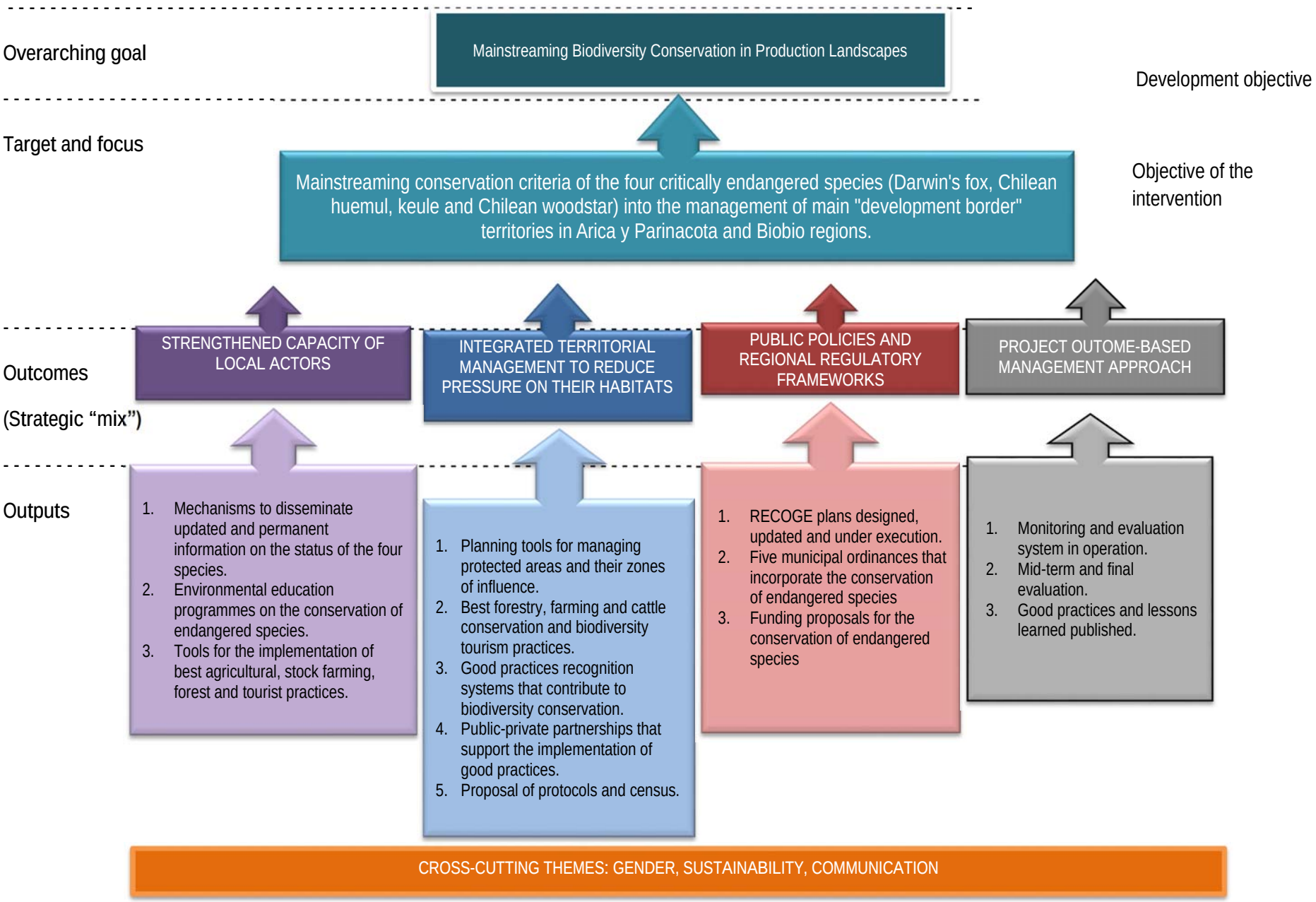
The objective of the project is to integrate conservation criteria of four critically endangered species (Darwin's fox, Chilean huemul, keule and Chilean woodstar) into the management of main "development border" territories in Arica y Parinacota and Biobio regions, through the implementation of best production practices for sustainable forestry, farming and cattle and forest production and conservation of biodiversity, through the development of local capacities and awareness and inclusion of conservation into local policies and regulatory frameworks, in order to avoid extinction and reduce pressure on the ecosystems they inhabit.

From the definition of their habitat and distribution of each endangered species, intervention areas were selected based on (1) its potential to generate biological corridors, (2) are within areas of influence in protected areas and (3) production practices are implemented with negative impact on the species. The areas selected for the project intervention areas are:

- Darwin’s fox in Cordillera de Nahuelbuta, including Contulmo, Los Álamos, Curanilahue and Cañete communities (Biobio Region)
- Chilean huemul in the Biosphere Reserve Nevados de Chillán that includes Antuco, Pinto and San Fabián communities (Biobio Region)
- Keule in Talcahuano, Tomé and Curanipe communities (Biobio Region)
- Chilean woodstar, in Camarones, Vitor, Azapa Valleys (Arica y Parinacota Region)

Figure 3 describes the way the project will achieve its outcomes and outputs from the theory of change perspective:

Figure 3. Theory of Change, Results Framework & Operationalization



Threat assessments for the four species have been conducted at PIF design and re-conducted during project design for the four species, and are at the core of the project's theory of change, intervention strategy and concrete actions. A summary is provided below:

Species	Threat	Project Output
Darwin's fox	Lack of information	1.1.1, 1.1.2
	Stray dogs	3.1.2 (subnational regulations)
	Dog diseases	2.1.4
	Habitat loss and fragmentation	1.1.3, 2.1.1, 2.1.3, 2.1.4, 2.1.5, 3.1.1, 3.1.2
Chilean woodstar	Lack of information	1.1.1, 1.1.2
	Habitat loss and fragmentation	1.1.3, 2.1.1, 2.1.3, 2.1.4, 2.1.5, 3.1.1, 3.1.2
Chilean huemul	Lack of information	1.1.1, 1.1.2
	Weak mechanisms to protect Huemul in non-protected areas	The project
	Livestock production, forest products and tourism	1.1.3, 2.1.2, 2.1.4
	Habitat loss and fragmentation	2.1.1, 2.1.3, 3.1.1, 3.1.2
Keule	Lack of information	1.1.2
	Logging and forest management activities	1.1.3, 2.1.4, 2.1.5, 3.1.1, 3.1.2

The Project is structured in three components, described below.

Component 1: Awareness and development of capacities to support the protection of four endangered species in Arica y Parinacota and Biobío Regions

To remove Barrier 1, this component seeks to publicize and raise awareness of threats from poor forestry, farming and cattle practices to the four endangered species and build capacities for the implementation of good practices in the productive sectors to reverse this situation. Component 1 will have a "bottom up" approach. It will begin by disseminating key information on the status of endangered species and the risks they are exposed to in the areas of distribution selected, to raise awareness of the population where the project will be implemented. This will be done at three levels (schools, public institutions, general public).

In parallel, tools will be designed to build suitable capacities for each of the ecosystems to reduce pressure on the habitat of endangered species and create biological corridors in the territory. The project will accompany local producers in the process of transition from unsustainable practice towards sustainable practice.

Awareness raising programmes will be developed to generate public consciousness about the interaction between sustainable local production of goods (agriculture, cattle, fish, and forests) and conservation of biodiversity. Inter-sectorial interventions, finding solutions to different a variety of interests in an integrated (not separate) and coherent approach of natural resource management, conservation of biodiversity, income generation and consumption of sustainable production will be the mechanism to ensure sustainability. Project approach is to provide information and skills to food producers that guarantee sustainable production, and that these practices will conserve natural resources, ecosystem, endangered species habitat of, and biodiversity. Consumption patterns

are to be changed in order to increase sustainable production marketing systems. Private sector involved in the project and their marketing department will work together on the design of information and awareness raising campaign associated to sustainable production, conservation and consumption.

The incremental GEF financing for an amount of USD 704,742 will serve to design a Public Information System, standardize monitoring systems, training tools with their respective dissemination material and training workshops.

Co-financing for component 1 will be delivered by MMA (USD337,500, USD77.010 cash and USD260,490 in kind), SAG (USD61,875, USD6,410 cash and USD55,465 in kind), CONAF (USD350.001 in kind), AUMEN (USD158.400, USD8.400 cash and USD150.000 in kind), Fundación Keule (USD6.000, USD1.500 cash and USD4.500 in kind), Ética en los Bosques (USD169.500, USD9.500 cash and USD160.000 in kind), Aves Chile (USD160.000, USD59.000 cash and USD101.000 in kind), Forestal Arauco (USD150.000 in kind), Pioneer (USD300.000 in kind) and FAO (USD31.000, USD6.100 cash and USD24.900 in kind).

This co-financing involves access to the platform SINIA, the participation of staff from public and private institutions that will support the capacity building processes, methodologies for monitoring by species and the logistical support and personnel for environmental education programs.

Outcome 1.1. Strengthened capacity of local actors to implement best forestry, farming and cattle and forest practices including the conservation of the endangered species habitat (Chilean woodstar, Chilean huemul, Darwin's fox and keule).

- **Indicators*:*** Number of people sensitized about the importance of conservation of the four endangered species.

  Baseline: The MMA performs isolated environmental education activities that inform on the biology and existence of Darwin's fox, Chilean huemul and Chilean woodstar. There is no intersectoral coordination and no information about threats.

  Target: 2250 school students, 1250 people from selected municipalities.

- **Indicators:** Number of people trained in the implementation of best farming, forestry and cattle and forest practices that consider the conservation of the four endangered species.

  Baseline: There are no programmes that link the conservation of the four endangered species with the forestry, farming and cattle and forest sectors management.

  Target: 1500 public officials, 350 farmers of selected municipalities.

Output 1.1.1. Mechanisms to disseminate updated and permanent information on the status of the four species that trigger the commitment of stakeholders, productive sectors and government, to biodiversity conservation at local scale.

The first mechanism that applies to all four species is the Public Information System. During year 1, a proposed model of the Public Information System will be submitted to the RECOGE Planning Committee for validation. The proposal begins by mapping the actions taken by the MMA for the conservation of the four species, then describes RECOGE plan for each species, define the necessary functional connection (interface) between this system and the SINIA and proposes a training use manual. During year 2, system's validation and socialization

workshops will be held and the manual will be published (1000 copies). Information will include the monitoring methods, data collection and gathering habitats needs in terms of diversity, richness, structure, anthropogenic disturbance and fragmentation, with spatial landscape attributes such as size, shape, connectivity, isolation, and inside the area. These protocols will be revised and adjusted during the project intervention to guarantee a validated result by the end of the project cycle.

Public using the information system are MMA, SEREMIS, scientific, executers of Plan RECOGE, awareness raising campaign designers, environmental educators, NGOs that carry out species monitoring. Information gathered in the system will contribute to the decision making process regarding species conservation measures.

The second mechanism is a unified protocol to monitor the Darwin's fox, including training methodology. This protocol will be developed in coordination with the NGO Ética en los Bosques (EEB) (through a letter of agreement). During year 1, EEB will convene meetings between the SEREMI of the MMA in the Biobio region, CONAF, private sector and other NGOs that conduct research in Cordillera de Nahuelbuta to (i) unify the information available on Darwin's fox, (ii) agree on a monitoring protocol that is homogeneous and compatible with the work performed by all institutions, (iii) agree on information access mechanisms, based on the Public Information System, and (iv) define a unified training methodology. During year 2 the protocol will be socialized, tested and adjusted according to the experience. During year 3 the protocol will be published (300 copies).

The third mechanism is the protocol to monitor the Chilean huemul, which will follow the same methodology previously described, but the responsible institution is the NGO Aumen (LOA), that will convene stakeholders participating in the RBNCHLL, including participants from Neuquén in Argentina.

The fourth mechanism is a Website with information about the Chilean woodstar, including scientific information of the Public Information System in a clear language for the general public. During year 1 of the project, contents (in Spanish and English) are designed based on scientific information on the species and government activities (MMA, MINAGRI and others) for conservation. To this effect, a Communications Specialist will be hired, who will work for the Project Management Unit (PMU, see Section 3), who will also manage the Website during project implementation. At the end of it, the Website will be managed by the SEREMI of Arica y Parinacota region.

Target: Four mechanisms to disseminate information on the status of conservation of Darwin's fox, Chilean huemul, Chilean woodstar and Keule.

Output 1.1.2 Environmental education programmes on the conservation of endangered species for civil servants in charge of agricultural extension, schools and civil society.

From the implementation of RECOGE plan for each species, three different environmental education programmes will be designed for three target populations: civil servants, school students and the general population of the municipalities identified during the design phase the project (see Subsection 1.3.3).

In year 1, the project will develop an awareness programme aimed at public decision makers in charge of agricultural extension, with a view to disseminate the importance to conserve Darwin's fox, Chilean huemul and Keule habitats in the region of Biobio, and the Chilean woodstar habitat in the region of Arica y Parinacota. The programme will cover problems and threats affecting by these species, the ecological, cultural and economic consequences of the biodiversity loss and possible solutions to these problems, especially in the forestry, farming and cattle and forest sectors. During year 2, the activities coordinated by the MMA will include:

a) A regional workshop within the framework of RECOGE plan presentation.

b) Four local training and awareness workshops in communities clustered by species distribution areas (Cordillera de Nahuelbuta, including Contulmo, Los Álamos, Curanilahue and Cañete communities; Biosphere Reserve Nevados de Chillán including Antuco, Pinto and San Fabián communities; Talcahuano, Tomé and Curanipe communities in the keule zone, and Arica and the Camarones valley in the zone of the Chilean woodstar).

c) International conference on Chilean woodstar (only in Arica y Parinacota Region), to position the species at national and international level.

The environmental education programmes in selected schools of the municipalities will be based on a methodological guide to be designed in year 1, including: (i) technical knowledge supported with drawings, photos, graphics, etc. ("access to knowledge"); (ii) exercises and activities to help students to relate theoretical knowledge with everyday activities both in rural and urban areas ("practical application of knowledge"); and (iii) socialization activities and dissemination of results to citizens ("socialization of knowledge and awareness acquired"). During years 2 and 3 the plan will be implemented and experience will be systematized. The project will support the hiring of a/consultant/specialist in environmental education, who will work in coordination with the MMA, to design contents, in charge of audiovisual equipment and support during workshops.

Target: (i) A designed and implemented environmental education programme for municipal schools (ii) at least 60% of municipal schools' students of communities selected have been trained.

The main objective of the environmental education programme for the civil society is to convey a simple message to the citizens of the municipalities selected, about the importance of conservation of the four endangered species and the contribution they can make. The programme will be based on stakeholders' awareness workshops and informative materials. Twelve awareness workshops for authorities and actors in each of the coverage areas of the species will be held: 4 workshops at the beginning of the project, 4 workshops at the middle of the project and 4 workshops at the end of the project. In addition, a closing workshop at a regional level. Through these workshops it is expected to raise awareness of at least 3000 people (at least 40% women).

Target: (i) An environmental education programme for general population, (ii) at least 3000 participants (40% women).

Output 1.1.3. Tools for the implementation of best agricultural, stock farming, forest and tourist practices at community level.

The output seeks to develop the capacities of the communities to identify, prioritize, implement, monitor and evaluate good practices in the forestry, farming and cattle and forest sectors, in order to reduce pressure on the endangered species habitats. Based on GAPs and SFM criteria, during year 1 primary and secondary information is gathered to draw up a proposal for a good practices manual and the training methodology is defined. The contents will be basic and introductory and built under a participatory approach. The materials will be prepared in a plain language to facilitate understanding, and include, among others, educational posters on the conservation of biodiversity and the role of communities, to encourage their participation. The development of these tools will be coordinated with the environmental education bodies of the MMA and partner NGOs, project collaborators and municipalities selected.

In the Biobio Region, the contents will revolve around agriculture, livestock and tourist activities (in coordination with SERNATUR). As regards training in forest issues, the project will support the update of the sustainable forest management manual of the Chilean Wood Corporation (CORMA – acronym in Spanish)

In the Region of Arica y Parinacota, the contents will cover chemicals management, land use and restoration and tourism, in coordination with MINAGRI.

Based on this information, good practices manuals will be designed and distributed among MINAGRI extension officers and municipalities, to implement training programmes in the communities. During years 2 and 3, 300 farmers will be trained according to the learning by doing methodology, through play-based and practical activities which will be incorporated to their daily activities. In this way, farmers will not only learn something new, but incorporate it to their daily productive activities. Local wisdom will be also taken into account. Training workshops will be held at times when the beneficiaries (women and men) can participate without interfering with their normal activities.

Target: (i) Six best agricultural practices manuals for the use of chemicals and farm, livestock, forest and tourist management (ii) at least 300 people trained (40% women).

Component 2. Integrated territorial management based on best forestry, farming and cattle and forest practices aimed at the recovery of four endangered species habitats in Arica y Parinacota and Biobio regions.

To remove Barrier 2, the project aims to implement field interventions from capacities installed in component 1, in order to reduce pressure and promote the restoration of the four endangered species habitats, in order to reduce the ecosystem fragmentation, and thereby, contribute to the stabilization of the four species populations. Likewise, the provision of ecosystem services of habitats that have been degraded due to unsustainable forestry and agricultural practices will be guaranteed.

In the intervention areas, the project will promote the implementation of various integrated management plans, combining conservation agriculture, sustainable stock farming, sustainable timber and non-timber forestry and the protected areas declaration, among others. It will have a catalytic approach since it will be supported by public-private partnerships for conservation.

The incremental GEF funding amounts to USD1,151,310 and covers the design of management plans for zones of influence of protected areas, with their respective consultation and validation workshops, technical assistance for good practices implementation, the definition of the methodology for good practices recognition systems and private- public mechanisms.

Co-financing for component 2 will be delivered by MMA (USD675.000, USD77.020 cash and USD597.980 in kind), SAG (USD101.250, USD6.405 cash and USD94.845 in kind), CONAF (USD592.858 in kind), AUMEN (USD48.400, USD40.400 cash y USD8.000 in kind), Fundación Keule (USD22.000, USD1.500 cash and USD20.500 in kind), Ética en los Bosques (USD116.500, USD8.500 cash and USD108.000 in kind), Aves Chile (USD690.000, USD589.000 cash y USD101.000 in kind), Forestal Arauco (USD247.242 in kind), Pioneer (USD116.010 in kind) and FAO (USD250.000, USD6.200 cash and USD243.800 in kind).

Co-financing for component 2 includes methodological framework for planning and terrestrial management, support for the implementation of good practices, land and inputs, as surveillance equipment, vehicles and other similar.

Outcome 2.1. The populations of the four endangered species are stabilized by reducing pressure on their habitats, on account of planning and management of the territory with due consideration to biodiversity conservation.

- **Indicators:** Zones of influence under good practices implementation
  Baseline: 0 ha
  Target: 501,200 ha area under management plans (indirect); 10% of the total area under direct intervention
- **Indicator:** number of individuals of the endangered species population
  Baseline:

Darwin's fox	50
Chilean huemul	80
Keule	5000
Chilean woodstar	400

  Target: Stabilization to the current levels

Output 2.1.1. Planning tools for managing protected areas and their zones of influence according to ecological corridors, including criteria for biodiversity conservation into productive forestry, farming and cattle and forest sectors.

Regarding Darwin's fox conservation, the project will support the development of the management plans of the proposed Cordillera de Nahuelbuta Man and Biosphere Reserve. The MMA and the MINAGRI have advanced in preparing the application dossier to UNESCO, including the establishment of the Management Committee and the zoning proposal. During year 1, the project will contribute to the development of the management plan for the zone of influence, which will include fox conservation criteria in the implementation of best forestry, farming and cattle and forest practices. During year 2, the proposal will be validated within the communities and the plan will begin the execution phase, while the Governor of the Region will deliver the dossier to UNESCO with the support of MMA and MINAGRI. In year 3, the implementation of the plan is monitored

Regarding Chilean huemul conservation, the project will support the design of the management plan of the zone of influence of the Biosphere Reserve Biological Corridor Nevados de Chillan - Laguna Laja (RBNCHLL). During year 1, zoning will be updated based on the assessment of the status of the Reserve and the proposed plan will be designed, from the land use options to be determined. During year 2 and under the framework of the Management Committee of the RBNCHLL, the management plan is validated by the communities living in the zone of influence. In Year 3, the implementation of the plan is monitored.

Regarding Chilean woodstar conservation, the project will support the development of the management plan of the Micro-Reserves Network of the Chilean woodstar. Based on the sampling during the design phase of the project (see map 1), the MMA and MINAGRI have advanced in the proposal of a Micro-Reserves Network of Chilean woodstar in Chaca, Azapa (Pampa del Gobernador), Camarones (Taltape) and Codpa Valleys. During year 1, the draft of the Network management plan, complementary to the declaratory proposal, and a management plan of the zones of influence is drawn up. During year 2, the plan is validated among local stakeholders. The implementation of the plan begins in year 3, while the MMA submits the declaratory to MINAGRI.

Target: (i) One management plan of the proposed Man and Biosphere Reserve of Cordillera de Nahuelbuta and its zone of influence, (ii) a management plan of the zone of influence of the RBNCHLL, (iii) a proposal of a Micro-Reserves Network of the Chilean woodstar with the management plan of its zone of influence; (iv) two proposals to create a Nature Sanctuary (in Caramávida Gorge and Santa Gertrudis river basin in the Cordillera Nahuelbuta).

Output 2.1.2. Best forestry, farming and cattle conservation and biodiversity tourism practices, implemented by local smallholders in the zones of influence of protected areas, habitats of the four endangered species.

The project will invest resources in good practices that incorporate the conservation of the four endangered species in the zones of influence. From the management plans of output 2.1.1, groups of farmers trained on output 1.1.3 implement best agricultural, livestock and forestry practices in the zones of influence of protected areas selected, while the MMA and MINAGRI carry out biodiversity conservation activities.

Table 1.4 below shows a summary of good practices that will help to reduce pressure on the four endangered species habitats.

Table 1.4 Summary of good practices that include the conservation of endangered species

Good practices		Darwin's fox Biosphere Reserve Cordillera de Nahuelbuta	Chilean huemul Biosphere Reserve Nevados de Chillán	Keule area in the communities of Talcahuano, Tomé and Curanipe
Conservation	Participatory design of environmental interpretation circuits for conservation	X	X	X
	Community training for mountain tourism control	X	X	
	Species monitoring	X	X	X
	Creation of new protected areas (biosphere reserves and Nature Sanctuary)	X		
Forestry, farming and cattle	Reduction of extensive stock farming in buffering zones.	X	X	
	Management of nurseries for ex-situ conservation, including sexual propagation protocol.			X
	Dogs and cats' vaccination and deworming to prevent infection of native species.	X		
	Comprehensive management of land including land restauration	X	X	X
	Reforestation / forest enrichment and hedgerows			X
	Substitution of agrochemicals by organic fertilizers			

Pursuant to a letter of agreement, the NGO Ética de los Bosques will support the participatory design of environmental interpretation circuits for conservation in Caramávida Gorge, Cordillera de Nahuelbuta, where neighboring families make use of the land for ranching, which affects the Darwin's fox. EEB will support the work with the community. Likewise, pursuant to a LOA the NGO Aumen will support the implementation of best stock farming and tourism practices in Santa Gertrudis river basin, in the Biosphere Reserve Nevados de Chillan. Finally, pursuant to a LOA with Fundación Keule, good practices for managing keule nurseries in Talcahuano will be supported, while in Tomé the plantation of this species will be fostered.

Target: (i) number of good practices that incorporate the conservation of the four endangered species and reduce pressure on its habitat, (ii) number of farmers implementing good practices (40% women).

Output 2.1.3. Good practices recognition systems that contribute to biodiversity conservation.

This system responds to the collective process of approaching consumers and producers, which has been identified in the National Agricultural Organic Products Certification System of SAG and Sello Manos Campesinas of INDAP (see Section 1.2.2), whereby consumers want to know what they are consuming and who are they buying from, and producers who want to sell their products through long-term commitments and mutual support relationships.

Under this premise, this output aims to encourage the implementation of good practices of output 2.1.2 by designing a recognition system of biodiversity conservation, that certifies that communities' forestry, farming and cattle and forest production do not threaten the Darwin's fox, Chilean huemul, Keule and Chilean woodstar habitats, on the contrary, it promotes their conservation. The project aims to design a recognition system, where local producers that implement good agricultural and forestry practices that prevent extinctions of these four species (2.1.1 and 2.1.2) are able to place their products in markets, where consumers made aware of the conservation needs of these species (output 1.1.2) will value this type of agricultural production. The recognition system will work with farmers to certify that their production activities are carried out outside the habitats of the four threaten species and that their agricultural production does not affect the areas of distribution of these species. This output will build on output 1.1.2, where local population will be made aware of the need to protect the four species, thus dealing with the demand side. The recognition system will be introduced in local markets, thus dealing with the supply side. To this effect, the census of farmers willing to participate in the system, who would be the beneficiaries of training activities of component 1 ends in year 1. An analysis of the efficiency of current productive systems is done within the framework of training activities and in a participatory manner, to determine their impact on the endangered species habitats and the capacity gaps. During year 1, an assessment of different recognition schemes will be conducted to evaluate their applicability to the local context and their potential in delivering impacts on species conservation. Three different approaches will be reviewed and analyzed: (i) mainstreaming conservation criteria of the four endangered species in the existing Sello Manos Campesinas, (ii) define a new mechanism for municipal recognition, or (iii) a community recognition mechanism, which could be based on the experiences of Participatory Guarantee Systems in the region. During year 2, one of the three approaches will be selected in a participatory manner: within the framework of output 2.1.2, farmers who are implementing good practices are registered and participate in workshops to define the most appropriate recognition system at local level. During year 2, the project will provide technical assistance to the design of the recognition scheme, including: i) a Code of Practice, which will set the rules for access the scheme; ii) mechanisms to control compliance with the Code of Practice; iii) a monitoring system to measure impacts on habitat and species conservation (i.e. through a control group). The system will start implementation in year 3.

Target: At least one good practice recognition system that contribute to biodiversity conservation.

Output 2.1.4. Public-private partnerships that support the implementation of good practices based on recognition systems and biodiversity conservation.

Output 1.1.1 will consider information from Forestal Arauco (in Biobio Region) and Pioneer (Arica y Parinacota Region). Regarding output 2.1.1, consultation workshops will be held in the context of the Biosphere Reserve Committees for RBNCHLL and Biosphere Reserve in Nauelbuta.

Based on these actions, mutual cooperation agreements among the companies participating in the project, the communities selected, the MMA and MINAGRI will be designed and negotiated in year 1, with the aim of: (i) feeding the Public Information System on the status of endangered species, (ii) raise awareness of employees, shareholders, contractors and suppliers about the importance of conservation of the four species, (iii) support to the implementation of management plans of protected areas of output 2.1.1., (iv) promoting good practices and conservation, and (v) participation in the recognition system.

During year 2, the activities agreed upon will be executed, and in year 3, the experience will be systematized to analyze necessary adjustments and potential replication.

Target: At least two public-private agreements, one per region.

Output 2.1.5 Proposal of protocols and census for Darwin's fox in Chiloe Island (Los Lagos Region), keule (Maule Region) and Chilean woodstar (Tarapacá Region).

From year 3, this output seeks to replicate the methodologies designed and implemented in other regions of Chile, where there are three of the four endangered species. The material used in training activities that is validated in adjacent regions sharing the same problems of species conservation and distribution is obtained from components 1 and 2. In turn, the product of labor in these regions, complements the information available.

Darwin's fox: Support to the dissemination of RECOGE plan and species monitoring training for 40 people of the MMA.

Keule: The MMA and Fundación Keule organize a seminar to standardize monitoring and threats mitigation methods in Curanipe, Maule, for 20 people of the MMA.

Chilean woodstar: in coordination with MMA and Aves Chile, a prospecting activity will be carried out in Camiña in search of Chilean woodstar. During year 2 there is a complete monitoring of Camiña to determine the presence or absence of the species in Tarapaca.

Target: Three conservation methodologies proposed for three new regions.

Component 3. Mainstreaming conservation criteria of endangered species in public policies and municipal regulatory frameworks in Biobio and Arica y Parinacota regions.

To overcome Barrier 3, the component 3 aims at ending the RECOGE plan design and update process in support of the MMA, and will provide technical assistance to local governments to adapt their regulatory frameworks, to include considerations of biodiversity conservation, based on the results of the experiences developed in component 2. The inclusion of the endangered species conservation into the legal frameworks, eases the resources allocation from the national and local budget or the prioritization in regional and municipal financing mechanisms as the FNDR.

The GEF incremental financing of USD282.179 will cover technical assistance for the design of plans, ordinances and funding proposals, participatory workshops for validation and approval of the final documents.

Co-financing for component 3 will be provided by MMA (USD267.921, USD77.020 cash and USD190.901 in kind), SAG (USD11.250, USD6.405 cash and USD4.845 in kind), CONAF (USD277.731 in kind), NGO

AUMEN (USD9.400, USD8.400 cash and USD1.000 in kind) and Ética en los Bosques (USD9.000, USD3.000 cash and USD6.000 in kind) This co-funding will cover the participation of the personnel for the design and updating of RECOGE plans, coordination with the municipalities for the Ordinances, activities of monitoring and oversight and SIG needs.

Outcome 3.1. Public policies and regional regulatory frameworks incorporate conservation criteria of the four endangered species from territorial management experiences of component 2.

Indicators: Number of regional public policies that make reference to biodiversity conservation criteria.

Baseline: 0
Target: 4 conservation plans and 5 municipal ordinances

Output 3.1.1. RECOGE plans designed (Darwin's fox and Keule), updated (Chilean huemul and Chilean woodstar) and under execution.

During year 1 the development group led by the MMA, in charge of the meetings, the design of the plan and public consultation process, will be formed. Each plan will contain (a) a summary of threat factors to each species; b) diagnosis of the impact of factors threatening the conservation status of the species; c) identification of relevant actors for its implementation; d) expected status of the species with the execution of the plan within a specified period; e) operational purposes that contribute to reach the goal; f) establishment of the Monitoring Group; and g) the lines of action for achieving the plan. The draft plan will be submitted to the Planning Committee for review and then adjusted according to comments and the results of the consultation. The plan will be ready for final approval by the MMA. During year 2, the plans approved by national and local stakeholders will be presented. The RECOGE plan relates to the species regardless of their place of distribution, but for purposes of this project, during years 2 and 3, the plan will be executed in coordination with the activities of component 2 in the project selected areas.

Target: 4 RECOGE plans, designed and under execution.

Output 3.1.2. Five municipal ordinances that incorporate the conservation of endangered species into the management of its territory.

As RECOGE plan relates to the species, regardless of their location, during year 1, and parallel to the plan design, an analysis of the regulatory instruments of five (from twelve) municipalities participating in the project (will be defined during the inception workshop) will be carried out, to identify which would be related to the implementation of RECOGE plan. PLADECOs and current ordinances will be specially revised.

Based on this analysis, the participatory process will include: (i) definition, together with the municipality, of participatory methodology for the development of ordinance proposals; (ii) execution of 5 workshops at community level in order to gather inputs for ordinance proposals and; (iii) systematization of collected information; (iv) execution of 5 workshops at community level for submission and validation of the proposed ordinance; (v) submission of the proposal to the municipality for approval; and (vi) monitoring the approval process.

Target: 5 ordinances designed.

Output 3.1.3. Funding proposals for the conservation of endangered species in land management

The objective of this output is to influence the biodiversity funding, once the conservation of endangered species has been included to the land management processes. From ordinances designed in output 3.1.2 and experiences of component 2, in year 3, the MMA together with the project team will work in project proposals to be submitted for funding from the FNDR. In parallel, other sectoral financing mechanisms will be identified, such as the Environmental Protection Fund, the Local Development Programme and the Native Forest Fund),

the Chilean Agency for Economic Development (CORFO – acronym in Spanish), and National Commission for Scientific and Technological Research (CONICYT).

Target: Four funding proposals ready for submission to FNDR and other financing mechanisms.

Component 4: M&E and information dissemination

The objective of Component 4 is to monitor and evaluate project progress and indicators compliance, monitor risk mitigation measures and identify new measures to deal with unforeseen risks, and draw lessons learned (including successes and failures) resulting from project implementation, which will be disseminated at the level of the region and the rest of the world, and will serve for projects to be implemented in similar regions.

GEF financing of USD158.356 will focus on M&E activities, including monitoring of project progress and indicators compliance, mid-term and final external evaluations, project systematization and preparation of outreach materials.

Co-financing for component 4 comes from MMA (USD260.500, USD77.020 cash and USD183.480 in kind), SAG (USD17.194, USD.6.405 cash and USD10.789 in kind), CONAF (USD202.857 in kind), AUMEN (USD5.200, USD4.200 cash and USD1.000 in kind), Ética en los Bosques (USD6.000, USD3.000 cash and 3.000 in kind), Aves Chile (USD400.000, USD299.000 cash and USD101.000 in kind), FAO(USD25.000, USD6.200 cash and USD18.800 in kind), and include support to the dissemination of the results, partial and final, and outputs of the project, in order to build capacity and promote replication of successful measures implemented through the project. This includes staff time for conservation of biodiversity.

Outcome 4.1: Project's outcome-based management approach

Output 4.1.1 Monitoring and evaluation (M&E) system in operation, generating constant information on progress in meeting the Targets of the project outcomes and outputs.

From year 1 until the end of the project, the Project Coordinator will prepare a semi-annual Project Progress Report (PPR). The PPR includes the project outcomes framework with relevant outcomes and outputs indicators, baseline and semi-annual targets, monitoring of the risk matrix and identification of potential risks and mitigation measures to reduce unforeseen risks. Once a year, the Coordinator will provide inputs to the Lead Technical Officer (LTO) with whom the LTO-FAO will prepare the Annual Project Implementation Review (PIR). The PIR includes the project outcomes framework with the respective outcome and output indicators, baseline and annual Targets, risk matrix monitoring and will identify potential risks and mitigation measures to reduce unforeseen risks.

Output 4.1.2 Mid-term and final evaluation and implementation and sustainability strategies adjusted to recommendations.

A mid-term evaluation will be carried out 18 months after the implementation of the project by an external consultant, who will work under the supervision of the Independent Evaluation Office of FAO, in consultation with the project team including the FAO-GEF Coordination Unit, the LTO and other partners. Three months before the end of project implementation (month 33) a final evaluation of the project will be conducted by external consultants (international and national), and under the supervision of the Independent Evaluation Office of FAO, in consultation with the project team, including the FAO-GEF Coordination Unit, the LTO and other partners.

Output 4.1.3 Good practices and lessons learned published

The following processes will be systematized: (i) the experience of environmental education, (ii) the process of standardization of the various methodologies for monitoring of the species, (iii) participatory design of management plans, (iv) training process and implementation of good practices to farmers. The design of the

system of recognition of biodiversity will be documented, systematized and published, as well as the participatory design of funding proposals. All publications that provide information about the project will be uploaded to the MMA and FAO Web sites, as well as those of other partner institutions and printed copies (in limited numbers) will be distributed to representatives of Government and local partners.

1.3.3 Stakeholders involved

Since one of the barriers is the lack of interinstitutional coordination for the conservation of endangered species and their habitats, stakeholders with expertise in the subject were brought together during the design phase of the project.

Stakeholder	Interest/role in the project
Ministry of Environment - MMA	Responsible for the general execution of the project. As national environmental authority responsible for environmental regulations and compliance of international agreements in Chile, it shall be responsible for the general management of the project and, in particular, the design and implementation of RECOGE plans for Darwin's fox, Chilean huemul, keule and Chilean woodstar (component 1) and develop environmental education and dissemination activities (component 3). The MMA leads the Project Steering Committee. The Regional Ministerial Secretariats (SEREMI) of the MMA will chair the Regional Technical Committees. The Project Management Unit will work in the MAA offices.
National Forestry Corporation (CONAF)	Co-executing partner. It offers native tree nurseries for reforestation in Arica y Parinacota and keule in Biobío (component 2) and will participate in environmental education activities (component 3) and monitors species (component 1). Co-financer and member of the Steering Committee.
Livestock and Agricultural Service (SAG)	It will be permanent member of the Project Steering Committee. It will participate in regional Technical Committees through the Regional Offices. Project co-financer.
National Service for Tourism (SERNATUR)	Strategic actor in the awareness programme and dissemination of information on endangered species. It will participate in the Regional Technical Committees.
Agricultural Development Institute (INDAP)	It will coordinate with the MMA so good practices of component 2 can be financed with PRODESAL´s bidding funds to maintain improvements to farming production and stock farming systems.
Ministry of National Assets of Chile (MBN)	Its role is to facilitate bailment of fiscal land that may go under some category of conservation areas. Depending on the area, the loan would be delivered to the national system of Protected Areas, municipality or private.
Regional Governments (GORE) of Arica y Parinacota and Biobío	They will coordinate with the MMA actions for institutional strengthening, so they can have a key role in the prioritization of regional regulations and investment projects for the conservation of endangered species, through their respective assignments.
Municipalities of Contulmo, Los Álamos, Curanilahue and Cañete (Cordillera de Nahuelbuta), Antuco, Pinto	This project represents an opportunity for the municipalities of Arica y Parinacota and Biobío to strengthen their role and technical capacity of its environmental teams, to ensure good practices sustainability.

Stakeholder	Interest/role in the project
and San Fabián (Biosphere Reserve Nevados de Chillán), Talcahuano, Tomé and Curanipe (area of distribution of keule) (in Biobío Region), and Arica y Camarones (Region of Arica y Parinacota)	
NGOs AUMEN, Ética en los Bosques, Fundación Keule, Fundación Aves Chile	They will participate in the Regional Participation Committees. They will also make available their monitoring methodologies to unify the procedure, and will support project outputs through letters of agreement.
Private sector Pioneer (Du Pont Group) and Forestal Arauco	Within the framework of the FAO's Principles and Guidelines for cooperation with the private sector, where this cooperation is aimed at making more effective interventions and, based on responsibilities, risks and resources sharing criteria to ensure benefits for all parties involved in the process, companies of the private sector will support the implementation of good practices pilots and outreach programmes.
Local agricultural communities of Contulmo, Los Álamos, Curanilahue and Cañete (Cordillera de Nahuelbuta), Antuco, Pinto and San Fabián (Biosphere Reserve Nevados de Chillán), Talcahuano, Tomé and Curanipe (area of distribution of keule) (in Biobío Region), and Arica y Camarones (Region of Arica y Parinacota)	In Chile, the small farmer is who has the following requirements (i) s/he exploits an area less than or equal to 12 hectares of basic irrigation, regardless of their tenure regime, (ii) assets must not exceed the 3,500 U.F, (iii) income must come mainly from the farming [33]. Smallholders and local communities are the social base of the beneficiaries of the project, since the small property is a characteristic of the intervention areas, which relate to the project through partner NGOs. These groups have implemented unsustainable production practices, so the project will foster the use of best production practices by all members (component 2). A characterization of smallholders in each of the areas is presented in Annex 12.
Academia	Universidad de Concepción, Universidad de Biobio, Universidad de Tarapacá, Universidad Santo Tomás, among the ones that work directly in the areas, Universidad Andrés Bello, Universidad Católica de Temuco or Universidad San Sebastián.

1.3.4 Expected Global Environment Benefits

The selected species are among the most endangered species in the country. This is due to systemic situations in their distribution areas, which are included in this project under the concept of "development border", which are extensive situations, not confined to specific areas and cannot be resolved with the logic of protected areas but through territorial management, natural and productive landscapes management. Therefore, raising awareness at all levels, standardization and systematization of monitoring mechanisms that provide transparency to the status of the species, research and support of protection figures with public-private component (NS and BR) and cooperation with private productive sectors outside protected areas, especially through market-oriented mechanisms such as the visibility of good practices, is essential for the conservation of these species. The project installs the problem at the local (regional and municipal) level, which connects

[33] http://www.indap.gob.cl/como-puedo-acceder-los-servicios-de-indap

it with emerging local governance mechanisms. From the sustainability point of view this is important, since future activities may be maintained and expanded through the National Funds for Regional Development (FNDR – acronym in Spanish), which may be maintained or increased in the future.

The project strengthens organizational and political aspects and technical capacities in the Region of Arica y Paranicota, with the support of and in coordination with Biobío region, where there is a long history of work and concern regarding conservation issues. Public-private cooperation capabilities are also higher in Biobio, so it is expected that they will also contribute to increasing them in Arica y Parinacota. At the national level, the incremental progress from the intervention of this project in the conservation of the four species, assumes to significantly increase the level of attention on the critically endangered species.

Regarding the Chilean huemul, the incremental support of the project is centered in the RBNCLL, from the start-up to the implementation of a public-private protection figure with regional leadership (Intendencia) and cross-participation. This figure is strengthened with the implementation of a mechanism to internalize the benefits of good practices, a seal of guarantee linked to the reserve and manuals of good practices in stockfarming and tourism. Support to good practices in stock farming and tourism in the BR is also provided, through good practices manuals and pilot implementation in Cajón El Baúl.

Regarding the Darwin's fox, the project extends the base, deepens and increases the scope of RECOGE plan for the species and disseminates it locally. The project promotes the creation of a multi-actor platform focused on monitoring and (partial) existing data on the presence and threats to the species and validation of the same. The project also addresses the threats to the species by promoting the study of options of a protection figure for Cordillera de Nahuelbuta, development of manuals of best stock farming and forestry practices and systematization and pilot actions of a programme to control health threats in all regions of occurrence of the species (Biobio, Araucania, Los Rios, and Chiloe). Finally, the knowledge accumulated during the project is made available to the community of actors interested in the species through dissemination activities.

Regarding the Chilean woodstar, the baseline information identifies the threat, the population data and an incipient successful case of conservation in Chaca, which is at a basic level, a public-private work. From there, isolated efforts to raise awareness of the hummingbird are increased, improved and structured, including the installation of a single and dedicated point of information and dissemination; a proposal is launched to build a network of micro-reserves, enable them and strengthen those areas that are already installed in the territorial work, implementation and dissemination beyond that provided by existing means, and complete population data including zones areas that could have Chilean woodstar but have not been prospected. CONAF nursery is also strengthened so that there is a qualitative leap in terms of vegetation, as the nursery will provide plants to the micro-reserves and others who request them, promoting the recovery of boundary strips and other important elements of the landscape that are being lost. There is also work done outside the micro-reserves, in terms of identifying best sustainable farm management practices and for tourist activities (competitiveness of special tourism built around the hummingbird). At the regulatory level, the project supports and is supported by a hallmark that gives visibility to those who strive in Chilean woodstar conservation. Finally, the revision or development of local regulatory instruments (region and municipality) is strengthened so that the problem about the species is prioritized and the development of local initiative projects for its long-term conservation is promoted.

Regarding the keule, the project provides an additional and decisive impetus to the formulation of the RECOGE plan for the species. While waiting for the results of this participatory process, the project contributes to the conservation of the species with the promotion of a group of public-private stakeholders who will have to develop and update a complete inventory of the species, including the validation of existing information and the agreed development of common protocols for data collection. Two specific activities providing significant additional capacity are also supported: conditioning for interpretation of the Quebrada

de Caramávida and the launch of a nursery for native species, concentrated in the reproduction of keule, thanks to the integration of a working group consisting of a local agency (Municipality of Tomé, in the area of historical distribution of keule), that contributes with the land and long-term operation; an NGO (CODEFF) that contributes with volunteers; and Forestal Arauco, that will provide the best available technology for plant breeding.

In summary, the Project will deliver the following GEBs: i) at least four (4) critically threatened species (Darwin's fox, Chilean huemul, keule and Chilean woodstar) conserved and their population stabilized ; ii) at least 50,120 hectares of land sustainably managed, reducing pressures on globally important species; iii) at least five (5) policies and regulations governing regional, municipal (ordenanzas) or sectorial activities that integrate biodiversity valuation and 4 RECOGE plans finalized; iv) 501,200 hectares under management plan including 1200 hectares in Arica y Paranicota, 300,000 hectares in Nehuelbuta, and 200,000 un Nevados de Chillan. Ten percent of the total area, 50,120 hectares will implement good agricultural and forest practices, integrating biodiversity considerations in their production systems. v) Local recognition of good practices are locally integrated in production systems associated to the four species, as recorded by the GEF tracking tool.

This proposed project will also generate GEBs by contributing to Aichi Targets #2, 3, 5 and 12 through the following outputs:

Aichi Biodiversity Target	Related Project Outputs
Target 2. By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	Output 3.1.2. Five municipal ordinances that incorporate the conservation of endangered species into the management of its territory. Output 2.1.1. Planning tools for managing protected areas and their zones of influence according to ecological corridors, including criteria for biodiversity conservation into productive forestry, farming and cattle and forest sectors.
Target 3 - By 2020, at the latest, (…) positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	Output 2.1.3. Best practices recognition systems that contribute to biodiversity conservation. Output 2.1.4. Public-private partnerships that support the implementation of best practices based on recognition systems and biodiversity conservation.
Target 5 - By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	Output 2.1.1. Planning tools for managing protected areas and their zones of influence according to ecological corridors, including criteria for biodiversity conservation into productive forestry, farming and cattle and forest sectors. Output 2.1.2. Best forestry, farming and cattle conservation and biodiversity tourism practices, implemented by local smallholders in the zones of influence of protected areas, habitats of the four endangered species. Output 2.1.5. Proposal of

	protocols and census for Darwin's fox in Chiloe Island (Los Lagos Region), keule (Maule Region) and Chilean woodstar (Tarapacá Region). .
Target 12 - By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	Output 3.1.1. RECOGE plans designed (Darwin's fox and Keule), updated (Chilean huemul and Chilean woodstar) and under execution. Output 2.1.5. Proposal of protocols and census for Darwin's fox in Chiloe Island (Los Lagos Region), keule (Maule Region) and Chilean woodstar (Tarapacá Region).

1.4 LESSONS LEARNED

Activities carried out by the Ministry of Environment through the SEREMIs of Biobío, Arica y Paranicota, regional consultations for the development of a biodiversity conservation strategy, scientific research led by Universidad de Chile and actions of NGOs such as CODEFF, Ética en los Bosques, and Aves de Chile described in the baseline of this document, leave the following lessons learned that contribute to reinforce the identification of barriers and solutions provided by the project:

i) There is enough scientific knowledge to work on an approach to solve the problems of species conservation, despite the information gaps on populations and their use of the territory; however, capacities, mechanisms and technical, management and governance approach should be developed.

ii) The solution should not be based on external actions, but rather national and local capacity building that foster sustainable farming and forest practices together with the implementation of practices to ensure the conservation of biodiversity, connectivity between ecosystems and habitat of endemic species.

iii) The cooperation beyond the farm (the so-called territorial approach) is missing in the territories intervened by the project since there are policies, regulatory frameworks and incentives at the individual farm level, but they do not seem to be solving the problems of sustainability of the species or territories.

1.5 STRATEGIC ALIGNMENT

1.5.1. Coherence with national development policies and objectives

The problem of the emblematic endangered species and habitats degradation addressed by the project has been prioritized in the Endangered Species Protection Policy (see subsection 1.2.2), through RECOGE plans and the National Biodiversity Strategy (2006), and will be incorporated to the National Biodiversity Strategy and Action Plan (NBSAP).

1.5.2 Alignment with the National Biodiversity Policy and Strategy

Chile is a signatory to the Convention on Biological Diversity (1994). The project is consistent with the strategies identified by the National Biodiversity Strategy (2006) and the National Biodiversity Action Plan (2008-2012), with regard to landscape integrated management and planning, technology transfer, coordination among stakeholders and improved funding mechanisms. The project is also in line with the Fifth National Report of the Government of Chile to the Convention (2014), which recognizes the habitat fragmentation, degradation and conversion, mainly outside protected areas, as the main drivers of biodiversity loss. The report also considers overexploitation and unsustainable use of natural resources as major threats.

At present, Chile is updating its National Biodiversity Strategy and Action Plan (NBSAP), with the GEF support (see Section 3).

1.5.3 Alignment with the GEF focal area

The project will support the focal objective BD-2 of 501,200 ha area under management plans (indirect) and 10% of the total sustainably managed landscapes, including agro-ecosystems, production forests, critical biological corridors, and shelters and endangered species breeding grounds.

In particular, the project will address outcome BD-2.1 by implementing the new good practices recognition systems, which will contribute to the conservation of the species through public-private partnerships between public services and private companies. Thus, the project will increase certified landscapes according to a national environmental standard that incorporates biodiversity (50,120 ha in component 2), implementing public-private coordination mechanisms and overcoming the barriers that block the suitable environment (policies and frameworks for sectoral activities) at the regional level (see components 1 and 3).

In addition, the project will focus on achieving outcome BD-2.2 by improving the effectiveness of the actions at the landscape level (developed by local/regional governments and local organizations) by promoting the integration of landscape management with biodiversity conservation plans. The project aims at providing technical assistance to local governments to adapt their regulatory frameworks, to include considerations of biodiversity conservation. The inclusion of the endangered species conservation into the regional legal frameworks eases the resources allocation from the national and local budget or the prioritization in regional and municipal financing mechanisms as the FNDR.

1.5.4 Alignment with FAO's Strategic Framework and Objectives

FAO has facilitated and documented successful experiences that reduce the pressure and threats to wildlife associated with overexploitation, habitat degradation and some diseases. It has also developed guidelines to consider aspects of wildlife management in forest production systems, eco-tourism, uncontrolled trade in wildlife (pets, wild meat) and loss of habitat connectivity.

In terms of animal production and health, FAO notes that animal genetic resources are the fundamental biological heritage for the development of livestock and are essential for food security and sustainable rural development. In order to maintain the sustainability of this resource, the world community recommended FAO, through the Commission on Genetic Resources for Food and Agriculture, to promote the Global Plan of Action for Animal Genetic Resources and the Interlaken Declaration, where 33 strategic priorities to address livestock genetic erosion and the sustainable use of livestock genetic resources were approved. This plan includes an inventory of resources, sustainable use, heritage conservation, policy development and capacity building.

FAO has considerable experience in biodiversity conservation and ecosystem management and protection of plants health, trees, forests, agricultural landscapes, aquatic species, wildlife and livestock. The Global Plan of Action for Animal Genetic Resources for Food and Agriculture aims to ensure sustainable management of native and alien species in ecosystems, including agricultural ecosystems. The FAO Forestry Department has worked for several years in the management and control of plant pests, in many cases insects, which have a potential to increase dispersion in times of global changes.

Moreover, the FAORLC chairs the Executive Secretariat of the regional network of protected areas (REDPARQUES), which supports the proper management of protected areas in Latin America and the Caribbean.

The project contributes to Strategic Objective 2 (SO2): increase the supply of goods and services from agriculture, stockfarming, forestry and fishing in a sustainable manner, specifically, to the following products:

- Output 4: Integrated and sustainable practices: adoption of innovative management concepts, practices and comprehensive environmental approaches (including climate change mitigation and adaptation), social aspects (including gender equality) and the economic dimension of sustainable agricultural production.
- Output 5: Knowledge and management: Participatory assessment, development and promotion of mechanisms to integrate, manage and share knowledge about sustainable production and natural resources management practices.
- Output 6: Identification, development, validation and exchange of inclusive social and technological management approaches that contributes to sustainable management of ecosystems; climate change adaptation and mitigation; knowledge generation from previous experiences and understanding of good practices, lessons learned and potential for replication.
- Output 7: Supporting the development of technical and cross-sectoral capacities among institutions and organizations to develop and implement practices that enhance and improve the provision of goods and services on a sustainable manner.
- Output 12: Advising and supporting governance strategies and options to facilitate productivity and sustainability in different productive systems.

Additionally, this project responds to the work priorities between FAO and the government of Chile, established in the Country Programme Framework 2015-2018, specifically pillar II "Governance of natural resources and fisheries and forestry, farming and cattle systems under climate change scenario" in the action line 2.3 "Protection of biodiversity, conservation of natural and genetic resources for food security". All this is in line with the third priority of FAO’s work globally, aiming at the "sustainable use of natural resources, climate change adaptation and disaster risk management”.

SECTION 2 – FEASIBILITY

2.1 ENVIRONMENTAL IMPACT ASSESSMENT

In accordance with the document *Environmental and Social Management Guidelines of FAO*[34], the proposed project is classified under the category of MODERATE: There are indigenous communities in the areas surrounding the project intervention zones. The project activities will not have a negative impact in the indigenous lands. On the contrary, the best forest and agriculture sustainable practices that are being carried out could be used in the lands of indigenous communities, considering their ancestral knowledge. The *Environmental and Social Revision Form*[35] is attached in Appendix 7. The project does not adversely affect ecosystems, furthermore, it has a positive impact by eliminating a major cause of degradation.

The members of indigenous communities will participate in the process of prior, free and informed consent that will take place before the starting operations of the project, in the first year, in the communes of the Bio Bio Region. According to the FAO policy about Indigenous and Tribal People[36] and the FAO guidelines for Environment and Social Management[37], the process of prior, free and informed consent must take place and generate the corresponding complaint mechanisms.

The activities of the project include the integration of sustainable production practices, capacity building and raising awareness of the importance of conservation of threatened species and ecosystems. Component 1 of the project aims at raising awareness and developing technical and management skills for the conservation of endangered species and natural resources production and management, as well as environmental education and public awareness programmes.

Component 2 refers to management, environmental and landscape restauration, formation of biological corridors, integration of sustainable production practices (agriculture, livestock and forestry) and certification of good practices to promote trade in these products. In this way it will contribute to the restoration and resilience of ecosystems. It is expected that the implementation of recovery and restoration practices in affected ecosystems have positive environmental effects that benefit endangered species and improve the living conditions of communities in the regions involved. Restoration activities will be conducted with native species grown in CONAF and private nurseries, so there will be no adverse environmental impact. Component 3 of the project relates to mainstreaming the approach towards conservation and sustainable use of threatened species and ecosystems, including regulatory framework and policies in the regions of Arica, Parinacota and Biobio.

2.2. RISK MANAGEMENT

Project risks were identified and analyzed during the Project preparation phase and mitigation measures were incorporated to the Project design (see Risk Matrix in Appendix 4 of this document). With the support and supervision of FAO, the Project Steering Committee will be responsible for managing those risks as well as the effective implementation of mitigation measures. The Monitoring and Evaluation (M & E) System (see Subsection 4.5) will serve to track the outcome and output indicators, project risks and mitigation measures. The Project Steering Committee will also be responsible for monitoring the effectiveness of mitigation

[34] http://www.fao.org/environmental-social-standards/es/
[35] The MODERATE Category classification is certified by the LTO who has completed the Environmental and Social Review Form, included in Appendix 8.
[36] http://www.fao.org/docrep/013/i1857e/i1857e00.htm
[37] http://www.fao.org/3/a-i4413e.pdf

measures and adjust mitigation strategies, accordingly, and to identify and manage any new risks identified during the implementation phase.

The semi-annual Project Progress Reports (PPRs) (see Subsection 4.5.3) are the main monitoring and risk management tool. The PPRs include a section that covers the systematic risk monitoring and mitigation actions identified in previous PPRs. The PPRs also include a section to identify any new risks or risks that have yet to be addressed, their classification and mitigation actions, as well as those responsible for the monitoring of such activities and estimated deadlines. FAO will closely monitor the risk management and provide support for the adjustment and implementation of mitigation strategies. The preparation of reports on risk monitoring and classification will also be part of the Annual Implementation Report prepared by FAO and submitted to the GEF Secretariat (see Section 3.5.3).

2.2.1 Risks and corrective measures

The Table of Appendix 4 summarizes the risks identified and analyzed during the preparation stage of this Project, the probability of occurrence and proposed mitigation measures.

2.2.2 Fiduciary risk analysis and corrective measures (only for national project)

At the request of the Ministry of Environment[38], the GEF grant shall be executed by FAO through their systems, standards, rules and regulations.

[38] Circular 154897, 16 November 2015, Appendix 11.

SECTION 3 - IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

3.1 INSTITUTIONAL ARRANGEMENTS

In addition to FAO as GEF implementing agency, the project will be executed and the responsibility of the Ministry of Environment of Chile (MMA), through the Natural Resources and Biodiversity Division. The MMA will count on the participation of the following institutions: the National Forestry Corporation (CONAF) and the NGOs Ética en los Bosques, AUMEN, Fundación Keule and Aves Chile. Other entities involved in governance and management structures of the project are the Regional Ministerial Secretariats (SEREMI) of Environment and Agriculture and Forestal Arauco, Forestal Mininco, Pioneer, TPA and Quiborax.

FAO and executing partners will collaborate with other programmes and projects executing agencies in order to identify opportunities and mechanisms to facilitate synergies with other relevant projects supported by the GEF, as well as projects supported by other donors. This collaboration will be made through: (i) informal communications between GEF agencies and other programmes and projects executing partners; (ii) exchange of information and outreach materials among projects.

The project will develop collaboration mechanisms with the following GEF initiatives:

1. **Integrated national Monitoring and Assessment System on Forest Ecosystems to support SFM policies, regulations and practices, including REDD+ and forest ecosystems biodiversity conservation** (# 4968): This ongoing project aims to develop and implement an Integrated Monitoring and Assessment System of carbon stocks and biodiversity in Forest Ecosystems (SIMEF – acronym in Spanish), supporting the National Inventory of Greenhouse Gas Emissions and the design of SFM policies, regulations and practices, including REDD + and forest ecosystems biodiversity conservation. Its objective is to collect data and accurate information on forest cover, use and users of trees, non-timber forest products, including biodiversity, natural forests and plantations, for better policies' planning, management and monitoring.
2. **Sustainable Land Management** (# 4104): This ongoing project aims to promote incentives towards a sustainable land management practices and to combat land degradation, conserve biodiversity and protect and increase carbon stocks. It funds local activities in regions that are not covered by this project. Coordination and adequate flow of information will be guaranteed mainly by the Natural Resources Division of the MMA involved in the implementation of the World Bank project and is an executing partner in this initiative
3. **Implementation of an Integrated National System of Protected Areas in Chile: Financial and Operational Structure** (# 2772): The main objective of this project was to create and implement a public and private terrestrial and aquatic National System of Protected Areas (SNASPE – acronym in Spanish) to adequately represent the cultural and biological diversity of the nation, ensuring the protection of biodiversity and provision of ecosystem services, critical for sustainable development of the country, for the benefit of present and future generations. The pilots selected are close to buffer zones of major biosphere reserves, hence the need to coordinate with this project.
4. **Supporting the Civil Society and community initiatives to generate global environmental benefits using subsidies and microcredits in the Mediterranean Ecoregion** (# 4939): The project aims to improve the efficiency of the actions taken by community-based organizations (CBOs) at the landscape level. The project is supporting the removal of barriers that block sectoral frameworks and implementation of renewed communication mechanisms between the MMA and CBOs. Actions undertaken are

complementary to this project. The Natural Resources and Biodiversity Division of the MMA participates in both projects and ensures the proper flow of information.

5. **National Planning to support the implementation of the Strategic Plan 2011-2020 of the Convention on Biological Diversity** (# 4857): Its aim is to take effective and urgent measures to halt the loss of biological diversity focused on increasing awareness of the value of biodiversity and the inclusion of biodiversity considerations into productive and public management and sectoral planning framework. It is supporting the preparation of the National Biodiversity Strategy and Action Plan and (NBSAP) and will design specific field strategies of "bottom-up" integrated activities for conservation outside protected areas. The team has participated in consultations and planning of this project. The MMA is the executing agency of the Strategy and coordinates synergies between the two projects.

3.2 IMPLEMENTATION ARRANGEMETS

3.2.1 Structure of the project

The UN Food and Agriculture Organization (FAO) is the GEF agency responsible for monitoring and providing technical advice during project implementation. Technical advice will be coordinated with the MAA. FAO's role and responsibilities are described in Section 3.2.2.

A **Project Steering Committee (PSCs)** will be established to work on strategic decisions and will be composed of the MMA (which convenes and chairs and is represented by the Head of the NR and BD Division), the Heads of the SEREMIs of the Environment of Biobío and Arica and Parinacota, CONAF (represented by its Director), SAG (represented by its Director), the Operational Focal Point for the GEF and the National Project Director, representing the Government and the Chilean Representative of FAO. Its main task is to guide the implementation of the project, review and approve the annual operating plan, approve financial and technical reports and provide strategic guidance to the execution of the project (see Section 4.2.3 with detailed SC functions).

Regional Technical Committees (RTC), will also be established and composed of: SEREMI of the Environment (which convenes and chairs), SEREMI of Agriculture, Regional Office of SERNATUR, Regional Office of SAG, Regional Office of CONAF, Regional Managers of NR and BD of the MMA (Regional Technical Director), National Director of the Project and representatives of private co-executors, governing bodies in charge of project supervision in each region selected for the project (Biobío and Arica and Parinacota).

The MMA will appoint a professional of the Natural Resources and Biodiversity Division as **National Project Director (NPD)**. The NPD shall supervise and advice regarding project's policies and priorities. The NPD shall also be responsible for coordinating activities with all institutional bodies related to the different components of the project and the participant institutions and for requesting the timely disbursement of GEF grants, which will enable the execution of project activities, in accordance with the budget and the Annual Work Plan and Budget (AWP/B) approved for the current year.

On each region, a **Project Management Unit (PMU)** formed by a **Project Team (PT)** funded by the GEF, the Regional Project Director and the National project Director will be established. The main function of the PT, following the guidelines of the Steering Committee (see 4.2.3 below), is to ensure the coordination and execution of the project through the effective implementation of annual work plans. This Unit will be installed in the central offices of the Ministry of Environment in Santiago and SEREMIs of the Environment of Arica and Parinacota and Biobio, and will be composed of: a Regional Coordinator in each region, a Project

Assistant in each region, a part-time national Communicator and a part-time national Administrative Assistant (shared with GEFID 5506 project), who may be located at any office of the MMA.

The Regional Manager of natural resources and biodiversity of each region will act as a Regional Project Manager, who will lead and oversee the PMU in each region and will coordinate directly with the national project Director.

Under the supervision of the National Project Director, the Regional project Director and FAO, the **Regional Project Coordinators (RPC)** shall be in charge of the daily management of the project and technical supervision including: (i) coordination and close supervision of the execution of project activities; (ii) day-to-day management; (iii) coordination with other related initiatives; (iv) ensuring a high level of collaboration among participating institutions and organizations at national and local level; (v) monitor project progress and ensure timely delivery of inputs and outputs; (vi) implement and manage the monitoring plan of the project and its communication programme, (vii) organize annual workshops and meetings to monitor the progress of the project and prepare annual work plans and budgets (AWP/B); vii) submit the PPRs along with the AWP/Bs to the Project Steering Committee (PSC) and FAO; (viii) act as Secretary of the PSC; ix) prepare the PIR and x) support the organization of the mid-term review and final evaluation.

Similarly, under the rules and procedures of FAO and in accordance with this project document and the AWP/B, the NPC will identify the costs and funds to be requested to FAO for a timely execution of the project. The NPC shall supervise, provide technical support and evaluate the reports of national consultants (funded by GEF funds).

The **National Budget and Operations Officer** shall be responsible for the financial management and day-to-day operation of the project, including purchase contracts and other necessary inputs according to the approved budget and annual work plans. He/she will work in close consultation with the NPD, NPC, Budget Holder (BH, see below), the Lead Technical Officer (LTO, see below) and executing partners of the project, particularly with the FAO Representative in Chile and shall be responsible for timely delivery of inputs required for the achievement of outcomes.

The Draft of the Terms of Reference (TOR) of the Project Coordinator and Project Team are included in Appendix 6. Figure 4 shows the organization chart of the project:

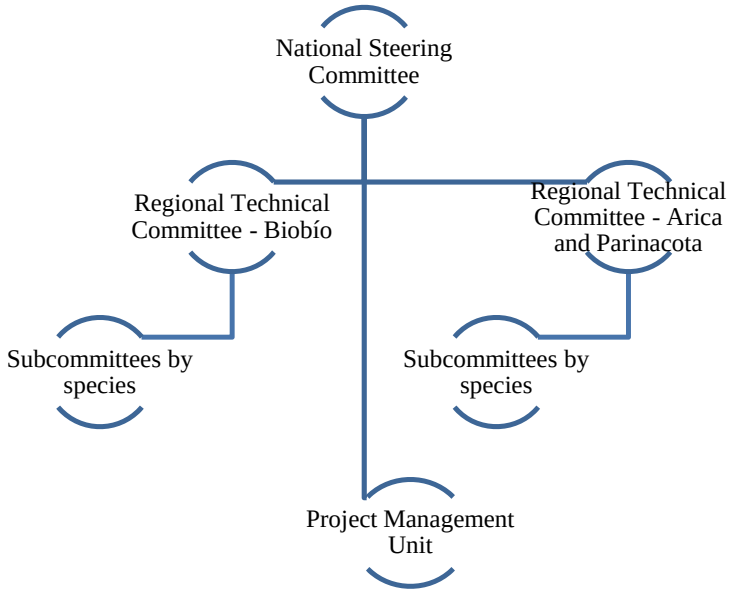
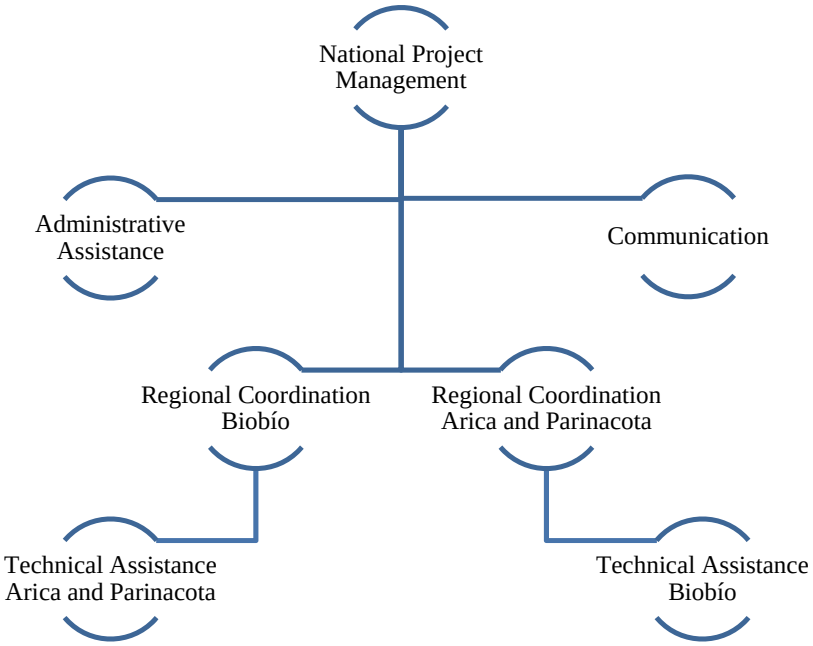


Figure 5 shows the PMU organization chart:



3.2.2 FAO's Functions and responsibilities

Role of FAO in the governance structure of the Project

FAO will be the Implementing as well as financing and operating Agency for the project. As GEF implementing agency, FAO will provide supervision and technical guidance during the project execution. Administration of the GEF grant will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee. As Executing Agency of the project, FAO will:

- Manage GEF funds in accordance with rules and procedures of FAO;
- Oversee project implementation< in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to project activities, accordingly;
- Perform at least one annual supervision mission;
- Report to the GEF Secretariat and Evaluation Office, through the Implementation Report, on project progress and provide financial reports to the GEF Trustee.

As per request of the Chilean government, FAO shall be the financial and operational executing agency of GEF grants, including financial management, goods procurement and hiring of services following FAO's rules and procedures. As financial executing institution, FAO shall submit biannual financial report to the Steering Committee (SC).

In keeping with this project document and the AWP/B approved by the Steering Committee, FAO shall make budget revisions to keep the budget up to date in FAO financial system and shall provide this information to the Steering Committee to ease planning and implementation of project activities. In collaboration with the NPCU and the Steering Committee, FAO will participate and carry out planning, procurement and hiring processes. It will also make payments for goods, services and products requested by the PC on the basis of the AWP/B and procurement plans approved annually by the Steering Committee.

Roles of FAO in the internal organization

Roles and responsibilities of FAO staff are regulated by FAO Guide to the Project Cycle and update.

The FAO Representative in Chile will be **Budget Holder (BH)** and responsible for the management of GEF grants. As a first step at the project inception, the FAO Representation in Chile will establish an interdisciplinary Project Task Force (PTF) within FAO to guide the execution of the project

The PTF is a consultative and management body that integrates the necessary technical qualifications of relevant FAO units to support the project. The PTF is composed of a Budget Holder, a Lead Technical Officer (LTO), the Funding Liaison Officer (FLO) and one or more Technical Officers based at FAO Headquarters (HQ Officer[39]).

In coordination with the Lead Technical Officer, the FAO Representative in Chile shall be responsible for timely operational, administrative and financial management of the GEF grants, including: (1) procurement of goods and hiring services for project activities, according to the rules and procedures of FAO, in accordance with the approved AWP/B; (2) payments of goods, services and products in consultation with the Project Steering Committee; (3) submit biannual financial reports to the Steering Committee on project expenditures status; (4) at least once a year, or more often if required, prepare budget revisions put to the consideration of the FAO-GEF Coordination Unit, through the Field Programme Management Information System (FPMIS).

The FAO Representative in Chile, in agreement with the PTF, shall raise its no-objection to the AWP/B submitted by the NPCU and the Project Progress Reports (PPR). The PPR may receive comments from the PTF and shall be approved by the LTO before the BH integrate them into the FPMIS.

The GEF Project Officer (OG), will be under direct supervision of the FAO Representative in Chile and will support it in supervising project management and progress, FAO's participation in procurement and hiring processes and providing technical advice to the project, in close consultation with the LTO and the interdisciplinary Working Group of the project. The OG fees will be paid with GEF funds and will be in charge of the following:

- Review and make comments to the Project Progress Report prepared by the NPCU and submit it to the BH and the LTO for approval and then to the FAO-GEF Coordination Unit in the Investment Centre Division (TCI) for clearance and uploading to the FPMIS;
- Participate in annual project progress review and planning workshops, provide comments and advise the FAO Representative on the AWP/B approval, in consultation with the LTO and the FAO-GEF Coordination Unit;
- Review contracts and procurement documentation for those contracts and procurement to be financed by GEF grants, and advise the FAO Representative on approval, in consultation with the LTO and FAO-GEF Coordination Unit;
- Review co-financing reports submitted annually (June) by the NPCU;

[39] HQ Officer in FAO Guide to the Project Cycle, Quality for Results, 2015.

- Review biannual financial reports prepared by the FAO Office in Chile, prior sending them to the NPCU to prepare the PPR;
- Conduct periodic supervision missions and support the provision of FAO technical and outcome-based management input to the project;
- Support the LTO in preparing the Project Implementation Review (PIR);
- Participate in the project Directors Meeting upon request of the FAO Representative;
- Participate in staff interview and selection panels for key positions, to be financed by GEF grants; and
- Prepare drafts of TOR for mid-term and final evaluations in consultation with the FAO Evaluation Office, the LTO, the FAO-GEF Coordination Unit, the project executing partners, support the organization of the evaluations, contribute to an agreed adjustment plan regarding the project execution approach and supervise its implementation

The Lead Technical Officer (LTO) for the project will be the Forestry Officer of FAO Regional Office for Latin America and the Caribbean (RLC FAO). The role of the LTO is essential to ensure the comparative advantage of FAO regarding projects implementation. The LTO shall oversee and provide technical support during project execution. The LTO shall support the BH in the implementation and monitoring of the AWP/B, including work plan and budget revisions. The LTO is responsible for providing or obtaining technical approval of inputs and technical services hired by the Organization

In addition, the LTO will provide technical advice to the project team to ensure the delivery of quality technical outcomes. The LTO will coordinate the provision of appropriate technical support from FAO units that make up the project Working Group, to respond to requests from the Project Steering Committee. The LTO shall be responsible for:

- Review and giving no-objections to the terms of reference of consultancies and contracts within the framework of the project as well as the *curriculum vitae* and technical proposals preselected by the NPCU for key positions, minor works and services financed by GEF grants;
- Supported by the FAO Representative in Chile, review and ensure clearance of final technical outputs delivered by consultants and other contract holders financed by GEF resources, before proceeding with the final payment;
- At the request of the Technical Committee, collaborate with the revision and technical observations of project's output and draft reports;
- Review and approve project progress reports submitted by the NPC in coordination with the BH;
- Support the FAO Representative in reviewing and authorizing the AWP/B submitted by the NPC for approval by the Steering Committee
- Oversee the technical quality of the biannual Project Progress Reports (PPR). The PPR will be prepared by the NPC with inputs from the PT. The BH will submit the PPR to the FAO-GEF Coordination Unit for comments and to the LTO for technical approval. The PPR will be submitted to the PSC for clearance twice a year. The BH will upload cleared PPR to the FPMIS.
- Supervise the technical quality of the PIR annually. The PIR will be drawn up by the NPC with inputs from the PT. The PIR will be submitted to the BH and to the FAO-GEF Coordination Unit for clearance and finalization. The FAO-GEF Coordination Unit will submit the PIR to the Secretariat and the GEF Evaluation Office as part of the annual follow-up report of the FAO-GEF portfolio evaluation. The LTO shall ensure that the NPC and PT have provided information on co-financing received throughout the year to be included in the PIR;

- Carry out annual project supervision missions (or as needed);
- Review TOR for the mid-term evaluation; participate in the evaluation mission, including the mid-term workshop with all key project stakeholders; develop an eventual agreed adjustment plan in project execution approach and supervise its implementation;
- Review TOR for the final evaluation; participate in the evaluation mission including the final workshop with all key stakeholders; development and follow-up on recommendations on how to ensure sustainability of project outputs and outcomes after the end of the project

The HQ Technical Officer is a member of the PTF, as mandated by FAO Guide to the Project Cycle. The HQ Technical Officer has relevant technical knowledge – within FAO technical departments – in line with project thematic. The HQ Technical Officer will advise the LTO to ensure compliance with FAO corporate technical standards during project execution, namely:

- Supports the LTO in monitoring and reporting on the implementation of socio-environmental plans into moderate-risk projects. In this project, the HQ Officer will support the LTO in monitoring and reporting on the risks identified and mitigation measures (Appendix 4), in close coordination with the project partners.
- Provides technical support to project work plan.
- Approves technical reports and supervises the quality of Project Progress Reports (PPR – see Subsection 3.5).
- Supports the LTO y PTF in project implementation and monitoring, if required.
- Supports the LTO and BH in the development of the first draft TOR of the team in charge of the final evaluation. Reviews the composition of the evaluation team and supports the evaluation activity.

The FAO-GEF Coordination Unit acts as Liaison Officer with the Donor. The FAO-GEF Coordination Unit will review the Project Progress Reports and financial reports and clear budget revisions based on the AWP/B. This unit will review and approve the annual PIR and carry out supervision missions, as necessary. The PIR will be included in the annual follow-up report of the FAO-GEF portfolio evaluation that the Unit will send to the GEF. The Unit may also participate in mid-term and final evaluations and the development of corrective actions in the project implementation strategy to mitigate eventual risks that may affect the timely and effective implementation of the project. The Unit, in collaboration with the FAO Finance Division, will request transfer of project funds from the GEF Trustee, based on semi-annual projections of need for funds.

The FAO Finance Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the FAO-GEF Coordination Unit, will put biannual funds request to the GEF Trustee.

Project decision-making mechanism

The PSC is a governing consultative body and its main functions are: i) supervise and support the PMU for the successful implementation of the project components; ii) coordinate and manage the in kind and/or cash contribution agreed by each participating institution, as well as other funding sources in line with the objectives of the Project, through institutional means; iii) review and agree on the strategy and methodology of the project submitted by the NPCU, as well as changes and modifications stemming from its field application; iv) convene and organize meetings with the different national, regional and community actors of the Project; v) promote agreements and other type of collaboration with national and international organizations.

Responsibilities: Endorse work plans, annual budgets and progress reports drawn up by FAO with the assistance of the UCNP. All PSC decisions shall be adopted by consensus. The PSC will meet in regular session every three months; however, if its members deem necessary, the SC may convene special meetings. One of these SC meetings should be held in December each year, during which the work plan and project budget for the next annual period shall be approved.

The Regional Technical Committees are governing bodies responsible for the specific project supervision in the respective region (one in Arica and Parinacota, one in Biobio). Their functions are: a) provide general strategic and implementation guidance to the project, b) support and advise the Project Management Unit (PMU) in operating, technical, scientific, and interinstitutional coordination aspects, and c) support the coordination to achieve project goals and activities in the respective region according to the Annual Operating Plan. This Committee will meet in plenary sessions at least twice a year, will make decisions by consensus, with no quorum requirements and procedures and mechanisms shall be adopted at its first meeting, including the establishment of Subcommittees by territory/species. The Subcommittees will meet as often as necessary.

The Regional Technical Committee of Biobio has the following Subcommittees:

Subcommittee Zorro Chilote: Manager of Nahuelbuta National Park, School of Forest Sciences of Universidad de Concepción, representative of AUMEN, in charge of fauna of Bioforest, representative of MININCO, Ética en los Bosques, Chiloé Silvestre and the regional manager of Natural Resources and Biodiversity of the MMA.

Subcommittee Huemul: representative of AUMEN, Biodiversity Conservation Section of CONAF, in charge of fauna of Bioforest, CODEFF and the regional manager of Natural Resources and Biodiversity of the MMA.

Subcommittee Keule: School of Forest Sciences of Universidad de Concepción, Fundación Keule, Biodiversity Conservation Section of CONAF, in charge of flora of Bioforest, CODEFF and the regional manager of Natural Resources and Biodiversity of the MMA.

During the first RTC meeting of Arica and Parinacota, the need to create subcommittees for that region will be analyzed.

Experts will be invited by the Regional Technical Committee and Subcommittees to the sessions who will report to the National Steering Committee.

3.3. FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is **USD9,022,027** of which **USD2,411,416** (two million four hundred eleven thousand, four hundred sixteen US dollars) will be financed by a GEF grant and **USD6,610,611** will be co-financed by MMA, CONAF, SAG, the NGOs AUMEN, Ética en los Bosques and Fundación Keule; private companies PIONEER and ARAUCO. FAO, as GEF agency, will be responsible only for the execution of GEF resources and FAO co-financing.

3.3.1 Financial plan (by component, output and co-financier)

Table 3.1 shows the cost by component, outcome and co-financier. Table 3.2 shows sources and types of confirmed co-financing. FAO, as GEF implementing agency, shall only be responsible for the execution of the GEF resources and FAO co-financing.

Table 3.1 Financial Plan (per component and co-financier)

Component/ output	MMA	SAG	CONAF	AUMEN	Fundación KEULE	Ética en los Bosques	Aves Chile	Forestal Arauco	Pioneer	FAO	Total Co-financing	% Co-financing	GEF	% GEF	Total
Component 1: Awareness and capacity development	**337.500**	**61.875**	**350.001**	**158.400**	**6.000**	**169.500**	**160.000**	**150.000**	**300.000**	**31.000**	**1.724.276**	**71%**	**704.742**	**29%**	**2.429.018**
1.1.1: Information mechanism	150.000	50.625	107.143	17.000	-	9.500	160.000	100.000	100.000	-	694.268	87%	103.717	13%	**797.985**
1.1.2: Environmental education programs	112.500	5.625	71.429	141.400	6.000	160.000	-	50.000	100.000	-	646.954	81%	150.509	19%	**797.463**
1.1.3: Tools to implement good practices	75.000	5.625	171.429	-	-	-	-	-	100.000	31.000	383.054	46%	450.517	54%	**833.571**
Component 2: Integrated territorial management based on good practices	**675.000**	**101.250**	**592.858**	**48.400**	**22.000**	**116.500**	**690.000**	**247.242**	**116.010**	**250.000**	**2.859.260**	**71%**	**1.151.310**	**29%**	**4.010.570**
2.1.1: Planning tools for managing protected areas and their zones of influence	112.500	-	207.143	-		8.500	160.000	50.000	-	-	538.143	58%	390.917	42%	**929.060**
2.1.2: Good practices	262.500	50.625	242.857	48.400	10.000	108.000	210.000	100.000	100.000	250.000	1.382.382	70%	583.923	30%	**1.966.305**
2.1.3: Good practices recognition systems	75.000	50.625	-	-		-	-				125.625	60%	82.717	40%	**208.342**
2.1.4: Public-private partnerships	112.500	-	71.429	-			160.000	97.242			441.171	91%	43.717	9%	**484.888**
2.1.5: Funding proposals	112.500	-	71.429	-	12.000		160.000		16.010		371.939	88%	50.037	12%	**421.976**
Component 3: Mainstreaming conservation criteria of endangered species	**267.921**	**11.250**	**277.731**	**9.400**	**-**	**9.000**	**-**	**-**	**-**	**-**	**575.302**	**67%**	**282.179**	**33%**	**857.481**
3.1.1: RECOGE plans	150.000	5.625	102.857	9.400		3.000	-				270.882	80%	69.517	20%	**340.399**
3.1.2: Municipal ordinances	50.000	5.625	71.429	-		6.000	-				133.054	53%	120.145	47%	**253.199**
3.1.3: Funding proposals	67.921	-	103.445	-		-	-				171.366	65%	92.517	35%	**263.883**
Component 4: M&E	**260.500**	**17.194**	**202.857**	**5.200**	**-**	**6.000**	**400.000**	**-**	**-**	**25.000**	**916.751**	**85%**	**158.356**	**15%**	**1.075.107**
4.1.1: Monitoring system and evaluation	165.000	5.625	107.143	**5.200**		3.000	200.000			25.000	510.968	94%	33.589	6%	**544.557**
4.1.2: Mid-term review and final evaluation	75.000	11.569	35.714	-		3.000	-				125.283	58%	91.119	42%	**216.402**
4.1.3: Good practices and learned lessons	20.500		60.000	-		-	200.000				280.500	89%	33.648	11%	**314.148**
Project management	**100.000**	**8.750**	**200.000**				**201.272**			**25.000**	**535.022**	**82%**	**114.829**	**18%**	**649.851**
Total Project	**1.640.921**	**200.319**	**1.623.447**	**221.400**	**28.000**	**301.000**	**1.451.272**	**397.242**	**416.010**	**331.000**	**6.610.611**	**73%**	**2.411.416**	**27%**	**9.022.027**

Table 3.2 Confirmed sources of co-financing

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount ($)
Central government	MMA	Cash	358,070
Central government	MMA	In kind	1,282,851
Central government	SAG	Cash	30,000
Central government	SAG	In kind	170,319
Central government	CONAF	In kind	1,623,447
NGO	AUMEN	Cash	61,400
NGO	AUMEN	In kind	160,000
NGO	Fundación KEULE	Cash	3,000
NGO	Fundación KEULE	In kind	25,000
NGO	Ética en los Bosques	Cash	24,000
NGO	Ética en los Bosques	In kind	277,000
NGO	Aves Chile	Cash	1,047,636
NGO	Aves Chile	In kind	403,636
Private	Forestal Arauco	In kind	397,242
Private	DuPont Pioneer Chile Ltda.	In kind	416,010
GEF Agency	FAO	Cash	31,000
GEF Agency	FAO	In kind	300,000
Total Co-financing			**6,610,611**

3.3.2 GEF Input

GEF contributions will be distributed across the four components, focusing on: (i) the hiring of the consultant team, either full-time and part-time, that will be part of the project PMU; (ii) awareness activities in local actors about the relevance of the conservation of endangered species; (iii) capacity development of civil servants and farmers in good agriculture and forestry sustainable practices; (iv) methodology standardization of species monitoring and training of local monitors; (v) technical assistance and investments for the implementation of good agriculture and forestry practices in influence zones; (vi) meetings and enquiry workshops and validation of planning methodologies; (vii) design of recognizing mechanisms for good practices, and (viii) supervision and evaluation activities of the Project.

3.3.3 Government input

All the co-financers will contribute partially to the Management Costs of the Project. Table 3.1 above contains the details of the Financial Plan. The co-finance for the technical component is the following:

The MMA co-finances mainly the activities related to design, validation and implementation of RECOGE plans and management plans in the areas of influence of protected areas, through the participation of its specialists, travel financing and spreading activities. In addition, it will give support through its staff and travel costs for the standardization activities of species monitoring. SINIA platform will be available to design the Information System of the Project. Through its plan of Environmental and Participation Education will assign resources and personnel for the project direction, its monitoring and the coordination of activities at a national and regional level, also ensuring transversal actions of knowledge and learning management.

The Ministry of Agriculture, through the CONAF, provides the project with native trees nurseries, for reforestation in Arica and Parinacota and Bio Bio, for Keule. In addition, its specialists will coordinate with the MMA the design of management plans in the influence zones of protected areas, and will support the coordination of public-private activities. CONAF will provide resources for environmental education and monitoring data.

The SAG will provide the Project with its personnel and will finance travels for technical assistance and strengthening of good practices.

3.3.4 FAO Contributions

FAO will contribute with USD 331.000 divided in three parts. On one side, an investment of USD 6.000 in cash, from the regular program of the organization, in the development of two training courses. The first one it is a good practices course for the management and proper use of pesticides with bio beds, which will include the elaboration of a technical manual about what is a bio bed, how it works, the building costs, importance, specifications and installation procedures and recommendations.

Likewise, FAO will invest in the design of self-learning modules about agriculture good practices in the region, for USD 25.000. Both courses will be used for the personnel training programs of MMA, CONAF and SAG and they will allow equalizing the level of knowledge about agriculture and forestry good practices. This will contribute directly to the generation capacity products of the component 1 and the implementation of good practices of component 2.

On the other side, in support of the component 2, FAO will invest USD250,000 in cash and goods, through hours/person and field trips of the technical personnel that will advise the project, in relation to plagues management in the agricultural and forestry sector, good farming practices, technical assistance in sustainable forestry management and soil recovering processes.

For the monitoring and follow-up activities, FAO will invest USD 50,000 in hours/person of the technical personnel assigned to the project (Leader Technical Officer and members of the Interdisciplinary Working Group)

3.3.5 Other co-financier's inputs

The Project includes the participation of the NGOs and private companies operating at a regional level, as described in subsection 1.3.3. Co-financing from these institutions is detailed bellow:

NGO AUMEN	Technical assistance, transport expenses, monitoring equipment, horses and cars renting, fuel, design and printing of awareness material for the Chilean huemul conservation.
NGO Fundación KEULE	Conservation initiatives, propagation nursery, social and legal work with communities for the conservation of keule.
NGO Ética en los Bosques	Assistance of investigators, volunteers, rental cars, transport costs and food for the conservation of Darwin's fox.
NGO Forestal Arauco	Camera traps, data analysis, potential distribution analysis, habitat analysis, radio collar, path radios, connectivity analysis, vegetation analysis and computers for the conservation of Darwin's fox.
DuPont Pioneer Chile Ltda.	Translation Spanish- English for the web page of the Chilean woodstar of Arica, restoration activities in the corridor area of the Chilean woodstar of Arica, characterization of protected areas, plan for environmental education, practical development manual for restauration in the corridor and development of protected area.

Aves Chile	Prospecting campaigns, participation in meetings, workshops and congresses, rental cars and professional fees of personnel related to the project management. Office and field materials and instruments, house-office rental in Arica and offices in Santiago, Thesis support in research for generation of information about the Chilean woodstar of Arica.

3.3.6 Financial management and reports on GEF resources

Financial management and reporting on GEF resources will be made according to FAO rules and procedures and the agreement between FAO and the GEF Trustee. In accordance with the activities detailed in the budget, FAO will make disbursement, procurement and contracts for the total amount of GEF resources.

Financial records. FAO shall maintain a separate US dollar account for the GEF resources for the project, showing income and expenses. Expenses incurred in currencies other than US dollars are converted to US dollars at the operational United Nations exchange rate on the date of the transaction. FAO will manage the project in accordance with its rules, regulations and directives.

Financial reports. The BH shall prepare the accounts of biannual and end of project expenses. The report will show the budget for the year, the amount spent from the beginning of the year and accumulated from the beginning of the project and obligations (commitments) not settled, as follows:

1. An annual financial report on project expenditures for each outcome, reported in budget lines as indicated in the project budget (Appendix 3 of this Project Document), as of June 30 and December 31 each year.
2. A final statement of account upon completion of the project, per each component and project outcome, in line with the project budget (Appendix 3 of this Project Document).
3. A final statement of account in line with FAO Oracle project budget codes, reflecting actual final expenditures under the project when all obligations have been settled.

Financial statements: Within 30 working days as of the end of each semester, that is, on or before July 31 and January 31, the FAO Representative in Chile will issue biannual statements of GEF resources expenditures, to be submitted to the Steering and Liaison Committees, which will be included in the PPR. The purpose of the biannual financial report is to compare the expenses incurred by the project compared to the budget, thereby monitoring the progress of the project and reconcile the significant progress during the semester. The financial report shall contain information that will serve as the basis for a periodic budget review.

The BH will send these financial statements for review and monitoring by the LTO and the FAO-GEF Coordination Unit. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions of the Financial Procedures Agreement between FAO and the GEF Trustee and submitted by the FAO Finance Division.

Responsibility for cost overruns. The BH shall utilize the GEF project funds in strict compliance with the Project Budget (Appendix3) and the AWP/B approved. El BH shall be authorized to make variations of the project budget provided that the total allocated for the specific budgeted project component is not exceeded as per the project Outcomes Framework (Appendix 1). A budget review by the BH will be submitted to the LTO and the FAO-GEF Coordination Unit for approval, at least once a year and through the FPMIS. Cost overruns shall be the sole responsibility of the Budget Holder.

Audit. The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between FAO and the GEF Trustee.

The audit regime of FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member country appointed by the Governing Body of the Organization and reporting directly to them. An internal audit is headed by the Inspector-General of FAO, who reports directly to the Director-General. This system operates as an integral part of the Organization according to the policies established by the Senior Management, and reports directly to the Governing Body. Both audits are required under the Basic Texts of FAO, which establish a framework of terms of reference of each. Internal audits of the accounts, accounting records, bank reconciliation and asset verification take place at FAO field offices, cyclically.

Disbursement of Funds: FAO will be responsible of the disbursements of Funds for the Annual Work Plan and Budget (AWP/B) approved by the Regional Steering Committee. Disbursements and commitments exceeding USD 5,000, shall require approval of the National Director of the Project.

An estimated GEF grant of USD 180,000 will be transferred in three amounts of USD 60,000 each, for the NGOs Etica de los Bosques, Aumen and Aves Chile, through Letter of Agreements (LOAs), for the supply of the following services:

LOA Etica Los Bosques (monitoring Darwin's fox and Nahuelbuta good practices)	60.000
LOA Aumen (monitoring Chilean huemul+ RBCHL good practices)	60.000
LOA Aves de Chile (monitoring Chilean woodstar+ good practices)	60.000

3.4 PROCUREMET

Upon request of the Government of Chile, FAO will procure the equipment and services provided for in the detailed budget (Appendix 3 of this Project Document) and in the AWP/B following FAO rules and regulations.

Careful planning of procurement and contracts is necessary to ensure that goods, services and contracted works are received at the right time and according to the 'best value for money' principle and to the rules and regulations of FAO. An analysis of the needs and constraints is required, including a reasonable projection of the time required to conduct a procurement process. Procurement and output delivery for technical cooperation projects follow the rules and procedures of FAO for the procurement of materials, equipment and services (for example, sections 502 and 507 of the Manual). Section 502 'Procurement of Goods, Works and Services', establishes the principles and procedures that apply to the acquisition of all goods, works and services by the Organization in all its offices, except for procurements described in Appendix A – Procurements that are not governed by section 502 of the Manual. On the other hand, Section 507 of the Manual sets out the principles and regulations governing the use of Letters of Agreement (LOA) on the part of FAO for an adequate procurement of services from eligible entities in a transparent and impartial manner, considering cost and efficiency to achieve an optimum combination of expected benefits and costs ('best value for money').

The BH shall prepare an annual procurement plan for main services and products, which will be the basis of procurement orders during the implementation. The first procurement plan will be updated during the project inception. The plan should include a description of the goods, services and works to be procured, the estimated budget and the source of funds, the schedule of the procurement process and methodology. When accurate

information is not available, the procurement plan shall provide at least reasonable projections, which will be adjusted as the information become available

Before the commencement of procurement, the National Project Coordinator shall submit the project Procurement Plan (Appendix 5) to the Steering Committee for approval. The plan will be reviewed during the inception workshop and shall be approved by the FAO Representative in Chile. The procurement plan shall be updated by the Project Coordinator every six months and submitted to and cleared by the FAO Representative in Chile

Procurements and contracts within the framework of the LOA with WCS are also part of the supervision procedure of this Plan, which is described in the following paragraph. The procurement plan shall be updated by the PMU every six months and submit it to and cleared by the FAO Representative in Chile

The supervision of contracting and procurement processes will be executed as follows:

- All individual consultant contracts will be subject to a selection panel and prior clearance of contracting process, TORs and C*urriculum Vitae* (CVs);
- All consultant firms or NGOs contracts will be subject to the Regional Steering Committee clearance involved in the contracting process, Terms of Reference and technical proposals;
- All procurement of goods which are not included into the annual procurement plan, will be subject to prior clearance of the Regional Steering Committee, of bidding process of material and offers, technical specifications and/or price quotation comparison;
- All documentation related to non-expendable procurement and non-consultancy services related to training, workshops and WCS events under the LOA, shall be submitted to FAO for review together with the biannual financial statements and expenditure reports

3.5 MONITORING AND REPORTING

Monitoring and evaluation of progress in achieving project outcomes and objectives will be done based on the Targets and indicators established in the Project Outcomes Framework (Appendix 1 and described in subsection 1.3.2). The project monitoring and evaluations has been budgeted at USD$137,350 (see subsection 3.5.4). Monitoring and evaluation activities will follow FAO and GEF monitoring and evaluation policies and guidelines. The monitoring and evaluation system will also facilitate learning and replication of project outcomes and lessons in relation to the comprehensive natural resources management.

3.5.1 Oversight and monitoring responsibilities

At the beginning of the GEF project implementation, the PMU will establish a project progress monitoring system. Participatory mechanisms and methodologies will be developed to support monitoring and evaluation of outcome and output indicators. During the inception workshop (see Section below), monitoring and evaluation tasks will include: (i) presentation and clarification (if needed) of the Project Outcomes Framework with all project stakeholders; (ii) review of the monitoring and evaluation indicators and their baseline; (iii) drafting of clauses that have to be included in consultants' contracts to ensure they comply with monitoring and evaluation reporting functions (if appropriate); and (iv) clarification of the respective monitoring and evaluation tasks among the different project stakeholders. The Project Coordinator will prepare a draft of the monitoring and evaluation matrix which shall be discussed and approved by all key stakeholders during the inception workshop. The monitoring matrix shall operate as management instrument for the NPC, Regional Coordinators and Project Partners for: i) biannual monitoring of outcome indicators; ii) annual monitoring of

outcome indicators; iii) definition of responsibilities and means of verification; iv) selection of the data processing methodology.

The Monitoring Plan will be prepared by the project Coordinator during the first quarter of Year 1 and validated by the PSC. The Monitoring Plan will be based on the Monitoring Table (Table 3.4) and the Monitoring Matrix and will include: i) the updated outcomes matrix, with clear indicators disaggregated by year; ii) updated baseline, if necessary, and selected tools for information gathering; iii) a description of the monitoring strategy, including roles and responsibilities for data collection and processing, reporting flow, monitoring matrix and brief analysis of how and when each indicator will be measured. The project activities may coincide with data collection; iv) updated implementation arrangements, when necessary; v) inclusion of indicators of the GEF tracking tools, data collection and monitoring strategy for the mid-term and final evaluation vi) evaluation workshops schedule, including self-assessment techniques.

The continuous monitoring of the project implementation will be the responsibility of the Project Coordinator and will be driven by the preparation and implementation of an AWP/B based on biannual PPRs. The preparation of the AWP/B and biannual PPRs will represent the output of a unified planning process among main project stakeholders. As tools for outcome-based management, the AWP/B will identify the actions put forward for the coming year and provide the necessary details on output and outcome Targets and the PPRs will report on the monitoring of the implementation of actions and the achievement of output Targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with all stakeholders, which will be coordinated and facilitated through project planning and progress review workshops. These inputs will be consolidated by the Coordinator in the draft AWP/B and the PPRs.

There will be an annual project planning and progress review with the participation of the Project partners to finish the AWP/B and the PPRs. Once finished, the AWP/B and the PPRs will be submitted to the FAO LTO for technical approval and to the Steering Committee for review and clearance. The AWP/B will be developed in a manner consistent with the Project Outcomes Framework to ensure adequate fulfilment and monitoring of project outputs and outcomes.

Following the approval of the Project, the year one AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with the annual reporting calendar. In subsequent years, the AWP/B will follow an annual preparation scheme in line with the reporting cycle as specified in Section 3.5.3.

3.5.2 Indicators and information sources

In order to monitor project outputs and outcomes including inputs to global environmental benefits, specific indicators have been established in the Project Outcome Framework (see Appendix 1). The Outcomes Framework indicators and means of verification will be applied to monitor both project performance and impact. Following FAO monitoring procedures and progress reporting formats, data collected will be sufficiently detailed to be able to track specific outputs and outcomes, and flag project risks early on. Output Target indicators will be monitored every six months, and outcome Target indicators will be monitored on an annual basis, if possible, or at least, in the mid-term and final evaluations.

The project output and outcome indicators have been designed to monitor biophysical and socioeconomic impacts and the effective progress in capacity building for biodiversity management and conservation in forestry and agriculture systems that support to decrease the habitat reduction and, therefore, the extinction of the Darwin’s fox, Chilean huemul and Chilean woodstar of Arica. Key indicators of the project are presented below:

Result 1.1 Strengthened capacity of local actors to implement forestry and agriculture good practices that consider the habitat conservation of the four threatened species (Chilean woodstar of Arica, Chilean huemul, Darwin's fox and keule).

- Indicator 1: Number of sensitized people about the importance of conservation of the four threatened species.
- Indicator 2: Number of trained people to implement good forestry and agriculture practices and that consider the conservation of the threatened species.

Result 2.1. The population of the four threatened species is stabilized thanks to the reduction of the pressure in their habitats, due to the territory planning and management under the consideration of biodiversity conservation.

- Indicator 3: Surface areas of influence under the implementation of good practices.
- Indicator 4: Number of the population of threatened species

Result 3.1 Public policies and regional regulatory periods incorporate the conservation criteria of the four threatened species from the experiences of the territory management in component 2.

- Indicator 5: Number of regional public policies that mentioned the biodiversity conservation criteria.

Main information sources to support the M&E plan include: i) participatory monitoring system of the project, ii) participatory workshop to review progress with actor and beneficiaries; iii) in-situ monitoring of the good practices implementation; iv) progress reports prepared by / CRP with the inputs of the project team and implementing partners ; v) enquiry reports; vi) training reports; vii) midterm review and final evaluation ; viii) financial reports and budget reviews ; ix) Project Implementation Reports and x) FAO monitoring mission reports.

3.5.3 Reporting schedule

The specific reports that will be prepared under the monitoring and evaluation plan are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) Annual Project Implementation Review (PIR); (v) Technical reports; (vi) Co-financing reports; and (vii) Final Report. In addition, in relation to mid-term and final evaluations the GEF[40] Tracking Tool (Appendix 4) will be completed to compare progress against the baseline established during project preparation.

Project Inception Report: an inception workshop will be carried out after FAO's approval of the project. Immediately after the workshop, the PMU will prepare a project inception report in consultation with the OG of FAO office in Chile and other project stakeholders. The report will include a description of the institutional roles and responsibilities and coordination of project stakeholders, project progress and inception activities and an update of any changes in external conditions that may affect project execution. It will also include a detailed AWP/B for the first year, a detailed project monitoring plan based on the monitoring and evaluation plan presented in Section 4.5.4 (see below). The draft of inception report will be circulated to FAO and the Management and Steering Committees for review and comments before its finalization, no later than three months after project inception. The report shall be cleared by the BH, LTO, and the FAO-GEF Coordination Unit that will upload the AWP/B to the FPMIS.

Annual Work Plan and Budget (AWP/B): the PMU shall submit a draft AWP/B to the Regional Steering Committee no later than 20 January each year. The AWP/B shall include detailed activities to be executed for each project output on monthly basis and dates when targets and milestones for output indicators are expected

[40] *GEF Biodiversity Tracking Tool.*

to be achieved during the year. A detailed budget for the project activities to be carried out during the year shall also be included together with all necessary monitoring and supervision activities. The OG will circulate the draft AWP/B to the FAO interdisciplinary team for review and consolidate and submit the FAO comments to the PMU to be included together with those of the Technical Committee. The final AWP/B shall be sent to the Regional Steering Committee for approval and to FAO for final clearance and upload to FPMIS by the OG.

Project Progress Reports (PPRs): the PMU shall prepare quarterly PPRs and submit them to the Regional Steering Committee and to the FAO Representative in Chile no later than 15 days following the end of the semester. The first PPR of the year should be accompanied by the updated AWP/B, if needed, for review and clearance of FAO. The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation of the project and take appropriate corrective measures. The PPRs will be prepared with the information provided by the systematic monitoring of output and outcome indicators identified in the Project Outcomes Framework (Appendix 1). Each trimester, the OG will review the PPR and collect and consolidate FAO comments (LTO, FAO-GEF Coordination Unit, BH) and send them to the PMU to be submitted to the Regional Steering Committee. Once comments have been duly incorporated, the LTO will give final approval and send the final PPR to the FAO-GEF Coordination Unit for final approval and uploaded to FPMIS.

Annual Project Implementation Review (PIR): the LTO supported by the FAO OG and with inputs from the PMU, will prepare an Annual Review Report of Project Execution covering the period from July (the previous year) to June (current report year) to be submitted to the FAO-GEF Coordination Unit for review and approval no later than 31 July. The FAO-GEF Coordination Unit will upload the final PIR to FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the annual monitoring Review report of the FAO-GEF portfolio. The FAO-GEF Coordination Unit will provide the updated PIR format to the LTO, upon request.

Technical Reports: technical reports will be prepared as part of project outputs and to document and share lessons learned. The drafts of any technical reports must be submitted by the PMU to the Regional Steering Committee and to the FAO Representation in Chile who will share it with the LTO for review and clearance and with the FAO-GEF Coordination Unit for information and comments, prior to finalization and publication. Copies of the technical reports will be distributed to the Regional Steering Committee, Technical Committee and other project stakeholders, as appropriate. The final reports will be uploaded to the FAO FPMIS by the OG.

Co-financing Reports: the PMU shall be responsible for collecting the required information on in-kind and cash co-financing provided by current and unforeseen project co-financiers. Each year, the PMU will submit these reports to the FAO Representation in Chile prior 31 July, covering the period from July (the previous year) to June (report year).

GEF Tracking Tools: following the GEF policies and procedures, the tracking tools for the biodiversity focal area will be submitted to the GEF Secretariat in three opportunities: (i) with the project document for the GEF Executive Director endorsement; (ii) with the project's mid-term evaluation; and (iii) with the project's final evaluation.

Final Report: within three months prior the end date of the project, the PMU shall submit to the National Steering Committee and the FAO Representation in Chile a draft Final Report. The main purpose of the Final Report is to provide guidance, at ministerial or senior government level, on policy decisions required to track the Project and provide the donor with information on how the funds were utilized. Hence, the final report will be a concise account of the main outputs, outcomes, conclusions and recommendations of the Project, without unnecessary background information, narrative or technical details. The report is addressed to persons who are not necessarily technical specialists but who need to understand the policy implications of technical

findings and needs for ensuring sustainability of project outcomes. The final report will provide an evaluation of the activities, a summary of lessons learned and recommendations in terms of their application to future mainstreaming of IAS management, conservation and management of biodiversity according to national and regional development priorities, as well as in terms of practical execution. This report will specifically include the conclusions of the final evaluation as described in Section 3.6. There will be a final project review meeting to discuss the draft Final Report with the Regional Steering Committee before it is finalized by PMU and approved by the LTO and the FAO-GEF Coordination Unit.

3.5.4 Summary of the monitoring and evaluation plan

The table below provides a summary of the main monitoring and evaluation reports, responsible institutions and deadlines.

Table 3.3 Monitoring plan

M&E Activities	Responsible institutions	Period /Periodicity	Budget
Inception workshop	PMU; FAO (GO with the support of the LTO, BH and the FAO-GEF Coordination Unit)	Three months as of project inception	3,500
Project inception report	PMU and FAO GO approved by the LTO, BH and the FAO-GEF Coordination Unit	15 days after project inception	3,000
Monitoring of 'field' impact	PMU; institutions and organizations participating in the project	Continuous	21,600
Supervisions and progress assessment in PIR	PMU; FAO (OG, LTO, la FAO-GEF Coordination Unit)	Annual, or as requested	3,600
Project Progress Report (PPR)	PMU, with inputs from the institutions participating in the project	Quarterly	14,400
Annual Project Execution Review Report (PIR)	FAO (LTO and GO) with the support of the PMU. Approval and submission to the GEF by the FAO-GEF Coordination Unit	Annual	3,450
Evaluation of technical reports	PMU; FAO (LTO, GO)	As appropriate	n.c.
Co-financing reports	PMU with inputs from co-financing institutions	Annual	1,800
Mid-term Independent Evaluation (MTE)	External consultant, project team, including the GEF Coordination Unit and other stakeholders	Halfway through the project implementation	40,000
Final Independent Evaluation (FIE)	External consultant, FAO Independent Evaluation Unit in consultation with the project team, including the FAO-GEF Coordination Unit and other stakeholders	At the end of the project implementation	40,000
Final report	PMU; FAO (GO, LTO, FAO-GEF Coordination Unit, the Report Unit TSCR)	Three months before the end date of the Execution Agreement	6,000
TOTAL			**137,350**

3.6 EVALUATIONS

After 15 months of project inception, the BH will organize a Mid-Term Evaluation (MTE), in consultation with the Steering Committee, the LTO and the FAO-GEF Coordination Unit. The aim of the MTE is to review the project progress and efficient implementation in terms of the achievement of objectives, outcomes and outputs. The MTE will allow the implementation of corrective measures, if needed. The MTE will provide a systematic analysis of the information included in the Monitoring Plan (see above), with emphasis on the achievement of expected targets of outcomes and outputs in terms of expenditures. The MTE will make reference to the project budget (see Appendix 3) and the AWP/B approved for years one and two. The MTE will enhance good practices to replicate and main problems faced during project execution and will suggest mitigation measures to be discussed by the PSC, the LTO and the FAO-GEF Coordination Unit.

An independent Final Evaluation (FE) will be carried out three months prior to the final report meeting. The FE will aim to identify the project impacts, sustainability of outcomes and the probability to achieve long-term outcomes. The FE will also indicate future actions needed to expand the project in subsequent phases, mainstream and up-scale its outputs and practices, and disseminate information to management authorities and institutions with responsibilities for IAS management, eradication, control and monitoring as well as the recovery of fragile ecosystems to ensure continuity of the processes initiated by the Project. Both, the MTE and the FE will pay special attention to outcome indicators and to the alignment with the GEF tracking tool (BD focal area).

3.7 COMMUNICATION AND VISIBILITY

A number of project activities will approach the visibility of the same and include the mechanisms to ensure that communications in support of the project´s messages are effective.

These activities include: (i) publication of lessons learned and best project practices; (ii) publication of demonstration manuals and outreach material for different audiences; (iii) communication activities carried out by the project and partners, including dialogue with local and national media; (iv) local capacity building in education and awareness of the relevance of local biodiversity; (v) activities of information and raising awareness for decision makers; and (vi) proposals of policies and action plans to foster conservation and sustainable management of biodiversity.

Furthermore, the project will ensure the mechanisms to widely disseminate the documents produced by the project, in particular, the Final Report, technical reports and the mid-term and final evaluation reports

SECTION 4 – SUSTAINABILITY OF OUTCOMES

The project has been designed to remove the identified barriers and create an enabling environment for the conservation of these four emblematic species and their habitats, building capacities for the implementation of best agricultural and livestock practices and sustainable forest management to reduce pressure on the ecosystems in which they live.

It is expected that from year 3 of the project, institutions, communities and stakeholders are able to continue with the activities undertaken by the project.

Factors that will facilitate social, environmental and economic sustainability and capacity building are detailed below.

4.1 SOCIAL SUSTAINABILITY

The social sustainability of project activities will be achieved through a participatory strategy aimed at strengthening the role of local communities and local organizations in the activities, building institutional capacities and monitoring. Specifically, the project will support:

- **Gender:** The project will mainstream gender issues in all its components. The project will emphasize the participation of women, empowering them to take part in planning, making decisions and to improve their productivity, incomes and livelihoods. The participation of women and youth will also be promoted through workshops and consultation and validation processes to be carried out as part of the project intervention strategy. Training activities will be carried at times when women can participate without disturbing their daily activities. In component 1, the participation of at least 40% of women in environmental education programmes will be encouraged. In Component 2, at least 40% of women will participate in the implementation of good practices that incorporate the conservation of the four endangered species and reduce pressure on their habitats. The selection of good practices on each project site will take into account the activities currently undertaken by women, as well as potential activities that may be of interest to them. At the same time, the mechanism to disseminate experiences will incorporate women beneficiaries in other regions. For the system of recognition of biodiversity conservation, the participation of women will be promoted. Data will be disaggregated by gender to monitor the differentiated impacts of the project, and women will be involved and represented in all project activities.
- **Food security**: The project will support local communities to implement good agriculture practices, thus contributing to the local and national food security, given that the population will have better physical, social and economic access to safe and nutritious food and availability of products from agriculture to meet their nutritional requirements and food preferences
- **Ownership of project processes by local communities**: the project will ensure active participation and empowerment of local communities in the expansion and accreditation of good practices and participation of the communities in the development of local regulations (regional and municipal). At the end of the project, communities will also have participated in the design of programs and projects to finance conversation of biodiversity.

Another factor of social sustainability is the active participation of organizations and private companies in the project outputs, allowing them to take ownership of techniques and methods and disseminate them among peers. In addition, the project will seek to identify local socioeconomic benefits in terms of incentives and sustainability of the activities after project implementation.

4.2 ENVIRONMENTAL SUSTAINABILITY

The environmental sustainability will be ensured through the incorporation of conservation criteria of the four endangered species into the management of “development border" priority territories. The implementation of best agricultural practices and sustainable forest management in buffer zones and the establishment of biological corridors on these productive spaces will ensure the survival of the four species and connect the core zones of protected areas and micro-reserves, avoiding fragmentation of ecosystems.

The project will also contribute to raise awareness of the threats of poor forestry, farming and cattle practices to the four endangered species and build capacities for the implementation of good practices in the productive sectors to reverse this situation. The increase in capacities to implement best agricultural practices, carry out local monitoring and design biodiversity friendly policy frameworks will improve the production, safety and prevention conditions of local communities, which in turn will result in a decrease of the impact on the four species and their habitats and a reduce pressure on their ecosystems.

Increased capacities of local communities to recognize the threat to the four invasive species and to adapt their agricultural activities in a way that it is friendly to them and their habitats will result hopefully in a decrease in the extinction levels the species.

4.3 FINANCIAL AND ECONOMIC SUSTAINABILITY

The financial and economic sustainability of the project activities will be achieved to the extent that these activities are financially and economically viable for the parties involved, including local communities and regional organizations. The project completes and expands capacities and policy frameworks at regional and municipal organizations. These capacities remain installed ensuring the continuity of the implementation of good practices, thereby ensuring project investments.

A biodiversity friendly production system will ensure the sustainable and appropriate use of natural resources needed to provide food, improve the economic and social situation of people and meet the needs of future generations, especially in rural areas.

The system of recognition of biodiversity conservation will promote the implementation of GAP and will promote trading of products under the recognition systems. The analysis of the consumers shows that more than 50% of respondents express their willingness to pay more for products bearing a seal. The project will contribute with the participatory design of a recognition system that will enable the environment for increase in the income generation, and will coordinate with the baseline activities such as INDAP’s "Sello Manos Campesinas".

4.4 SUSTAINABILITY OF CAPACITIES DEVELOPED

Capacity development (CD) represents one of the key pillars to ensure sustainability of the project both in terms of the areas of intervention and the institutional environment. CD conceived as a core function that crosses the three components of the Project, being an integral part of their respective outcomes.

The project will address two dimensions of the capacity development according to the approach developed by FAO on sustainability: i) individuals (farmers, members of their families and communities, high school students, society in general); and, ii) institutions (public and private, regional and local). The interaction between community members, private companies and regional and local government institutions and between institutions will also be addressed.

The project will strengthen the institutional capacities to create an enabling environment for the conservation of the four threatened species. This will be achieved by increasing knowledge about threats and adverse effects

unsustainable agriculture and forest management has on the habitats of these species; improving availability and access to information on that subject; monitoring of the species; and developing the capacity to plan, lead, manage and support initiatives for biodiversity conservation to be incorporated into local systems and processes in a sustainable manner.

The project will develop technical skills in the field of Good Agricultural Practices (GAP) and Sustainable forest management (SFM), improving the knowledge based on biodiversity conservation, measures and strategies to promote sustainable use of livelihoods in a context where habitats of the four species are vulnerable, thus threatening their survival. At the local level, the project will strengthen the practical and theoretical knowledge of local communities and government officials, through workshops, training activities and participation in the design and implementation of project activities. Training activities will be scheduled to ensure the participation of beneficiaries, especially women. Partnerships with the private sector will contribute to strengthen local capacities through the dissemination of GAP.

The environmental education program of the project will support the capacity development throughout the whole project by raising awareness, understanding and knowledge on the value of biodiversity. The systematization of lessons learned will also contribute to the sustainability of capacities to be installed.

4.5 PERTINENCE OF TECHNOLOGIES INTRODUCED

Regarding outcomes and outputs that require technology transfer, it is not for the project to introduce a technological package as such, but to integrate and adapt the best available technology with practices and knowledge locally developed. This strategy is not only respectful towards the partners, but also friendly with the conservation of ecosystems. In this regard, training activities will provide a meeting point between science and practice to improve the efficiency of the actions at the local operating environment, without compromising its scientific rigor.

Training and technical assistance methodologies currently in use by FAO will be employed; methodologies that are known and accepted by both technicians and producers. In addition, the technical assistance and training will consider aspects related to the incorporation and dissemination of local wisdom of communities.

The project is innovative in terms of mainstreaming biodiversity conservation considerations in the production systems, not for the sustainable use of the specie per se, but for the need to carry out productive activities in a way that the habitat of the specie is not affected and the ecosystem is not altered. The key factor is raising awareness. While the Chilean legal framework promotes the classification and conservation of species, there are not coordinated mechanisms to do it and no knowledge among farmers, private companies and local governments, who are the ones responsible for the productive activities. The actions of the project on capacity building, coordination mechanisms, articulation between stakeholders and implementation of good practices are innovative and help reduce the threat on the species and its habitats. These actions will be replicated in other areas of the country.

4.6 REPLICABILITY AND SCALING UP

The project is based on existing scattered and poorly organized experiences and initiatives in the area and seeks to replicate and expand them through better systematization and institutionalization of good practices and approaches. Replication is needed in areas where the four threatened species are found but are not part of the project’s intervention areas. Through capacity building and the systematization of experiences, it will be possible to disseminate the information in other municipalities and regions.

First replication and scaling up activities will be financed by the project in output 2.1.5, which seeks to replicate the methodologies designed and implemented in other regions of Chile, where there are three of the four endangered species (Darwin's fox in Los Lagos, Keule in Maule and Chilean woodstar in Tarapaca). The material used in training activities that is validated in adjacent regions sharing the same problems of species conservation and distribution is obtained from components 1 and 2.

The FAO Representation in Chile will disseminate information on the outcomes and lessons learned with other FAO projects in the country, and through the Regional Office for Latin America and the Caribbean (RLC) with other countries in the region with similar characteristics and problems.

APPENDIX 1 RESULTS FRAMEWORK

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
Objective: Mainstreaming conservation criteria of the four critically endangered species (Darwin's fox, Chilean huemul, keule and Chilean woodstar) into the management of main "development border" territories in Arica y Parinacota and Biobio regions						
Component 1: Awareness and development of capacities to support the protection of four endangered species in Arica y Parinacota and Biobío Regions.						
Outcome 1.1. Strengthened capacity of local actors to implement best forestry, farming and cattle and forest practices including the conservation of the endangered species habitat (Chilean woodstar, Chilean huemul, Darwin's fox and keule).	Number of people sensitized about the importance of conservation of the four endangered species. Number of people trained in the implementation of best farming, forestry and cattle and forest practices that consider the conservation of the four endangered species	Isolated conservation and environmental education activities that inform on the species from the environmental perspective. There is no intersectoral coordination. There are no programmes that link the conservation of the four endangered species with the forestry, farming and cattle and forest sectors' management.	1000 school students, 500 people from municipalities selected. 700 civil servants, 100 farmers from municipalities selected.	2250 school students, 750 people from municipalities selected. 1500 civil servants, 350 farmers from municipalities selected.	Annual Project Implementation Review (PIR) Mid-term and final evaluations GEF monitoring tool	Political will of public-private institutions and civil society to improve their capacities, coordinate and collaborate to achieve the conservation of the four endangered species.
Output 1.1.1. Mechanisms to disseminate updated and permanent information on the status of the four species, that trigger the commitment of stakeholders, productive sectors and government, to biodiversity conservation at local scale.	Mechanisms to disseminate information on the status of the four species: 1. Public Information System 2. Monitoring of Darwin's fox 3. Monitoring of Chilean huemul 4. Chilean woodstar website	National System of Environmental Information with no specific data on the four species. No standardized Darwin's fox and Chilean huemul monitoring initiatives. Absence of Chilean woodstar monitoring.	4		System platform. Interface with SINIA. Standardized monitoring manuals per species. Chilean woodstar Website. PPR	

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
Output 1.1.2 Environmental education programmes on the conservation of endangered species for civil servants in charge of agricultural extension, schools and civil society	(a) Designed and implemented environmental education programmes for municipal schools (b) Percentage of municipal schools' students of communities selected that have been trained. (c) Environmental education programme for general population (d) # of people who participate in the programme (40% women)	MMA has carried out specific and isolated environmental communication activities at schools.	(a) 1 (c) 1	(b) 60% (d) 3000	Programme documents Contents and training and awareness material. Participants' record. Disaggregated data by gender PPR	
Output 1.1.3. Tools for the implementation of best agricultural, stock farming, forest and tourist practices at community level.	Best agricultural practices manuals for the use of chemicals and farm, livestock, forest and tourist management # of people trained (40% women)	Current outreach activities do not consider loss of biodiversity and impact on the four endangered species.	(a) Six manuals disseminated	(b) 300	Good practices contents and material Printed manuals Participants' record Disaggregated data by gender PPR	
Component 2. Integrated territorial management based on best forestry, farming and cattle and forest practices aimed at the recovery of four endangered species habitats in Arica y Parinacota and Biobio regions.						
Outcome 2.1. The populations of the four endangered species are stabilized by reducing pressure on their habitats, on account of planning and	Zones of influence under good practices implementation	0 ha		501,200 ha area under management plans (indirect); 10% of the total area under direct intervention	Annual Project Implementation Review (PIR) Mid-term and final evaluations.	Local stakeholders are aware of the impact that forestry, farming and cattle activities have on the four species habitats and participate actively in the

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
management of the territory with due consideration to biodiversity conservation.	# number of individuals of the endangered species population	Darwin's fox 50 Chilean huemul 80 Keule 5000 Chilean woodstar 400		Darwin's fox 50 Chilean huemul 80 Keule 5000 Chilean woodstar 400	Species monitoring report GEF monitoring tool	good practices implementation. Pressure on habitats decreases.
Output 2.1.1. Planning tools for managing protected areas and their zones of influence according to ecological corridors, including criteria for biodiversity conservation into productive forestry, farming and cattle and forest sectors.	Management plan of the proposed Cordillera de Nahuelbuta Biosphere Reserve and its zone of influence Management plan of the zone of influence of the RBNCHLL Proposal of a Micro-Reserves Network of the Chilean woodstar with the management plan of its zone of influence Proposals to create a Nature Sanctuary (in Caramávida Gorge and Santa Gertrudis river basin in the Cordillera Nahuelbuta).	Nahuelbuta National Park within Cordillera de Nahuelbuta, with a small extension (6,832ha) RBNCHLL approved without management plan. Properties with presence of Chilean woodstar with no status of conservation. Two areas in productive zones have been identified in Cordillera de Nahuelbuta.		1 Management plan approved 1 Management plan approved 1 2	Plan documents Validation workshops annual reports Participants' record PPR	
Output 2.1.2. Best forestry, farming and cattle conservation and biodiversity tourism practices, implemented by local	# of good practices that incorporate the conservation of the four endangered species and reduce pressure on its habitats	0		10	Field activities reports Photographic record	

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
smallholders in the zones of influence of protected areas, habitats of the four endangered species.	# of farmers implementing good practices (40% women).	0		300	Participants' record Disaggregated data by gender PPR	
Output 2.1.3. Good practices recognition systems that contribute to biodiversity conservation.	# of good practices recognition systems for the conservation of endangered species.	Organic certification Seal "Manos Campesinas" 0 mechanisms that incorporate the conservation of the four species.		1	Seals design and use manual Mechanisms validation workshops Participants' record (disaggregated by gender) Proposal submitted to the MMA PPR	
Output 2.1.4. Public-private partnerships that support the implementation of good practices based on recognition systems and biodiversity conservation.	# of public-private agreements, one per region.	Participation of NGOs and private companies in isolated species conservation activities in some zones. Little coordination with government institutions.		2	Documents of the agreement Working meeting minutes PPR	
Output 2.1.5. Proposal of protocols and census for Darwin's fox in Chiloe Island (Los Lagos Region), keule (Maule Region) and Chilean woodstar (Tarapacá Region).	# of conservation methodologies adapted and validated in three regions.	0		3	Field activities reports Darwin's fox monitoring document	

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
					Chilean woodstar prospecting activity document Mechanisms validation workshops Participants' record (disaggregated by gender)	
Component 3. Mainstreaming conservation criteria of endangered species in public policies and municipal regulatory frameworks in Biobio and Arica y Parinacota regions.						
Outcome 3.1. Public policies and regional regulatory frameworks incorporate conservation criteria of the four endangered species from territorial management experiences of component 2.	# of regional public policies that make reference to biodiversity conservation criteria.	Outdated conservation plans that provide additional information on the status of the species. New regulations for the classification of wild species.		4 RECOGE plans 5 municipal ordinance proposals	Annual Project Implementation Review (PIR) Mid-term and final evaluations GEF monitoring tool	Political will of regional and local authorities to incorporate conservation criteria of the four endangered species in the political framework, from the implementation of good practices.
Output 3.1.1. RECOGE plans designed (Darwin's fox and Keule), updated (Chilean huemul and Chilean woodstar) and under execution.	# of RECOGE plans designed and under execution	0		4	Plan documents Plans validation workshops Participants' record (disaggregated by gender) Ministerial decree on RECOGE plans PPR	
Output 3.1.2. Five municipal ordinances that incorporate	# of ordinance proposals designed.	0		5	Ordinances document	

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
the conservation of endangered species into the management of its territory.					Ordinances validation workshops Participants' record (disaggregated by gender) PPR	
Output 3.1.3. Funding proposals for the conservation of endangered species in land management.	# of funding proposals ready for submission to FNDR and other financing mechanisms.	0		4	Proposal documents Proposal validation workshops Participants' record (disaggregated by gender) PPR	
Component 4. M&E and information dissemination						
Outcome 4.1. Project outcome-based management approach	Project outcomes are achieved and show sustainability	Project Outcomes Framework with indicators, baseline and outcome and output goals validated with key stakeholders.	30-40% progress in achieving project outcomes	Project outcomes achieved and prove sustainability	Mid-term and final evaluations PIR	M&E system of the designed project, including monitoring of activities, verification mechanisms of outcome and output indicators compliance and M&E responsibilities, deadlines and budget.
Output 4.1.1 Monitoring and evaluation (M&E) system in operation, generating constant information on progress in meeting the goals of the project outcomes and outputs.	# of semi-annual Project Progress Reports (PPR).		3	3	PPR documents	
Output 4.1.2 Mid-term and final evaluation and implementation and sustainability strategies	Mid-term evaluation report Final evaluation report		1	 1	Evaluations report	

Outcomes chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions
adjusted to recommendations.						
Output 4.1.3 Good practices and lessons learned published	Systematization Good practices manuals for field officials in: eradication, control, early warning and restauration.		Experience systematization	Publications and manuals	Published texts	

APPENDIX 2. WORK PLAN

Output	Activities	Responsible Agency	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Component 1: Awareness and development of capacities to support the protection of four endangered species in Arica y Parinacota and Biobío Regions.														
Output 1.1.1 Mechanisms to disseminate updated and permanent information on the status of the four species, that trigger the commitment of stakeholders, productive sectors and government, to biodiversity conservation at local scale.	Mapping of the four species conservation activities.	Information System Consultancy												
	Design of the information system interfacing with SINIA.	Communicator												
	Design of the system's use training manual.	Regional Coordinators												
	System validation in workshops and implementation.	National Project Manager												
	Harmonize Darwin's fox and Chilean huemul monitoring protocols.													
	Agreements on information access mechanisms.													
	Instructors and data entering training methodology.													
	Protocols implementation.													
	Final evaluation of monitoring system.													
	Design of Chilean woodstar Website.													
Output 1.1.2 Environmental education programmes on the conservation of endangered species for civil servants in charge of agricultural extension, schools and civil society	Design of the environmental education programme for the four species (officers, schools and civil society).	Education Consultancy												
	Regional workshops to present it within RECOGE plans framework.	Technical Assistants												

Output	Activities	Responsible Agency	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	International conference on Chilean woodstar.	Regional Coordinators												
	Implementation of environmental education programmes.	National Project Manager												
	Awareness workshops													
Output 1.1.3. Tools for the implementation of good agricultural, stock farming, forest and tourist practices at community level.	Design of good practices manuals for local contexts.	NGOs												
	Good practices training.	Extension agent Technical Assistants Regional Coordinators National Project Manager												
Component 2. Integrated territorial management based on good forestry, farming and cattle and forest practices aimed at the recovery of four endangered species habitats in Arica y Parinacota and Biobio regions.														
Output 2.1.1 Planning tools for managing protected areas and their zones of influence according to ecological corridors, including criteria for biodiversity conservation into productive forestry, farming and cattle and forest sectors.	Development of a territory management plan in the zones of influence.	Regional Coordinators												
	Proposal validation in the communities.	Technical Assistants												
	Monitoring of plan implementation.	National Project Manager												
Output 2.1.2. Good forestry, farming and cattle conservation and biodiversity tourism practices, implemented by local smallholders in the zones of influence of	Good practices implementation in the productive systems.	Extension agent												
	Monitoring and assessment.	Regional Coordinators												

Output	Activities	Responsible Agency	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
protected areas, habitats of the four endangered species.		Technical Assistants National Project Manager NGOs												
Output 2.1.3. Good practices recognition systems that contribute to biodiversity conservation.	Mapping of producers interested in participating in the systems.	Regional Coordinators												
	Registry of farmers and their products.	Technical Assistants												
	Participatory design of recognition proposals.	National Project Management												
	Implementation of the recognition system.													
Output 2.1.4. Public-private partnerships that support the implementation of good practices based on recognition systems and biodiversity conservation.	Participatory design of private sector and public services partnerships.	Regional Coordinators												
	Signing of agreements.	Technical Assistants												
	Implementation of activities.													
	Systematization of experiences.	National Project Management												

Output	Activities	Responsible Agency	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Output 2.1.5. Proposal of protocols and census for Darwin's fox in Chiloe Island (Los Lagos Region), keule (Maule Region) and Chilean woodstar (Tarapacá Region).	Presentation of monitoring methodologies and outcomes in other regions.	Regional Coordinators Technical Assistants National Project Management												
Component 3. Mainstreaming conservation criteria of endangered species in public policies and municipal regulatory frameworks in Biobio and Arica y Parinacota regions.														
Output 3.1.1. RECOGE plans designed (Darwin's fox and Keule), updated (Chilean huemul and Chilean woodstar) and under execution.	Plan design per species.	Regional Coordinators Technical Assistants National Project Management												
	Presentation of plans approved by national and local stakeholders.													
	Plans implementation.													
Output 3.1.2. Five municipal ordinances that incorporate the conservation of endangered species into the management of its territory.	Analysis of regulatory instruments of five municipalities and four species.	Legal Consultancy Regional Coordinators												
	Participatory design of ordinances.													
	Submission of ordinance proposals.													
Output 3.1.3. Funding proposals for the conservation of endangered species in land management.	Participatory design of proposals from the experience of component 2 and submitted ordinances.	Proposals design consultancy Regional Coordinators												

Output	Activities	Responsible Agency	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		National Project Management												
Component 4. M&E and information dissemination														
Output 4.1.1 Monitoring and evaluation (M&E) system in operation, generating constant information on progress in meeting the goals of the project outcomes and outputs.	Inception workshop	Regional Coordinators												
	Preparation and validation of the AWP/B	National Project Management												
	Preparation and validation of the M&E plan.													
	Systematic monitoring of indicators and outcome/output goal indicators.	FAO LTO												
	Preparation of Project Progress Reports (PPR)													
	Preparation of annual reports (PIR)													
Output 4.1.2 Mid-term and final evaluations carried out and implementation and sustainability strategies adjusted to recommendations	Mid-term evaluation	Regional Coordinators												
	Final evaluation	National Project Management FAO LTO												
Output 4.1.3 Good practices and lessons learned published	Systematization of the environmental education and awareness experience, design of good practices and implementation training methodologies.	Regional Coordinators												
	Publication and dissemination.	National Project Management FAO LTO												

APPENDIX 3. PROJECT BUDGET

Oracle code and description	Unit	No. of units	Unit cost	Component 1	Component 2	Component 3	Component 4	PM	GEF	Year 1	Year 2	Year 3
				Outcome 1.1	Outcome 2.1	Outcome 3.1	Total					
5300 Salaries professionals												
National Operations and Budget Officer	month	36	3,190	0	0	0	0	114,829	114,829	38,276	38,276	38,276
5300 Sub-total salaries professionals				0	0	0	0	114,829	114,829	38,276	38,276	38,276
National consultants												
Regional coordinator - Arica	month	36	3,000	23,143	38,571	30,857	15,429	0	108,000	36,000	36,000	36,000
Regional coordinator - Biobio	month	36	3,000	23,143	38,571	30,857	15,429		108,000	36,000	36,000	36,000
Communication specialist (part time)	month	36	1,272	45,792	0	0	0		45,792	15,264	15,264	15,264
Administrative assistant (shared with the project).	month	36	1,363	13,382	22,304	13,382	0		49,068	16,356	16,356	16,356
Technical assistant - Arica	month	36	1,272	9,813	19,625	9,813	3,271		42,521	14,174	14,174	14,174
Technical assistant - BioBio	month	36	1,272	9,813	19,625	9,813	3,271		42,521	14,174	14,174	14,174
Consultancy for the design of the Information System (interfacing with SINIA, manuals and training) + design of the Chilean woodstar Website	lump sum	1	40,000	40,000	0	0	0		40,000	40,000		
Consultancy for the design of environmental education programmes for schools (project staff training)	lump sum	2	16,000	32,000	0	0	0		32,000	32,000		
Consultancy for the design of environmental education programmes for the population (project staff training)	lump sum	2	15,000	30,000	0	0	0		30,000	30,000		
Extension agent that systematizes good forestry, farming and cattle and forest practices, trains and support the implementation (2)	month	36	5,000	72,000	108,000	0	0		180,000	72,000	54,000	54,000
Consultancy for the design, image layout of recognition systems (with printing)	lump sum	1	10,000	0	10,000	0	0		10,000		10,000	
Consultant (lawyer) for the ordinances design and validation (5)	lump sum	5	6,000	0	0	30,000	0		30,000	15,000	15,000	
Consultancy for the design of financing proposals	lump sum	4	6,000	0	0	24,000	0		24,000			24,000

Systematization of lessons learned	lump sum	1	10,000	0	0	0	10,000		10,000			10,000
Mid-term evaluation	unit	1	40,000	0	0	0	40,000		40,000		40,000	
Final report	unit	1	6,500	0	0	0	6,500		6,500			6,500
Final evaluation	unit	1	40,000	0	0	0	40,000		40,000			40,000
Sub-total national Consultants				299,085	256,697	148,722	133,899	0	838,402	320,967	250,967	266,467
5570 Sub-total consultants				299,085	256,697	148,722	133,899	0	838,402	320,967	250,967	266,467
5650 Contracts												
LOA Etica en Los Bosques (monitoring Darwin's fox and good practices Nahuelbuta)	lump sum	1	60,000	12,000	48,000	0	0		60,000	24,000	30,000	6,000
LOA Aumen (monitoring Chilean huemul + good practices RBCHL)	lump sum	1	60,000	12,000	48,000	0	0		60,000	24,000	30,000	6,000
LOA Aves de Chile (monitoring Chilean woodstar + good practices)	lump sum	1	60,000	12,000	48,000	0	0		60,000	24,000	30,000	6,000
5650 Sub-total Contracts				36,000	144,000	0	0	0	180,000	72,000	90,000	18,000
5900 Travel												
Travel of National Consultants, good practices implementation (DSA ADHOC 160 X 5 DAYS X 3 PER REGION A MONTH)	day	960	180	0	172,800	0	0		172,800	69,120	86,400	17,280
Travel of farmers, management plans (DSA + transfer)	mission	480	640	0	307,200	0	0		307,200	122,880	153,600	30,720
Travel of National Consultants, good practices training	day	960	180	172,800	0	0	0		172,800	69,120	86,400	17,280
Travel of farmers, management plans (DSA + transfer)	mission	480	320	153,600	0	0	0		153,600	61,440	76,800	15,360
Travel of National Consultants to other regions+	day	480	9	0	4,320	0	0		4,320			4,320
Travel RECOGE validation	mission	320	40	0	0	12,800	0		12,800	6,400	6,400	
Travel ordinance consultancy	day	800	15	0	0	12,000	0		12,000	6,000	6,000	
Travel financing proposal	day	800	16	0	0	12,800	0		12,800			12,800
5900 Sub-total travel				326,400	484,320	37,600	0	0	848,320	334,960	415,600	97,760
5023 Training and workshops												
Inception workshop	event	1	3,500	0	0	0	3,500		3,500	3,500		
Workshop - Design and validation of four management plans	event	16	3,500		56,000	0	0		56,000	22,400	28,000	5,600
Workshops – "Good neighbor" for recognition systems	event	4	3,500	0	14,000	0	0		14,000		7,000	7,000

Fair to present the recognition system	event	4	4,000	0	16,000	0	0		16,000		8,000	8,000
Meetings to create partnerships	event	8	2,000	0	16,000	0	0		16,000	8,000	8,000	
Workshops – Submission of outcomes and methodologies in other regions	event	6	3,000	0	18,000	0	0		18,000			18,000
Workshops - RECOGE plans validation	event	8	3,500	0	0	28,000	0		28,000	14,000	14,000	
Workshops – Ordinance design	event	10	3,500	0	0	35,000	0		35,000	17,500	17,500	
Workshops – Design of financing proposals	event	8	3,500	0	0	28,000	0		28,000			28,000
Closing workshop	event	1	3,500				3,500		3,500			3,500
5023 Sub-total training				0	120,000	91,000	7,000	0	218,000	65,400	82,500	70,100
6000 Expendable procurements												
Good practices manuals layout, editing and publication	unit	7	3,600	23,400	0	0	0		23,400	23,400		
Systematization publications layout, edition	unit	1	3,600	0	0	0	3,600		3,600			3,600
6000 Sub-total expendable procurements				23,400	0	0	3,600	0	27,000	23,400	0	3,600
6100 Non-expendable procurements												
Laptop	unit	8	2,000	3,429	5,714	3,429	3,429		16,000	16,000		
GPS	unit	4	1,000	0	4,000	0	0		4,000	4,000		
Projector	unit	2	1,000	1,000	0	1,000	0		2,000	2,000		
Printers	unit	2	1,000	429	714	429	429		2,000	2,000		
Cameras	unit	2	500	0	1,000	0	0		1,000	1,000		
Nurseries infrastructure	unit	1	50,000	0	69,865				69,865	69,865		
Micro-reserves infrastructure	unit	1	50,000	0	50,000	0	0		50,000	50,000		
Office supplies	lump sum	1	10,000	0	0	0	10,000		10,000	10,000		
6100 Sub-total non-expendable procurements				4,857	131,294	4,857	13,857	0	154,865	154,865	0	0
6300 GOE budget												
Miscellaneous including contingencies	each	1	30,000	15,000	15,000	0	0		30,000	10,000	10,000	10,000
6300 Sub-total GOE budget				15,000	15,000	0	0	0	30,000	10,000	10,000	10,000
TOTAL				704,742	1,151,310	282,179	158,356	114,829	2,411,416	1,019,869	887,344	504,204

SUBTOTAL Comp 1	704,742	29.2%
SUBTOTAL Comp 2	1,151,310	47.7%
SUBTOTAL Comp 3	282,179	11.7%
SUBTOTAL Comp 4	158,356	6.6%

SUBTOTAL Comp 5	0	0.0%
SUBTOTAL Project Management	114,829	4.8%
TOTAL GEF	2,411,416	100.0%

Final Budget

APPENDIX 4 RISK MATRIX

Risk	Level	Mitigation measures
Economic risk: Difficult access to market for products under recognition systems of biodiversity.	Medium	Some products are traded at a reasonable price in reliable markets. Labelled products or services to be introduced by this project will require a market analysis to assess its economic viability. The project will work with existing networks and groups dedicated to trade and market these products to ensure timely and effective support.
Climate risk: Climate change acceleration further worsens the chances of species survival.	Medium	The project promotes measures to increase the effective habitat and stop illegal logging, what increases the chances of the species to cope with unmanageable changes (at this scale) such as the displacement of suitable habitat due to climate change.
Organizational risk: Organizational weaknesses of partners and public-private partnerships prevent the effective project implementation.	Medium	Current risk mitigation systems (e. g., support the capacity building of partners and partnerships, appropriate co-financing rates, intensive monitoring) will be strengthened to maintain or improve the success rate. The project will also reduce this risk through the implementation of good practices that have been successful in previous experiences of FAO.
Political risk: Lack of political will to support and favor sustainable production landscapes.	Low	Several experiences show that landscape sustainability is closely related to the degree of biological diversity, beyond goods and services directly provided by said biodiversity. The project will promote resilience and be careful in recording and promoting ecosystem services of associated landscapes production by recognizing the value of biodiversity such as increased soil stability and fertility, endured crops resistance to diseases and pests, increased water cycle regulation capacity, microclimate benefits and others. These long-term benefits will be known by inhabitants and, therefore, the support to politicians who favor biodiversity policies will increase.

Social risk: Low interest of the indigenous people that live outside the intervention zones of the Project and that they could reject the project activities.	Low	The members of indigenous communities will participate in the process of prior, free and informed consent that will have place before the starting operations of the project, in the first year, in the communes of the Bio Bio Region. According to the FAO policy about Indigenous and Tribal People[1] and the FAO guides for Environment and Social Management[2], the process of prior, free and informed consent must take place and generate the corresponding complaint mechanisms.

[1] http://www.fao.org/docrep/013/i1857e/i1857e00.htm
[2] http://www.fao.org/3/a-i4413e.pdf

APPENDIX 5. ENVIRONMENTAL IMPACT ASSESMENT

Would the project, if implemented?	Not Applicable	No	Yes	Unknown
I. FAO VISION/STRATEGIC OBJECTIVES				
Be in line with FAO's vision?			X	
Be supportive of FAO's strategic objectives?			X	
II. FAO KEY PRINCIPLES FOR SUSTAINABILITY IN FOOD AND AGRICULTURE				
Improve efficiency in the use of resources?			X	
Conserve, protect and enhance natural resources?			X	
Protect and improve rural livelihoods and social well-being?			X	
Enhance resilience of people, communities and ecosystems?			X	
Include responsible and effective governance mechanisms?			X	
ESS 1 NATURAL RESOURCES MANAGEMENT				
❖ **Management of water resources and small dams**				
Include an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m3/day of water?		X		
Include an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m3/day of water?		X		
Include an existing irrigation scheme?		X		
Include an area known or expected to have water quality problems?		X		
Include usage of non-conventional sources of water (i.e. wastewater)?		X		
Include a dam that is more than 5 m. in height?		X		
Include a dam that is more than 15 m. in height?		X		
Include measures that build resilience to climate change?		X		
❖ **Tenure**				
Negatively affect the legitimate tenure rights of individuals, communities or others[1]?				
ESS 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS				
Make reasonable and feasible effort to avoid practices that could have a negative impact on biodiversity, including agricultural biodiversity and genetic resources?			X	
Have biosafety provisions in place?	X			
Respect access and benefit-sharing measures in force?			X	
Safeguard the relationships between biological and cultural diversity?			X	
❖ **Protected areas, buffer zones and natural habitats**				
Be located such that it poses no risk or impact to protected areas, critical habitats and ecosystem functions?			X	
ESS 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE				
❖ **Planted forests**				
Have a credible forest certification scheme, national forest programmes or equivalent or use the Voluntary Guidelines on Planted Forests (or an equivalent for indigenous forests)?				
ESS 4 ANIMAL - LIVESTOCK AND AQUATIC- GENETIC RESOURCES FOR FOOD AND AGRICULTURE				

[1] In accordance with Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT) http://www.fao.org/docrep/016/i2801e/i2801e.pdf

Involve the procurement or provision of pesticides?	X			
❖ **Aquatic genetic resources**				
Adhere (Aligned) to the FAO Code of Conduct for Responsible Fisheries (CCRF) and its related negotiated instruments?	X			
Be aligned, where applicable, with FAO's strategic policies established in the FAO Technical Guidelines for Responsible Fisheries (including aquaculture)?	X			
❖ **Livestock genetic resources**				
Be aligned with the Livestock Sector Strategy including the animal disease, public health and land degradation provisions?				
ESS 5 PEST AND PESTICIDES MANAGEMENT				
Involve the procurement or provision of pesticides?	X			
Result in increased use of pesticides through expansion or intensification of production systems?	X			
Require the disposal of pesticides or pesticide contaminated materials?	X			
ESS 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT				
Avoid the physical and economic displacement of people?				
ESS 7 DECENT WORK				
Adhere to FAO's guidance on decent rural employment, promoting more and better employment opportunities and working conditions in rural areas and avoiding practices that could increase workers' vulnerability?			X	
Respect the fundamental principles and rights at work and support the effective implementation of other international labour standards, in particular those that are relevant to the agri-food sector?			X	
ESS 8 GENDER EQUALITY				
Have the needs, priorities and constraints of both women and men been taken into consideration?			X	
Promote women's and men's equitable access to and control over productive resources and services?			X	
Foster their equal participation in institutions and decision-making processes?			X	
ESS 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE				
Are there any indigenous communities in the project area?		X		
Are project activities likely to have adverse effects on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (tangible and intangible)?		X		
Are indigenous communities outside the project area likely to be affected by the project?			X	
Designed to be sensitive to cultural heritage issues?		X		

Risk classification certificate

After completing the Social and Environmental Control Matrix, the LTO completes and certifies:

Project Symbol: GCP/CHI/033/GFF

Project Title: Mainstreaming conservation and valuation of critically endangered species and ecosystems in development border productive landscapes in the regions of Arica y Parinacota and Biobío

1. Record the risks identified in the Social and Environmental control matrix

Moderate risk: There are indigenous communities in the vicinities of the project intervention areas.

Project activities will not have negative impact on indigenous peoples. On the contrary, good sustainable forestry, farming and cattle practices may be implemented in the lands of indigenous communities, considering their ancestral knowledge

2. Has the project site and surrounding area been visited by the undersigned?

[X] Yes [ ] No

B. Consultation to stakeholders

Partner identification	Date	Participants	Location
SAG CONAF SEREMI Local NGOs	9-11 June 2014	MMA FAO Consultant PPG	Arica y Parinacota
SAG CONAF SEREMI Local NGOs	17-18 June 2014	MMA FAO Consultant PPG National Project Director	Concepción
SAG CONAF SEREMI Local NGOs	20-25 June 2014	MMA FAO Consultant	Arica y Parinacota
SAG CONAF SEREMI Local NGOs	30 Sep-2 October 2014	MMA Consultant PPG National Project Director	Concepcion
SAG CONAF SEREMI	10-12 December 2014	MMA Consultant PPG FAO Project Director	Concepcion
SAG CONAF SEREMI	12 December 2015	MMA Consultant PPG FAO Project Director	Santiago

1. Summarize the risks identified during the consultation process.
Main risks of the project are related to interinstitutional coordination and the continuous involvement of the private sector in sustainable productive activities. The awareness programme is essential to incorporate the sustainable production approach.

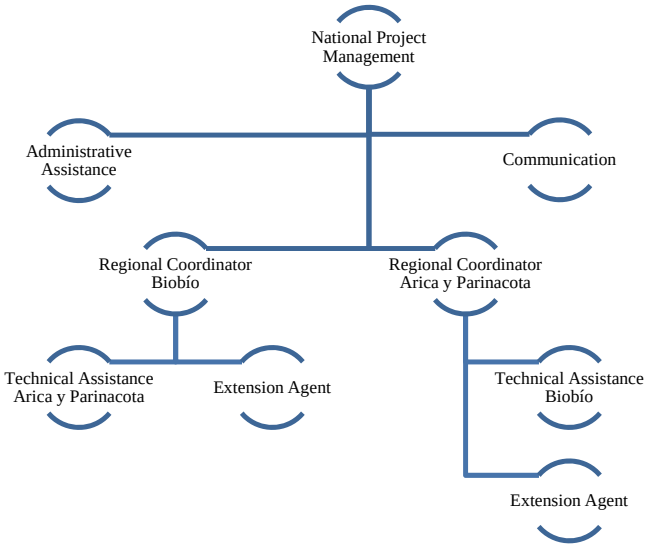
2. Have other stakeholders expressed concern about the project?

In order to include indigenous peoples located in areas adjacent to the project intervention area, socialization meetings will be held during the first year and the possibility to replicate the good practices in the communities will be discussed with the indigenous authorities.

The LTO endorses the previous information Date _____ Signature _____


Signed

APPENDIX 6. TERMS OF REFERENCE [44]



Nº1 REGIONAL PROJECT COORDINATOR (2)

Under the general supervision of the National Project Director and FAO Representative in Chile, and the technical guidance of the Lead Technical Officer (OTL) of FAO, the Regional Project Coordinator (NPC) will act as leader of the Project Management Unit (PMU) and Secretary of the Steering Committee and shall be responsible for overall planning, daily management, technical supervision and coordination of all project activities, and in particular, will be responsible for implementing Component 1 of the Project, carrying out the following activities:

- Participate in the inception workshop, the annual project progress review and planning workshops with local actors and executing partners for the preparation of the Annual Work Plan and Budget (AWPB).
- Provide technical supervision and guidance to the executing partners in the implementation of project activities.
- Conduct regular field visits and provide advice to the executing partners present in the intervention areas, zonal technicians and others involved in the project.
- Monitor risks in accordance with the risk matrix (see Appendix 4) and ensure the implementation of mitigation measures.
- Prepare Project Progress Reports (PPR) in coordination with project specialists.
- Support the LTO in preparing the Annual Project Implementation Review (PIR).
- Support the MMA in preparing reports on co-financing in cash and in kind provided by the co-financiers and other partners that were not considered in the Project Document.
- In consultation with the Project Steering Committee, the Evaluation Office of FAO, the LTO and FAO-GEF Coordination Unit, support the organization of mid-term and final evaluations.
- Coordinate and conduct M&E activities including: i) regular M&E visits to project intervention sites, ii) monthly M&E of compliance with outputs and outcomes indicators, iii) technical and operational support to the staff of institutions participating in the project; iv) propose changes to project implementation strategies if necessary.
- Plan, organize and participate in the Steering Committee meetings, acting as Secretary.
- Make the necessary arrangements to facilitate, through interinstitutional agreements and partnerships, the development of the project and fulfilment of goals.

[44] Los términos de referencia de los consultores serán revisados y validados en la fase de incepción del proyecto

- Supervise the vulnerability assessments of the pilot coves at the beginning and end of the project. Complete the GEF tracking tool (Biodiversity Focal Area) in the middle and at the end of the project.
- Facilitation and design of management plans in the areas of influence.
- Design and facilitation of the good practices recognition system.
- Responsible for facilitating public-private partnerships.
- Facilitation and coordination with the MMA to finish RECOGE plans.

Minimum requirements:
- University degree in biodiversity, environment, agronomy, natural resources or other related specialty.
- At least six years' experience managing projects financed by international cooperation in the above areas. Knowledge of endangered species, protected areas management plans, territorial management in buffer zones and risk management.
- Knowledge and experience in results-based management, budgeting, budget implementation, preparation of technical and financial reports and M&E.
- Proven capacity to work with technicians and management staff of governmental and non-governmental agencies.
- Proven team leader and teamwork capacities in developing countries.
- Excellent written and oral skills.
- Experience in project management. It is desirable to have experience in FAO execution and evaluation projects.

Duration: 36 months
Location: *[a completar]* with regular trips to intervention areas
Languages: Spanish and Basic English (not restrictive)

Nº2 ADMINISTRATIVE ASSISTANT

Under the general supervision of the National Project Director and FAO Representative in Chile, and the technical guidance of the Lead Technical Officer (OTL) of FAO, the Administrative Assistant will support the Regional Coordinators in the administrative and financial management of the project. He/she will coordinate with the Regional Coordinators and the Representative of FAO in Chile to perform the following tasks:

- Support the preparation of the Annual Work Plan and Budget (AWPB).
- Daily management of the project budget, including monitoring the availability of funds, budgeting and budgetary review together with the National Coordinator.
- Hold regular meetings with the National Coordinator to discuss project management, and maintain regular contact with the project team regarding administrative and financial matters.
- Ensure accurate recording of all relevant operational, financial monitoring, and data based on outcomes
- Ensure that the relevant reports on expenditures, forecasts, progress against plans, project closure, be prepared and submitted in accordance with the procedures and reporting formats, submission schedules and communication channels of FAO and the GEF.
- Take accurate and timely action to meet the operational requirements related to the staff, project logistics, procurement of equipment and material, and field disbursements.
- Prepare correspondence relating to administrative and financial matters.
- Support the National Coordinator in the organization of the mid-term review and final evaluation, and provide input regarding budgetary issues.
- Perform other duties as required.

Minimum requirements:
- University degree in Business Administration and /or Accounting.
- At least five years' experience in project management and accounting.
- Knowledge and experience in administrative and financial projects management.
- It is desirable to be acquainted with FAO projects management.
- Abilities for teamwork.

- IT skills.
- Excellent oral and written communication skills

Duration: 36 months
Location: *[a completar]*
Language: Spanish

Nº3 COMMUNICATIONS EXPERT (Part-time)

Under the general supervision of the National Project Director and FAO Representative in Chile, the Communications Expert shall be responsible for an environmental education campaign through the following tasks:

- Together with the endangered species consultant, develop the basic contents of the information to be given to the population regarding: life cycles, habitat, importance of biological corridors, biodiversity in production systems, desired behaviour of neighbors.
- Coordinate the design of a logotype and graphic elements of the four species.
- Develop contents, together with the endangered species consultant, and coordinate the design, printout and distribution of brochures, posters and banners: with information about the four species and the existing problems, according to target audience segmentation.
- Develop contents, together with the endangered species consultant, for the project website and RECOGE plans, e-newsletter and e-banners.
- Help the education consultant in the design of didactic material for teachers and students at different levels – available in a resources website – and the design of interactive activities in a game format, to review and reinforce contents on the importance of biodiversity and threats to the four species.
- Promote partnerships with civil society organizations, NGOs and companies (Corporate Social Responsibility), to carry out outreach and raising awareness of the four species.
- Together with the implementation team, collaborate in the production of posters and brochures for workshops; production of banners, field guide design and printout.

Minimum requirements:
- University degree in Communications, Journalism or similar.
- At least five years experience in the field of communications.
- Knowledge and experience in the design and development of communication strategies.
- Proven capacity for field work, abilities for teamwork and establish working relations with government institutions and civil society organizations.
- It is desirable to have working experience in the regions.
- Excellent written and oral communication skills.

Duration: 36 months (part-time).
Location: *[a completar]*
Language: Spanish

Nº4 TECHNICAL ASSISTANT (2)

Under the supervision of the National Project Director and FAO Representative in Chile, and the direct supervision of the Regional Coordinator, the Technical Assistant will support the execution of field activities. He/she will coordinate with Regional Coordinators and the Representative of FAO in Chile to perform the following tasks:

- Supervision and monitoring of field activities in lands and intervention sites to guarantee good practices implementation.
- Technical assistance at a local and regional level to support appropriate project management and implementation.

- Coordinate and facilitate stakeholders' participation (public, private, NGOs, etc.).
- Support the organization of project participation and outreach activities (e. g., documents, invitations, presentations).
- Assist the work team in the workshops logistics: send of invitations, follow-up, sites identification, additional services, etc.
- Assist the work team in the organization of field trips: authorizations, agencies approval and travel of beneficiaries.
- Ensure that logistics and administrative procedures are ready to implement the activities associated to project outputs and according to FAO procedures.
- Manage regional petty cash, including cash flow, budgeting and revisions.
- Participate in technical project meeting.
- Support regional coordinators to:
  - Facilitate and design management plans in the zones of influence.
  - Design and facilitate good practices recognition system.
  - Facilitate public-private partnerships.
  - Facilitate and coordinate with the MMA to finish RECOGE plans.
- Monitor good practices implementation process.

Minimum requirements:
- University degree in forestry, farming and cattle sciences, natural resources and biological sciences.
- At least three years experience in the aforementioned areas.
- Knowledge and experience in the design and development of communication strategies.
- Proven capacity for field work, abilities for teamwork and establish working relations with government institutions and civil society organizations.
- It is desirable to have working experience in the regions.
- Excellent written and oral communication skills.

Duration: 36 months, part-time
Location: residence in the region (Arica y Parinacota) (Biobío)
Language: Spanish

Nº5 EXTENSION AGENT (2)

Under the direct supervision of the Regional Coordinator, the Extension Agent shall support and facilitate all field activities. He/she shall be responsible for the following tasks:

1. Systematize good forestry, farming and cattle and forest practices applicable to each region, after primary and secondary revision.
2. Support the identification and selection of families that will participate in the project.
3. Good practices training.
4. Support good practices implementation and advise the peasant families.
5. Assists in data collection from the community for good practices recognition systems
6. Assist counterparts and consultants in the different activities in their areas of intervention.
7. Collaborate with planning, monitoring, assessment and submission of reports, as appropriate.

Minimum requirements:
- University degree in forestry, farming and cattle sciences.
- At least six years experience in the aforementioned areas.
- Proven capacity for field work, abilities for teamwork and establish working relations with government institutions and civil society organizations.
- It is desirable to have working experience in the regions.
- Excellent written and oral communication skills.

Duration: 36 months, part-time
Location: residence in the region (Arica y Parinacota) (Biobío)
Language: Spanish

Nº6 NATIONAL OPERATIONS OFFICER

Under the general supervision of the FAO Representative in Chile (Budget Holder) and in close collaboration with the National Project Coordinator and the executing partners, the National Operations Officer shall be responsible for timely delivery of project outcomes and, in particular, of the following:

1. Ensure timely implementation of project activities in support of the outcomes-based plan, through operational and administrative procedures according to FAO rules and standards;
2. Coordinate project operational arrangements through contractual agreements with key project partners;
3. Make the necessary arrangements for the signing and execution of the letters of agreement (LOA) and government cooperation program (GCP) in accordance with relevant partners in the project;
4. Maintain links between FAO departments to liaise with donors, finance, human resources and other units as needed;
5. Manage the project budget on a daily basis, including monitoring of the availability of cash, budgeting and budgetary revisions by the National Coordinator and National Project Director.
6. Ensure accurate records of all relevant data for the operational and financial supervision based on outcomes;
7. Ensure that the relevant reports on expenditures, forecasts, progress against work plans, project closure, are prepared and submitted in accordance with FAO and GEF procedures and report formats, schedule and communications, as necessary;
8. Execute accurate and timely actions regarding all operational requirements dealing with personnel, equipment and material and field disbursement;
9. Participate and represent the project in collaborative meetings with project partners and the Steering Committee, as required;
10. Carry out supervision missions to monitor outcomes-based budget and to resolve outstanding operational issues, as appropriate;
11. Be responsible for the outcomes obtained within his/her work area and ensure that issues affecting project execution and success are brought to the attention of higher-level authorities through the Budget Holder, in a timely manner;
12. In consultation with the FAO Office of Evaluation, LTO and the FAO-GEF Coordination Unit, assist in the organization of mid-term and final evaluations and provide inputs in terms of project budget;
13. Other tasks that may be required.

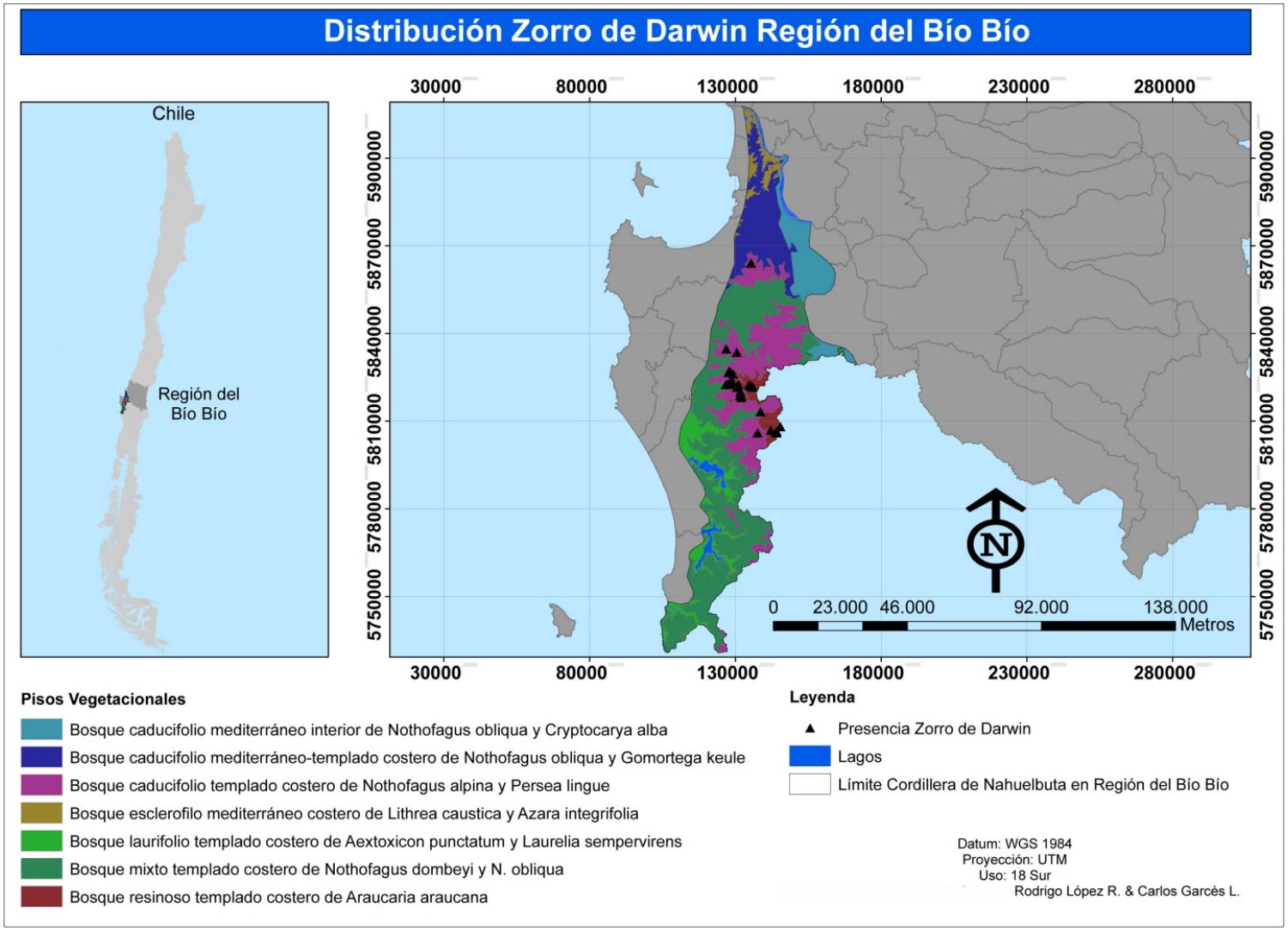
Minimum requirements:

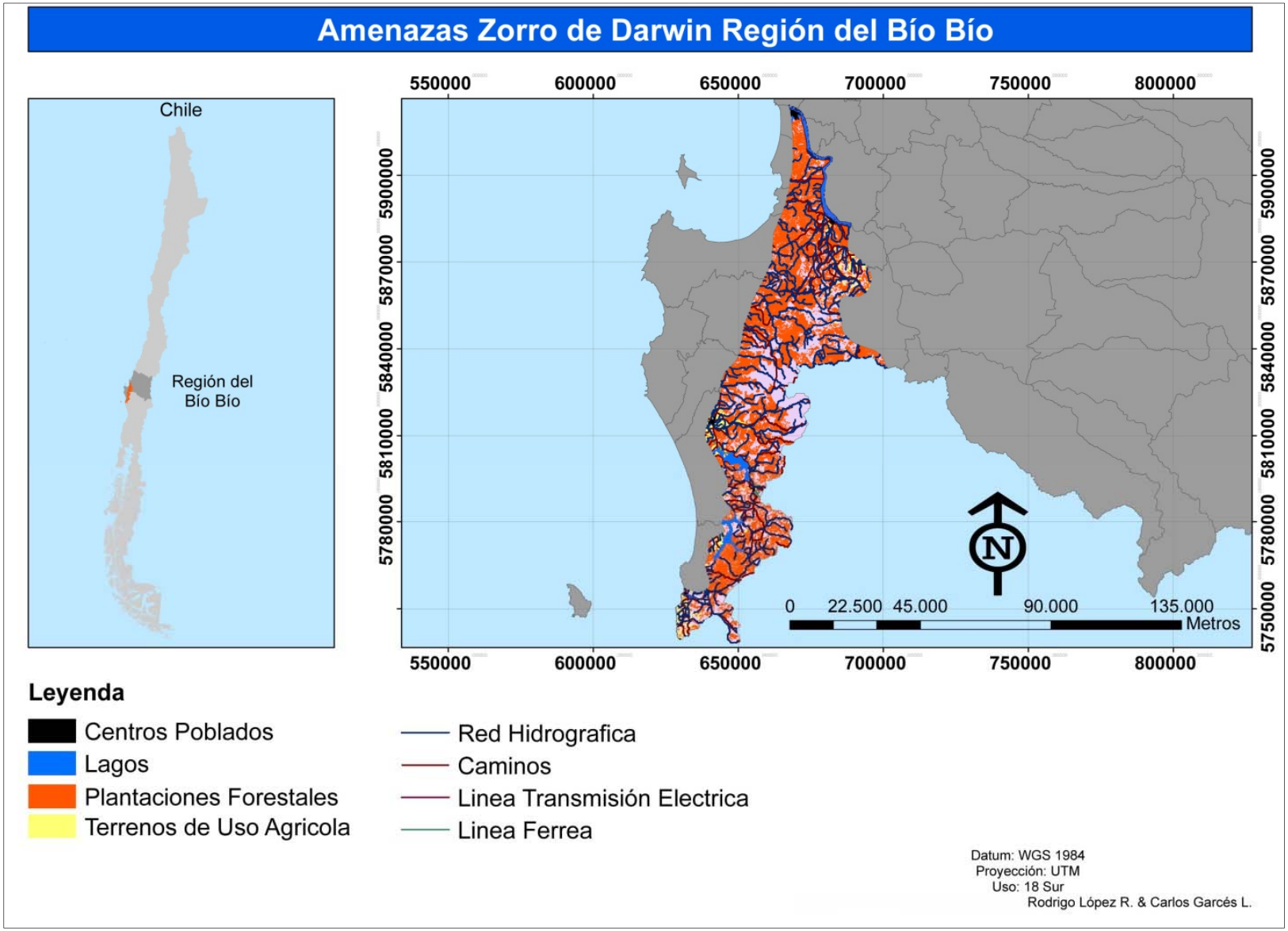
a) Bachelor in economics, business administration or similar.
b) At least five years' experience in projects management in the area of natural resources, including field experience in developing countries.
c) Proven working capacity and working abilities with government institutions and non-governmental organizations.
d) Be acquainted with FAO projects management.

Location: Santiago de Chile
Duration: 36 months
Language: Spanish

APPENDIX 7. MAPS OF THE INTERVENTION AREAS

These maps were produced during the design phase of the project, based on the information provided for the Ministry of Environment and other partners.

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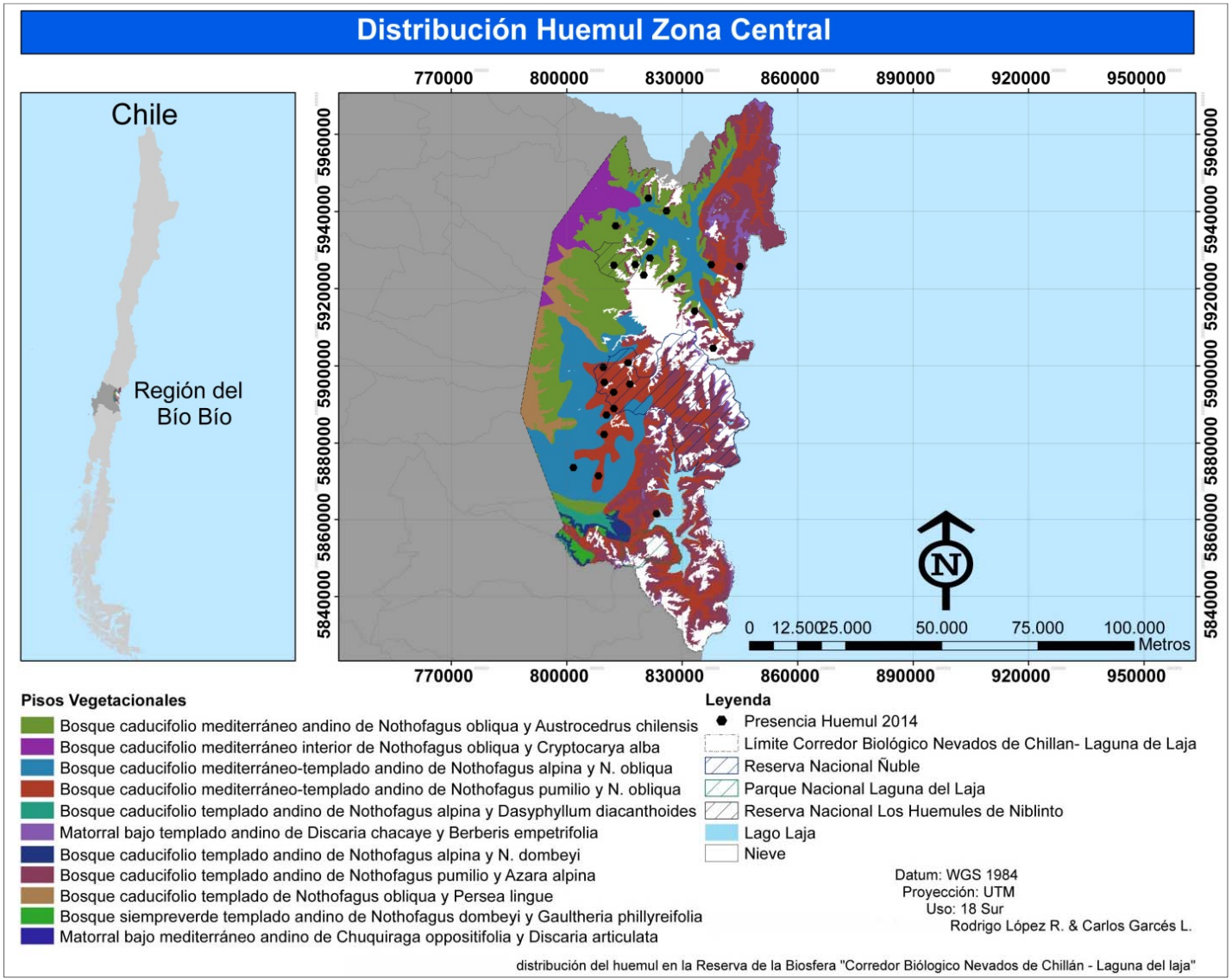
Rodrigo López R. & Carlos Garcés L.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Bosque caducifolio mediterráneo-templado andino de Nothofagus alpina y N. obliqua
Bosque caducifolio mediterráneo-templado andino de Nothofagus pumilio y N. obliqua
Bosque caducifolio templado andino de Nothofagus alpina y Dasyphyllum diacanthoides
Matorral bajo templado andino de Discaria chacaye y Berberis empetrifolia
Bosque caducifolio templado andino de Nothofagus alpina y N. dombeyi
Bosque caducifolio templado andino de Nothofagus pumilio y Azara alpina
Bosque caducifolio templado de Nothofagus obliqua y Persea lingue
Bosque siempreverde templado andino de Nothofagus dombeyi y Gaultheria phillyreifolia
Matorral bajo mediterráneo andino de Chuquiraga oppositifolia y Discaria articulata
Leyenda
Presencia Huemul 2014
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Reserva Nacional Ñuble
Parque Nacional Laguna del Laja
Reserva Nacional Los Huemules de Niblinto
Lago Laja
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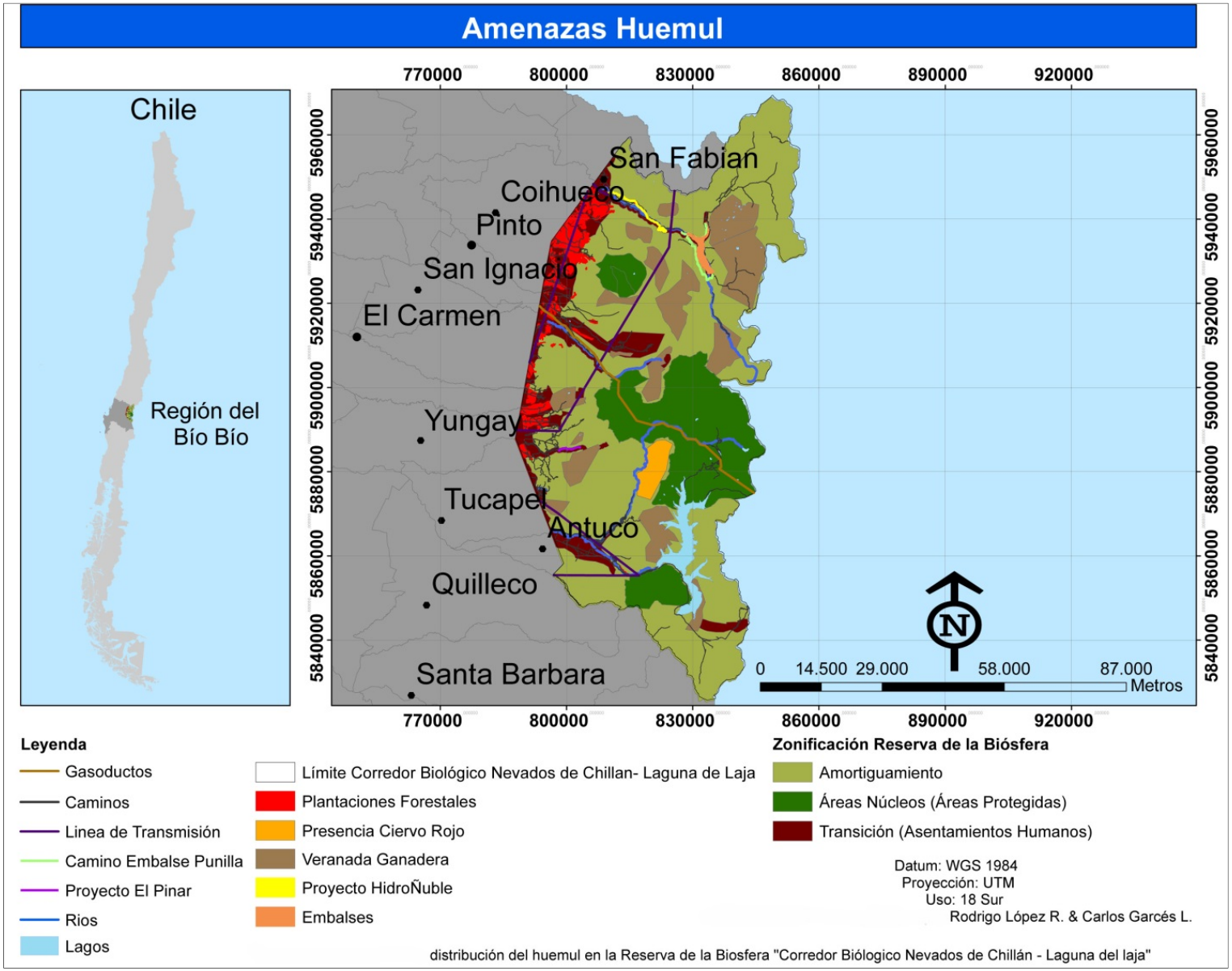
Datum: WGS 1984
Proyección: UTM
Uso: 18 Sur
Rodrigo López R. & Carlos Garcés L.
distribución del huemul en la Reserva de la Biosfera "Corredor Biólogico Nevados de Chillán - Laguna del laja"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Plantaciones Forestales
Presencia Ciervo Rojo
Veranada Ganadera
Proyecto HidroÑuble
Embalses
Zonificación Reserva de la Biósfera
Amortiguamiento
Áreas Núcleos (Áreas Protegidas)
Transición (Asentamientos Humanos)
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Rodrigo López R. & Carlos Garcés L.
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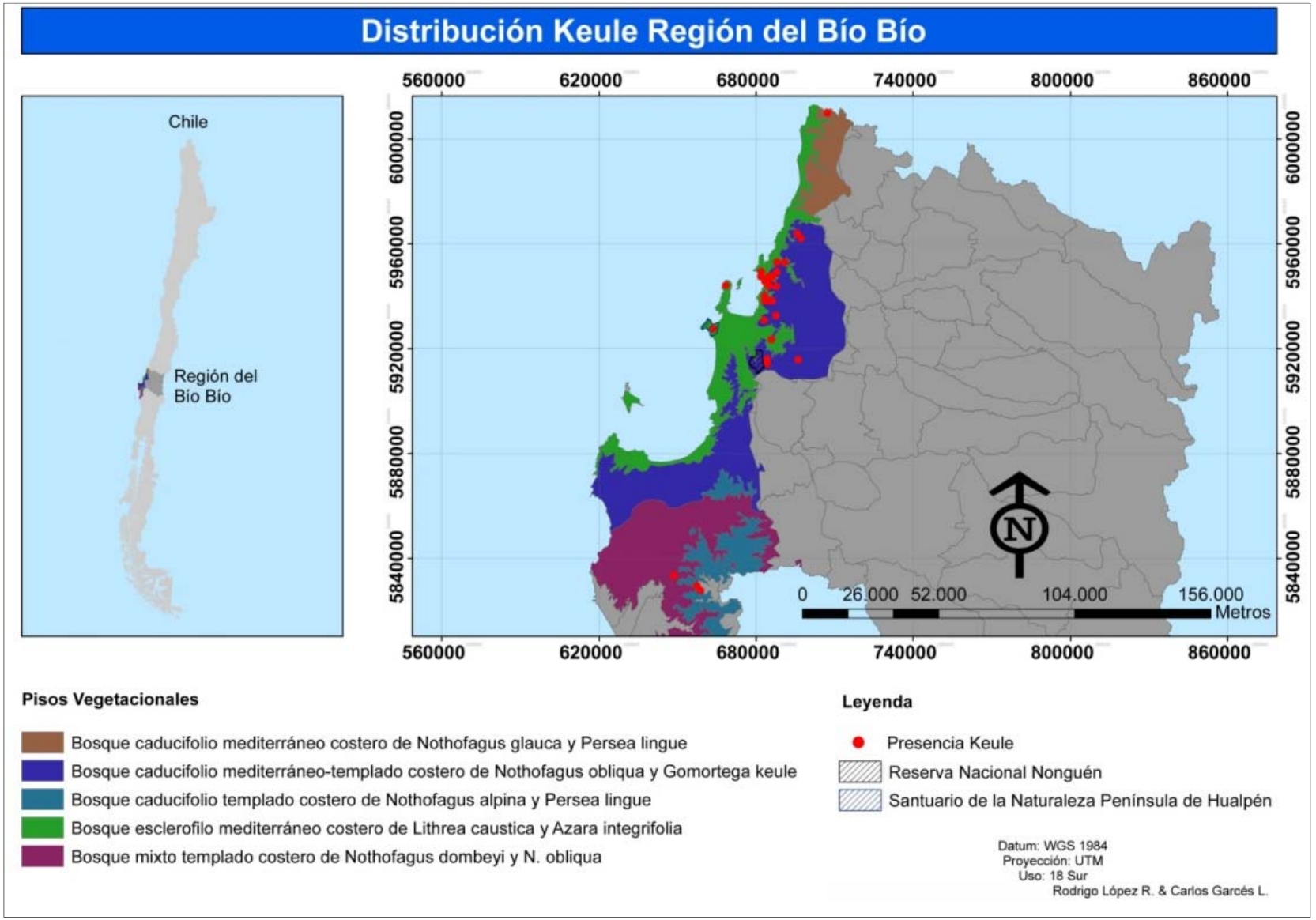
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Bosque caducifolio mediterráneo-templado costero de Nothofagus obliqua y Gomortega keule
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Bosque mixto templado costero de Nothofagus dombeyi y N. obliqua
Leyenda
Presencia Keule
Reserva Nacional Nonguén
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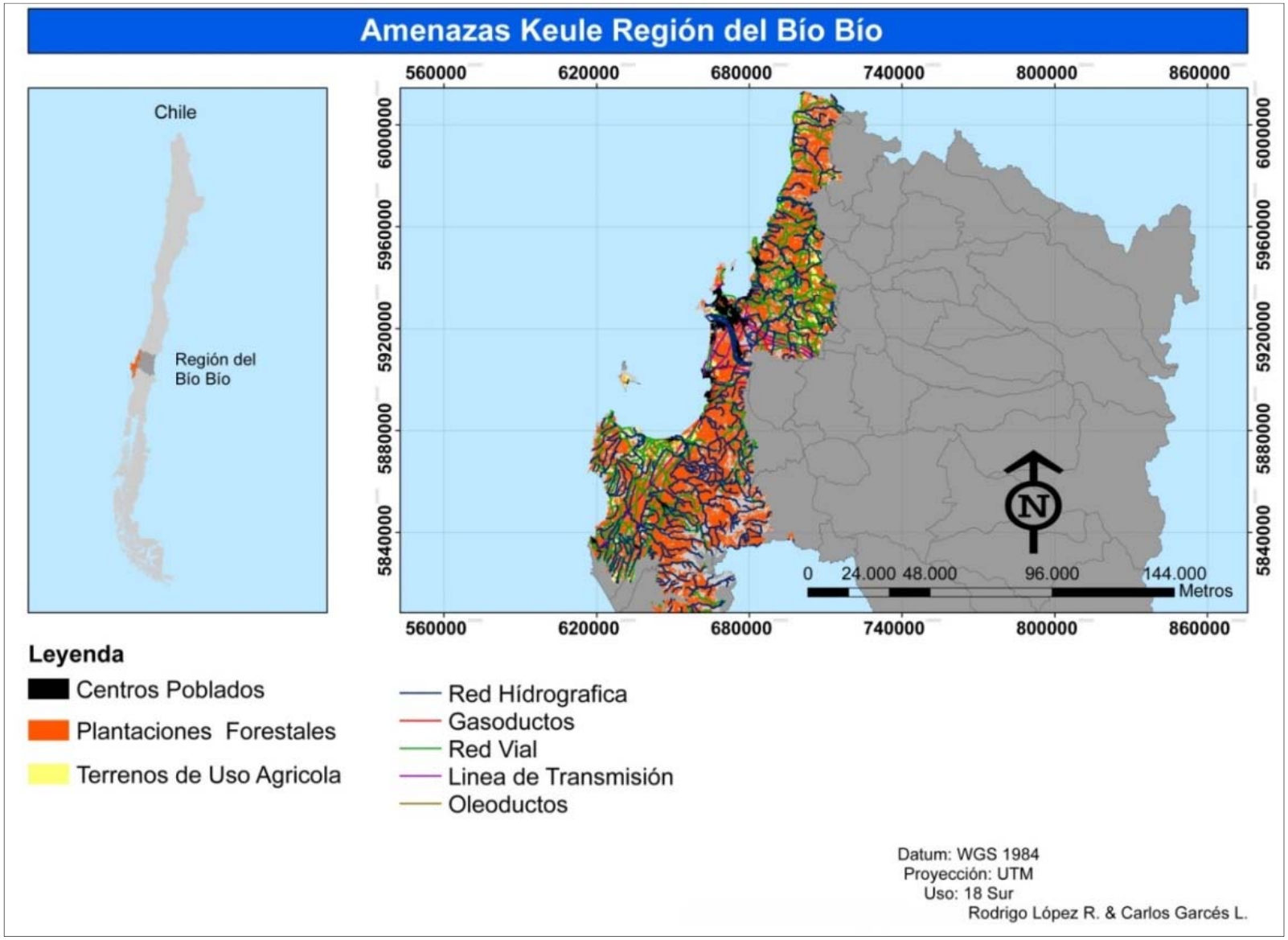
Rodrigo López R. & Carlos Garcés L.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Plantaciones Forestales
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Gasoductos
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Linea de Transmisión
Oleoductos
Datum: WGS 1984
Proyección: UTM
Uso: 18 Sur
Rodrigo López R. & Carlos Garcés L.

APENDIX 8. GOOD AGRICULTURE PRACTICES

Basic components of Good Agriculture Practices

According to the programmatic line of Good Agriculture and Livestock Practices for the agroindustrial chain of the National Learning Service (SENA - acronym in Spanish), some of the basic components of Good Agriculture Practices are:

Seeds

Before selecting a specific seed variety, it is necessary to determine which elements will be considered to make the choice. First, a Technical Data Sheet should be available, including the conditions under which the seed was obtained, tests performed, feeding conditions, expected yield, fruit characteristics, germination percentage, certificate of origin, etc. Second, to know about own or regional experience with the variety, the material should be suitable for the ecological conditions of the producer. Third, varieties resistant to pests and limiting diseases from the economic point of view should be promoted, aiming at a rational use of agrochemicals and agricultural inputs. Similarly, it should be encouraged that producers make the right seed selection and use species adaptable to the growing area. It is important that seeds and species have a health certificate.

History and management of the land or plot

It is necessary to know the history of the land, its current use and adjacent lands, to identify the advantages and risks for cultivation. It is highly valuable to establish a basic planning system and a monitoring and evaluation system. Maps of the location of the land and surrounding areas should be available. The screening of the area should include irrigation channels, drainage system, avoid plantations in areas close to sources of pollution such as barns or industrial waste and prevent the access of domestic or wild animals to the growing areas. It is important to have information about the previous crops, the kind of chemicals that were applied and previous diseases that may restrict the production. When the previous crop may cause plant protection problems, it is necessary to disinfect the soil by physical or chemical means and try to establish a crop rotation system. To ensure that the quality of the land is suitable for planting, a physical-chemical and microbiological analysis of soils should be done to determine the nutritional status of the soil and the presence of heavy metals or microorganisms. Finally, it is recommended to have an adequate drainage system to prevent flooding and develop composting programmes for management of crop residues and other organic waste generated in the farm.

Management of soils and growth medium

The most recommended farming techniques to reduce the possibility of erosion and soil compaction are minimum tillage and protection of slopes. Ploughing and raking the soil to remove lumps, level and form beds or grooves to favor drainage and prevent flooding. Avoid using heavy machinery that compacts the soil. In addition, the soil should be kept free from inorganic waste. It is advisable to apply appropriate sowing distances with healthy plants, and to have a soil analysis before establishing the crop. Crops should be planted in the most fertile soil with less weeds problem (arvense) or flooding. But, the crop rotation in the production unit should be promoted to avoid soil sterilization and chemical imbalances with substances. In some cases, it is advisable to place plastic mulch for weeds management, pest control and water saving.

Use of fertilizers

It is important to be sure that the application of fertilizers relates to the nutritional requirements of the crop based on a soil analysis, to maintain its fertility through a rational use of resources and inputs, and prevent soil and water contamination. It is necessary to determine the time of fertilizers application to maximize the benefits and minimize nutrients loss. A record should be kept of the presence of fertilizers in the production unit. Verify that fertilizers provide information about its chemical composition (on the package or bottle), and are officially registered. Fertilizers storage shall meet the following safety criteria: be kept in a place separated from pesticides and, when this is not feasible, separate them by an air gap in between and label them properly. They should be placed in a clean and dry covered area and isolated from the floor to prevent wetting. Do not share the storage area with food, fresh produce or finished products. Do not store in places of residence. Finally, hazardous areas should be marked with simple and visible warnings. As regards organic fertilizers, to know the source of the organic matter, to be sure that they are fully composted, be certain of its quality and that they are free of chemical or biological pollutants.

Irrigation

It is essential to carry out activities to protect water resources such as prevent access of domestic animals to it and do not apply agrochemicals and fertilizers in areas close to the water source. To the extent possible, establish water collection, recycling and storage systems. Observe regulations on municipal aqueducts regarding water volumes and forms of irrigation. Use an efficient and economically viable irrigation system to ensure proper management of water resources. Similarly, it is recommended to monitor irrigation water supply sources through a maintenance programme and perform chemical and microbiological analyses to ensure water safety, demonstrate its quality and relevance to irrigate crops, and take corrective measures in case of adverse results. It is important to keep records on the use of water for irrigation.

Crops protection

First of all, use disinfected tools for plants management. Apply recognized Integrated Pest Management (IPM) techniques and use selective products that are specific for weeds control, target disease or pest, which have a minimal effect on beneficial organisms, aquatic life, the ozone layer and consumers. To implement IPM, it is essential to recognize the type of pests, diseases and weeds in the area, in order to choose crops that could adapt to these conditions and monitor and evaluate signs and symptoms of pests and diseases to make decisions including different alternatives, where chemical control is not the only viable verification method. The choice of plant protection products is extremely important in the production process, as this concept involves several aspects, namely: justification of the application through the verification of the presence of symptoms or signs of pests or diseases; toxicological category of the product, since officially registered and low toxicity pesticides (categories III and IV) should be used; minimum dosage for an efficient control; product rotation to avoid resistance of pests and diseases to agrochemicals, and competence and knowledge in the area of the person recommending the product (duly qualified technician). Before applying any pesticide, the characteristics and action mode of the product should be known; each application will have clear instructions, detailing the work, dosage and application technique. Workers shall be trained in equipment handling and pesticide application and use appropriate protective personal equipment to reduce health and safety risks. It is essential that they are acquainted with the product before any application; personal formulations are not permitted. Each application is accompanied by clear instructions or symbols where the work and the chemical dosage required is detailed. The application equipment shall be maintained in good conditions through regular calibrations and maintenance. Disposal of plant protection product residues shall be done according to regulated procedures. Pesticides shall be stored in a place different from home, according to local regulations in a fire resistant and suitable, ventilated, safe, illuminated place, away from other materials. To the extent possible, avoid spills, and in case of occurrence, take appropriate measures. Have the necessary elements to measure and mix agrochemicals and procedures to manage poisoning; also, have the telephone numbers of

hospitals and police at hand, and the address of the local emergency health service. Empty chemical containers must be disposed in accordance with national regulations to avoid exposure of humans and reuse of the same. Records must be kept of all work done in the production process, including post-harvest and marketing, in order to trace the product.

Safety periods should be considered to avoid risks of contamination. Those responsible for leading the application must take into account waiting periods between the last application and harvest, in order to minimize risk of product contamination. Applications of plant protection products must be done following the manufacturer's recommendations and the advice of a competent professional, taking care that the application equipment is calibrated and in good conditions. Measuring devices or accurate dosage devices shall be available and the product shall be applied during the hours of greater effectiveness. It is advisable that instructions or procedures are known by the person in charge of product application. Do not leave remnants of the product in the equipment or containers. Remnants may be used to prepare a new application. Pesticides shall be stored in a place different from home, according to local regulations in a fire resistant and suitable, ventilated, safe, illuminated place, away from other materials. Pesticides shall be stored in a way to avoid spills, and in case of occurrence, take appropriate measures. Have the necessary elements to measure and mix agrochemicals and procedures to manage poisoning; also, have the telephone numbers of hospitals and police at hand, and the address of the local emergency health service. Empty agrochemical containers must be perforated to avoid reuse and washed at least three times. Inventories of agrochemicals must be kept.

Collection and post-harvest management

There is an optimal harvest time according to market demands. A system should be organized to handle, sort, package and transport, and store the packed items in the plot, field or storage facility, to avoid contamination by rodent, pests, birds, physical or chemical hazards and maintain adequate shelf life. It is important to perform a health risk analysis of the post-harvest management site, which will be used to establish hygiene protocols for both personnel and equipment. The equipment shall be cleaned and disinfected to ensure they are free from contaminating material. Workers shall have access to adequate toilets close to the workplace. It is essential to train workers in basic hygiene instructions and fresh food handling and take precautions such as not smoking, eating or working with respiratory or health problems. Food for human consumption should not be handled if a communicable disease affected the worker. Finally, adequate potable water supply shall be ensured and prevent waste water contamination during post-harvest. All operations performed during post-harvest management shall be graphically illustrated in flowcharts.

Waste management and pollution control

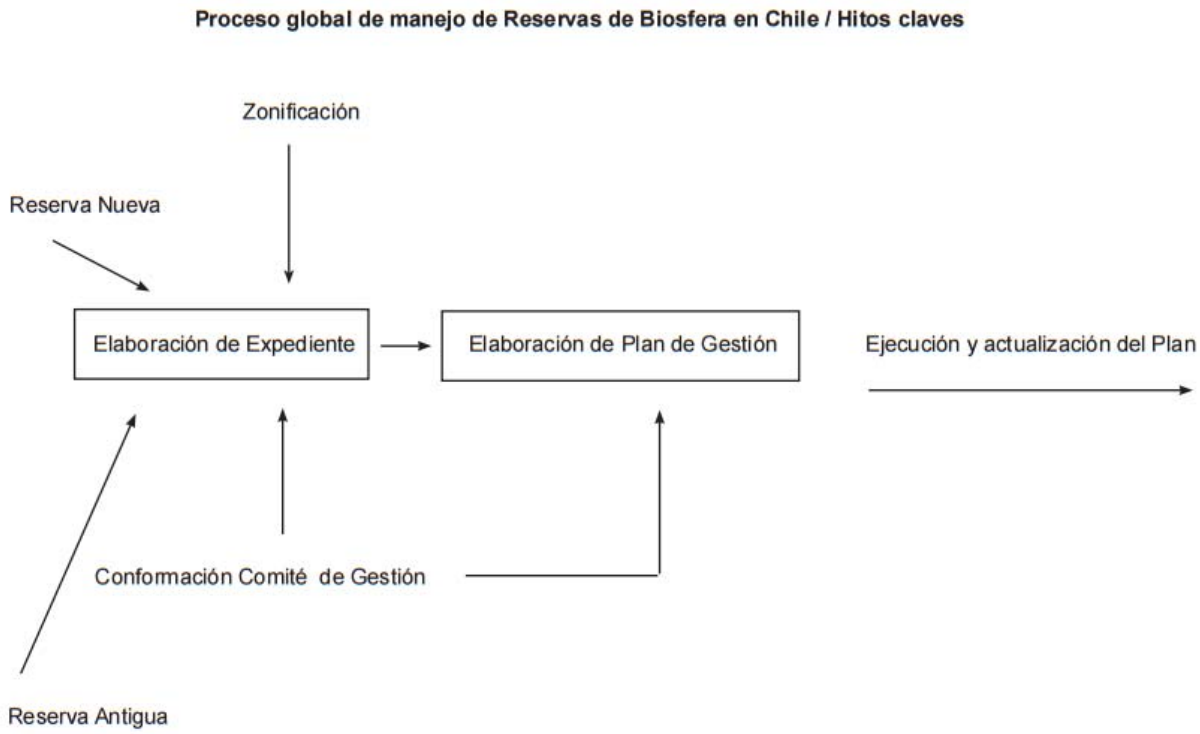
All kinds of waste must be identified, classified and arranged in a way that it can be recycled or disposed. The facilities at the farm shall be free from trash and waste and have suitable sites for the disposal thereof. Pollutants such as agrochemicals, oils, fuels and household effluents, should be identified and properly arranged to avoid pollution to the environment, people or animals. A toxic pollutants management plan should be developed and determine the site for disposal. Organic waste can be composted in sites or places equipped for the same. In this regard, farmers should be trained on organic waste recycling techniques and strategies.

Health, safety and welfare

Promote safe and healthy working conditions, implement training programmes on first aid, first aid kit management, hygiene standards, accident and emergency procedures and training for operators of complex or dangerous equipment. It is recommended to keep a training record of each worker. Workers shall be equipped with appropriate protective clothing in accordance with the label instructions about possible health and safety risks. Workers in charge of plant protection products application in the plot, should be subject to annual health checks, in accordance with local health codes standards. Likewise, it is advisable to open opportunities for

participation in health campaigns conducted by the hospital and the municipality, for workers and their children, to know about their nutritional status. Workers hired shall be protected by a health insurance system and their age pursuant to legislation thereto. Workers' families should be encouraged to recognize children's rights and duties, good treatment among family members, adequate food handling and preparation in line with appropriate eating habits, maintain a home garden that allows them to improve the nutrition of the family, and provide favorable study conditions to children, along with food programmes, growth and development, prenatal care and the benefits of breastfeeding.

APPENDIX 9. PROCESS OF BIOSPHERE RESERVES IN CHILE



APPENDIX 10. GEF BIODIVERSITY TRACKING TOOL


BD TT

APPENDIX 11. GOVERNMENT REQUEST

MMA letter

APPENDIX 12 - Characterization of the Agricultural Communities

Characterization of the Agricultural Communities in communes of Cordillera de Nahuelbuta

	Contulmo	Los Álamos	Curanilahue	Cañete
Location (Region)	Bío-Bío	Bío-Bío	Bío-Bío	Bío-Bío
Level of rural poverty [45]	63%	61%	33%	57%
Population[46]				
-Rural	48%	25%	17%	33%
-Urban	52%	75%	83%	67%
-Rural Indigenous	51%	45%	0%	55%
Economic activity[47]				
- **Type**	Livestock (bovine, ovine, pigs), forestry (radiata pine, eucalyptus globulus, eucalyptus nitens), crops (cereals, pulses and tubers, fruits)	Livestock (bovine, ovine, pigs), forestry (radiata pine, eucalyptus globulus, eucalyptus nitens), crops (cereals, pulses and tubers, fodders)	Livestock (bovines), forestry (radiata pine, eucalyptus globulus, eucalyptus nitens), crops (pulses and tubers, fruits).	Livestock (bovine, ovine, pigs), forestry (radiata pine, eucalyptus globulus, eucalyptus nitens), crops (cereals, pulses and tubers, fodders)
- **Main resources**	Meadows, forest plantations.	Meadows, forest plantations.	Meadows, forest plantations.	Meadows, forest plantations.
- **Number of workers**[48]	227	1.018	36	3.304

Characterization of the Agricultural Communities in communes of The Biosphere Reserve "Nevados de Chillan"

	Antuco	Pinto	San Fabían
Location (Region)	Bío-Bío	Bío-Bío	Bío-Bío
Level of rural poverty	16%	40%	56%
Population			
-Rural	41%	43%	44%
-Urban	59%	57%	56%
-Rural indigenous	2%	0%	1%
Economic activity			
- **Type**	Livestock (bovine, ovine and caprine)	Livestock (ovine, bovine and caprine), crops (cereals and fodders), forestry (radiata pine, eucalyptus globulus, eucalyptus nitens).	Livestock (ovine, caprine, bovine), Forestry (radiata pine and eucalyptus nitens).
- **Main resources**	Meadows	Meadows, forest plantations.	Meadows, forest plantations.
- **Number of workers**	53	2.356	313

[45] Level of multidimensional poverty, CASEN survey 2013 (idem for tables 1.1.2, 1.1.3, 1.1.4)
[46] CASEN 2013 (idem for tables 1.1.2, 1.1.3, 1.1.4)
[47] Agricultural, Livestock and Forestry Census 2007 (idem for tables 1.1.2, 1.1.3, 1.1.4)
[48] Permanent and seasonal personnel that works in agricultural, livestock and forestry exploitations. Agricultural, Livestock and Forestry Census 2007 (idem for tables 1.1.2, 1.1.3, 1.1.4).

Characterization of the Agricultural Communities in communes of "Keule Distribution Area"

	Talcahuano	Tomé	Curanipe (Pelluhue)
Location (Region)	Bío-Bío	Bío-Bío	Maule
Level of rural poverty	48%	10%	24%
Population			
-Rural	2%	13%	46%
-Urban	98%	87%	54%
-Rural indigenous	2%	1%	0%
Economic activity			
- **Type**	Forestry , livestock (bovine), crops (fodders and vegetables)	Forestry (radiata pine, eucalyptus globulus), livestock (bovine), crops (cereals, pulses and tubers)	Forestry (radiata pine, eucalyptus globulus), livestock (bovine), crops (cereals, pulses and tubers)
- **Main resources**	Meadows, forest plantations.	Meadows, forest plantations.	Meadows, forest plantations.
- **Number of workers**	19	1.674	166

Characterization of the Agricultural Communities in communes of Arica Province

	Arica	Camarones
Location (Region)	Arica y Parinacota	Arica y Parinacota
Level of rural poverty	58%	49%
Population		
-Rural	9%	100%
-Urban	91%	0%
-Rural indigenous	61%	52%
Economic activity		
- **Type**	Crops (vegetables. fruits and fodders), livestock (ovine, caprine, pigs)	Livestock (ovine, llamas and caprine), crops (fodders)
- **Main resources**	Meadows	Meadows, fodder
- **Number of workers**	9.635	255

Note on formal farming organizations:

INDAP currently recognizes 17 farming organizations (Table 12.1) as organizations of national representation, which are mostly composed of INDAP users or potential users and which have representations in five or more regions in our country. The regions are not specified (INDAP).

Table 12.1. Details of Farming Organizations with national representation

Organization Name	Years	N° Regions	N° Member Org.	Org. Level 2	Org. Level 1	N° Partners
ACHITUR	11	8	13	0	13	206
ANAMURI	17	10	104	0	104	5.000
CALIDER	4	8	133	0	133	11.000
CAMPOCOOP	45	8	98	7	91	3.430
CNC	48	9	86	12	74	27.280
CONAGRO	9	7	34	5	29	4.100
CONAPROCH	23	7	52	3	49	3.750
LEFTRARU	13	9	86	0	86	4.600
MUCECH	17	12	42	7	35	7.150
NEHUEN	27	10	67	6	61	4.000
NEWENCHE	12	6	107	0	107	6.566
RANQUIL	47	9	80	9	71	11.000
RED APÍCOLA	16	10	104	10	94	2.300

TRIUNFO CAMPESINO	20	8	113	10	103	9.200
UNAF	6	9	47	0	47	3.420
UOC	44	8	70	5	65	6.270
VOZ DEL CAMPO	23	8	69	11	58	8.000
			1305	85	1.220	117.272

Source: INDAP (http://www.indap.gob.cl/consejoss/organizaciones-de-representacion)

The number of people participating is 5493 for the entire 8th Region. The details of other regions are given in table 12.2.

Table 12.2. Number of partners organized by type of organization in each region

Region	**Unions**	**Cooperatives**	**Trade- unions**	**Ethnic Organizations**	**Total**	**%**
IV	1193	454	25		1872	3,2
V	2351	968	152		3471	6,7
RM	8666	650	62		9378	18
VI	4865	1380	132		6377	12,2
VII	2312	559	1285		4150	8
VIII	4205	1168	120		5493	10,6
IX	1173	1594	369	12325	15461	29,7
X	2480	1427		2155	6062	11,6
Total	27245	8200	2145	14480	52264	100

Source: Farming Organizations in Chile, Group of Agriculture Research 1984