

Demarcation and Protection of Napó - Galeras National Park.

Proyecto de Linderación y Protección de la Cordillera Napó -
Galeras, convenio No. 87 suscrito el 25 de Agosto, 1993 entre
INEFAN - CIBT - IMU.



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Centro de Investigación de los Bosques Tropicales - CIBT
Rainforest Information Centre - Ecuador.

Written by :

Jonathon Sparrow Miller-W. and Salvador Jorgensen

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Institutions and personnel involved :

Fundación " Izhu Mangallpa Urcu " - IMU, Mamallacta family and friends.

Rita Mamallacta Alvarado	- Presidente
Carlos Grefa	- Gerente
Elias * Boliche * Mamallacta Alvarado	- Secretario
Carlos * Cursita * Mamallacta Alvarado	
Antolin * Iji * Mamallacta Alvarado	
Isabel Mamallacta Alvarado	
Sandra * Tulumba * Grefa	
Marianita * Cucupita * Mamallacta Chimbo	
Vicente * Apaticas * Mamallacta Chimbo	
Eduardo * Chino * Alvarado Mamallacta	
Richard * Haleluya * Mamallacta Chimbo	
Adelmo Mamallacta	
Lino Yumbo	
Mecias Yumbo	
Walter Yumbo	

Amazanga Comunity.

Flavio Santi

INEFAN - Instituto Ecuatoriano Forestal y de Areas Naturales.

Dr. Rafael Andrade	- INEFAN - Quito
Dibujante Carlos Espin	"
Ing. Oswaldo Mosquera	"
Ing. Victor Caicedo	- INEFAN - Tena

CIBT - Centro de Investigación de los Bosques Tropicales.

Jonathon S. * Asacutu * Miller	- Project Coordinator
Salvador Jorgensen	- Volunteer
Made * Auca * Ferguson	- Volunteer
Douglas G. Ferguson	- Project Director
Pancho * Condorazo * Mendoza	- Topographer
Zachary * Meyeye * Drennen	- Volunteer
Heather Hetzeck	- Volunteer
Nicole * Ms. Amazonas *	- Volunteer
Marc Winberg	- Future Earth Sweden

Introduction

Napo - Galeras is a monument of tropical nature, ranging from 400 to 1730 meters above sea level, and still in a relatively pristine and untouched state. The juxtaposition of volcanic and limestone geology's within a small area and the abrupt altitudinal transitions has allowed for the evolution of isolated and diverse environments which harbor an extremely unique biological condition - deserving the total attention of science and conservation efforts. It is a remarkable bio-region clothed with amongst the highest floristically diverse continual gradients of tropical ecosystems and micro climates on Earth. Napo - Galeras is the source of 7 major rivers whose myriad waterways and waterfalls have carved deep chasms in the limestone, creating tremendous valleys, some kilometers across, which radiate out from the massifs' crest. The actual size of the legally declared Napo - Galeras National Park is approximately 14,500 hectares, encompassing about half of the greater Napo - Galeras bio-region. Napo - Galeras is situated at the headwaters of the Napo river at the nexus of the headwaters of the Amazon, between 00 degrees 45' - 60' latitude south of the Equator - 80 kilometers east of the Andes; between 77 degrees 26' - 35' longitude.

Few biological inventories or studies, except for those initiated by the C.I.B.T. have been carried out at the actual Galeras massif, although the exuberant biological diversity found in the surrounding upper Napo watersheds has been extensively studied by the Missouri Botanical Gardens and by the Ecuadorian foundation Jatun Sacha. These studies and biological inventories have conclusively demonstrated that this region is, in the words of a nationally and internationally respected botanist, "... among the regions of highest diversity of flowering plants on Earth, endemism is also high..." (David Niell - 1990).

Galeras is home to a myriad of endangered species, such as, the magnificent Andean cock of the rock *Rupicola peruviana*, as well as green military macaws *Ara militaris*, there exists an isolated population of the Andean spectacled bear, *Tremarctos ornatus*, river otters *Lutra longicaudis*, Kinkajous *Potus flavus*, and many species of rainforest Felidae, including the spotted jaguar *Panthera onca*.

Enshrouded in mist and a beautiful mythology, Galeras has been held sacred by the people of the region for millennia. It is said by the Quichua people of Napo and Pastaza provinces that the "World Puma", a huge earthen jaguar trapped within the mountain, is to emerge at the end of the world, and devour a disrespectful and depraved humanity. To the Huaorani it is "Eygahueyaboga" the highest hill, where long ago, during the times of great flooding, the last two Huaorani survived the deluge.

The C.I.B.T. / R.I.C. is into its' third year of the project to demarcate and protect Napo-Galeras. It is a project based on a multifaceted ground level approach, through established working relationships with the ancestral keepers, the Mamallacta family (Mother Earth), Fundación "Izhu Mangallpa Urcu", the surrounding communities and the government of Ecuador via INEFAN and the Institute of Cultural Patrimony.

Given these factors we maintain that the protection of an area like Napo - Galeras is of utmost importance. The Napo - Galeras National Park encompasses a tremendous representation of the vast and varied tropical equatorial ecosystems of the Ecuadorian Amazon in a relatively small area. This is an auspicious opportunity for the communities to become directly involved in protecting Galeras, as well as an opportunity for the Ecuadorian state to save a national treasure. Napo - Galeras is a true monument of tropical nature, and part of humanities biological heritage.

On March 3rd, 1994 Napo-Galeras and the nearby volcano Sumaco was officially declared National Park by INEFAN under Ecuadorian forestry law. This declaration from "Patrimonio Forestal" status, the lowest legal protection status, to National Park, the highest legal protection status, is a tremendous political step forward towards the protection of these natural wonders. Never-the-less, due to inadequate coordination between the institutions involved as well as a governmental lack of knowledge of the uniqueness of the Tropical Wet Forest life zone and it's under-representation within the national forest protection plan, the low land sector, which is within the Napo - Galeras " Patrimonio Forestal " declaration, was not included in the legal transition to National Park status.

The primary reason for not including the low land sector was due to false information on a map made by PRONAREC depicting the low land sector as having been intervened by IERAC, the Ecuadorian Institute of Agrarian Reform and Colonization. In actuality the area has not been intervened by IERAC. On March 4, 1994 IERAC - Tena presented us with a written document signed by Gonzalo Zapata, zonal chief of IERAC - Tena, certifying that the low land sector in reference had not been intervened by IERAC.

In terms of protecting biological diversity and preventing species extinction within Ecuador, the exclusion of the low land sector presents itself as a significant error. This area is amongst the last possibilities for the Ecuadorian government to protect a significant expanse of Tropical Wet Forest (TWF). TWF is the life zone of highest biological diversity within Ecuador, and ironically as well, the least protected life zone within Ecuador's legal protection and parks system.

The following work report describes the ongoing and collaborative efforts of the CIBT, Foundation IMU, Mamallacta family, and INEFAN to protect Napo - Galeras National Park and the eastern lowland sector.

This report describes the primary activities carried out between the months of February and May which were:

- I The establishment of the biological corridor and the petition to include both the lowland sector, 2200 hectares of adjoining Tropical Wet Forest and the Pucuno river canyon, 1,160 hectares of premontane forest into the National Park.
- II The introduction of Permaculture practicals and ethics to the surrounding communities
- III The creation of 19 km of physical boundary-line on the eastern side of Napo - Galeras.
- IV The Demographic situation east of Galeras.
- IVa Colonization within the lowland sector.
- V Conclusion

I Establishing the biological corridor and the petition to include the lowland sector - 2,200 hectares of adjoining Tropical Wet Forest, and the Pucuno River canyon 1,160 hectares of premontane forest into the National Park.

The low land sector is a 2,200 hectare area of relatively pristine Tropical Wet Forest (Holdridge Life Zone System), located on the eastern flanks of Napo - Galeras massif. This sector is a unique and extremely diverse tropical rainforest whose boundaries, defined by it's surrounding demographic parameters begin at 400 meters elevation above sea level and gradually slopes up to the mountain flanks, providing an uninterrupted continual gradient of tropical rainforest ecosystems to the massif's summit at 1730 meters above sea level.

The low land sector's present legal protection status is defined as "Patrimonio Forestal del Estado", which is the lowest legal protection category within Ecuadorian forestry law. Never-the-less this status has facilitated the CIBT's efforts to establish a biological corridor uniting the lowland sector to the massif, and petition for the inclusion of this area into the recently declared Napo - Galeras National Park.

To understand the exceptional significance of the lowland sector it is important to understand the significance of the life zone present within this area. Tropical Wet Forest within Ecuador, as defined by the Holdridge Life Zone System, exists in a narrow band on both the eastern and western flanks of the Andes mountains between 400 and 600 meters elevation above sea level, with an annual precipitation of over 4000 millimeters. (Cañadas 1983 : MAG - PRONAREC) The Tropical Wet Forest is a "border region" characterized by an extremely diverse flora and fauna due to the overlapping of Amazonian Tropical Moist Forests and Andean Pre-mountain life zones. Tropical Wet Forest is also renown amongst the scientific community for it's high rate of floristic endemism. The most famous of these endemic species is *Ocotea quixos* Lauraceae " *Ishpingu* ", a tree found only within Ecuador, and made eminent world wide for its' aromatic bark nearly identical in flavor and aroma to the Asian cinnamon.

The Tropical Wet Forest life zone of Ecuador is under intense developmental pressures due to it's geographical setting at the base of the Andes, and proximity to where the majority of road building, development, colonization, and increasing population pressures are currently taking place. In Western Ecuador, it would not be an exaggeration to state that the deforestation of the Tropical Wet Forest on the coastal side of the Andes is near 97 %, or greater. The current rate of deforestation and development within this life zone is threatening to extinguish this crucial component of Ecuador's tropical rainforests within the current decade. The consequence of which, amongst others, is the inevitable extinction of species. This already has been demonstrated for Western Ecuador in a report published by the Missouri Botanical Gardens entitled " Biological Extinction in Western Ecuador " by C. Dodson and A. Gentry.

When CIBT initially detected the importance of this lowland sector in late 1992, despite its legal protection status as " Patrimonio Forestal del Estado " the lowland sector remained isolated from the massif due to Santa Rosa de Arapinos' land claim which extended alongside the entire northeastern side of Galeras massif. At this point J. S. Miller began a series of dialogues and negotiations with the community in mention which resulted in a communal decision to cede 700 hectares of the communities southern most section in order to establish a viable biological corridor between the lowland sector and Napo - Galeras massif.

Despite the Tropical Wet Forests' outstanding biological characteristics only a minuscule amount of this forest type has been included into Ecuador's governmental forest protection system, and only in western Ecuador within the Cotacachi Cayapas ecological reserve. Within Ecuador's Amazon region there is currently no Tropical Wet Forest under legal protection status. The proposed lowland sector east of Galeras is amongst the last unclaimed portions of this threatened rainforest type capable of being legally protected.

We have also solicited the inclusion of the rio Pucuno canyon in the northern section of the reserve. This canyon comprises 1,160 Hectares of undisturbed premontane rainforest, and is home to significant populations of the Andean Cock of Rock (*Rupicola peruviana*), and the Military Macaw (*Ara militaris*), both cliff dwelling species now endangered due to lack of habitat and poaching. In the long run we aspire that the canyon will essentially protect itself due to its steep and rugged nature, never the less the CIBT in order to consolidate the park's boundaries, has solicited its inclusion in the technical report presented to INEFAN (Ecuadorian Institute of Forestry and Natural Areas).

For the following reasons the CIBT has proposed the inclusion of the lowland sector and the Pucuno river canyon into the Galeras National Park.

- I To protect under Ecuador's legal protection system a significant grove of Ecuador's most biologically diverse rainforest life zone, currently greatly under-represented within Ecuador's park's protection system.
- II To preserve intact a continual gradient of rainforest ecosystems, from the low land Tropical Wet Forest to the higher Cloud Forest and Premontane forest at the Galeras summit. (400 m - 1730 m).
- III To protect the endemic and endangered species which depend on the integrity of these forest types.
- IV To enlarge the protected habitat of the Cock of the Rock and Military Macaw.
- V To consolidate the parks boundaries to extend the possibility of community involvement into the parks management plan and thus increase the surrounding buffer zone.

At a working meeting in IERAC - Tena on the 11th of February 1994, with the National Park delegation from INEFAN in Quito, as well as the regional INEFAN representatives and the CIBT, this situation was discussed. It was agreed upon by the INEFAN delegation that the lowland sector could be included if and when the arguments for its inclusion were strongly backed and justifiable. INEFAN then verbally solicited the assistance of the CIBT to present a document depicting the arguments justifying its inclusion. This document would need to include the following :

- a. The consent of the surrounding local communities.
- b. Biological importance.
- c. Outstanding characteristics of this region.
- d. The geographical coordinates.

On Feb. 12th, the CIBT and Foundation IMU visited the communities surrounding the lowland sector. Meetings were held discussing the importance of protecting tropical rainforests, biological diversity, and the immediate and long term benefits of bordering a National Park. The communities showed complete accord and acts of agreement supporting the inclusion of this sector were drawn up and signed, on IMU's typewriter which was painstakingly packed in.

Upon returning a document was prepared and presented to INEFAN fulfilling their request. This document entitled "*Criterios técnicos y científicos para la Declaratoria del Patrimonio Forestal Napo - Galeras en calidad de PARQUE NACIONAL.*" clearly depicted the social, political, and biological feasibility for the inclusion of lowland sector as well as the CIBT's proposed park boundaries. The CIBT's petition was accepted by INEFAN indicated in their official response # 00635 dated on the 14th of March 1994 and signed by Dr. Angel Paucar - Director Nacional de Areas Naturales y Vida Silvestre .

In order for an official decree to be made a governmental ground level reconnaissance of the area was necessary. On April 4th, 1994 an INEFAN delegation, accompanied and coordinated by CIBT and IMU, were guided into the lowland sector by San Vicente community president Don Jose Mariño and Jonathon S. Miller, and later met with local communities.

We pitched camp, in the pouring rain, on a high ridge top, surrounded by giant trees and lianas as thick as a grown man's leg. As the rain clouds dispersed that evening, distant thunder rolled across the heavens and we were enchanted by the melancholy ghost like mating call and response of a pair of the rare and endangered "Mundete" (Salvin's Curassow - *Crax salvini*) cooing from the top of giant trees on an adjacent ridge top. Around our camp fire Don Jose Mariño entertained and impressed us with tales of his sightings of the greatest of forest beasts. He proudly proclaimed that the forest here has all the animals, there are four types of armadillos - including the giant armadillo (*Priodontes maximus*), six types of cats - the largest of which being the infamous spotted jaguar (*Panthera onca*) , many kinds of monkeys, kikanjou and olingo (*Bassaricyon gabbii*), tapir (*Tapirus terrestris*) and herds of wild boar, three types of deer, and even giant land boas. " These boas are so great, " he said, " they have trees growing out of their backs, they are surrounded by bones and they capture game with a magnetic force, luring their prey into an open and patient mouth. "

The next morning, while bathing in the crystalline waters of the " Huairachina yacu " (river of the wind-teacher bush) we encountered a pair of the marvelous violaceous trogon (*Trogon violaceus*), displaying their elaborate courtship dance. The sight of these forest indicator species, with a brilliant purple head dress, bright yellow chest, and a metallic green shoulder, confirmed to us the integrity of this ecosystem. The stunning aesthetic beauty and floristic diversity of the primary rainforest animated the inter-institutional committee.

On April 7th, at a meeting attended by members of the surrounding communities, Dr. Andrade clearly stated the implications of the proposed lowland inclusion into the National Park and the benefits that this would ultimately bring. To conclude the meeting, Dr. Andrade stood up waving his pointer and addressed the communities. "So", he said, " Is everyone in accord with the national park? "

"Yes!", the locals all cried in unison. Giant aluminum urns were immediately brought out, topped with fermented yuca chicha. As we scrambled, slightly inebriated, gathering our belongings to begin the long trek back to the Napo river where our canoe was awaiting, the community mothers expressed their gratitude by scurrying alongside us pouring huge bowls of chicha beer directly into our mouths.

11 The introduction of Permaculture ethics to the surrounding communities.

From April 13th - 22nd CIBT, Future Earth-Sweden, and Foundation IMU held an international Permaculture course at the IMU center in Archidona. The course was attended by participants from 22 countries and from various parts of Ecuador including leaders from five of the communities bordering Napo-Galeras.

The two week intensive seminar, organized and coordinated by Ali Sharif, brought great inspiration and enthusiasm to many people. Marco Yamkuam, from the Galeras bordering community of Santa Rosa de Arapino expressed, during one the evening inter-cultural exchanges, *" Before I used to live in darkness. Where I used to live I felled all the forest on my land. Where I live now it is still all forest. Now I see the light. We still have forest on our land and we can protect it, but how will I convince my community members, they will think I'm crazy, how will I make them understand, they all want the road."*

On April 22nd a meeting was held discussing the logistics of the forthcoming demarcation of Napo-Galeras' eastern boundary bordering Marco's community - Santa Rosa de Arapino. At the meeting Marco urged us to please give a talk about Permaculture to his community during the forthcoming work session. It was agreed upon that on the 3rd of May the demarcation would begin.

On May 3rd a delegation of CIBT, IMU, and INEFAN and friends arrived in Huaticocha, a booming colonist frontier town on the new Hollin-Loreto-Coca road, our point of departure to the eastern flanks of Galeras.

We arrived to find that Permaculture had become the towns latest buzz-word. We were immediately invited to the cool comfort of a funky store front porch, were we sat late into the night, sipping moonshine, and listening to Miguel Grijalba, who had also attended the Permaculture course, rave about sustainable agriculture, food chains and the web of life to a group of interested colonist. That night we accepted his invitation to give a brief talk, the following morning, about the principals and ethics of Permaculture to as many colonist as he could arouse.

At 8:00 A.M. a large audience gathered under the tin roof of " Tienda Marlene " awaiting our discourse. The talk was given by members of the CIBT, Victor Caicedo of INEFAN and Marc Winberg, a Brazilian agronomist, on Permaculture ethics, the benefits of grafting and environmental awareness. A small practical followed in which a banana circle was established and planted.

Directly after the course, our group - 20 strong, with the help of many members of the Santa Rosa de Arapino community, proceeded to transfer our month's worth of supplies, weighing roughly one ton, to the south side of the Pucuno river where the work was to begin.

During the course of our collaboration with the local communities we talked in length about the rainforest, environmental ethics and Permaculture. We were solicited to come to the sub-communities of Alto Arapino and Arapino to give one day "courses" on these subjects.

We presented to them some of the basic ethics, principles and techniques of sustainable agriculture, alternative economy and the importance of protecting their primary resources (i.e. water quality and hunting and gathering reserves). We were specifically asked to speak about medicinal plants; thus we set into motion an open forum practical in which each person shared some of their medicinal plant lore in a conscious effort to elevate the common body of knowledge. We urged them to continue

this practical monthly, to study with the elders; to revive and maintain the vision of keeping the ancestral plant lore alive and kicking.

The community members thanked us for our discourse and then expressed to us their need for a medical center and greater school facilities. They also expressed a strong interest in alternative economical options. Never-the-less while some of the more traditional community members proclaimed to have never needed to "work" more than 3 hectares of forest to grow all they need and more. The majority of the larger community members live in constant desperation of a road, and this they pleaded us to help them obtain.

III The creation of 19 km of physical boundary-line on the Eastern side of Napo - Galeras.

On May 5th, a meeting was held and the logistics for the demarcation were set. It was agreed upon that the work would be organized into three sections. Each section would be completed with the help of one of the three sub-communities that comprise the greater community of Santa Rosa de Arapino. Pucuno, Arapino, and Alto Arapino, respectively.

The hands on work began on May 6th, and over the course of the next four weeks 19 kilometers of boundary line were created. The community members, being the expert "macheteros" took on the task of clearing a 3 - 4 meter swath through the understory vegetation. The CIBT and IMU team followed in their still smoking wake taking topographical measurements and planting long lived, highly visible native fruit, nut and palm trees. These trees are to become a productive and self-sustaining "living fence" physically demarcating the Napo - Galeras National Park in perpetuity, and thus eliminating the possibility of future "accidental" poaching or colonization.

The following is a list of native trees planted onto the line. The saplings were obtained from the base of mother trees in the primary forest itself.

Palms :
Hunguragua Jessenia batava Areaceae

Hunguragua is a large forest palm, it produces an edible fruit, from which a nutritious and very delicious beverage. Also from it's fruits a fine oil, with an already established local market, can be extracted. This oil is highly esteemed as a hair conditioner.

Pambil Iriartea deltoidea Areaceae

Pambil is the most abundant palm in this region, it is a tall and elegant primary forest species. It's fruits sustain many forest mammals and birds.

Fruits :
Sacha Cacao Theobroma cacao Sterculiaceae

Sacha Cacao (forest cacao) is nearly identical to the domesticated cacao. It differs in that this variety grows to a large and branchy understory primary forest tree with white, rather than purple seeds. We encountered these trees in prolific fruiting and consumed copious amounts of this forest delicacy. The seeds were planted directly onto the line.

Cushillu Cambic Theobroma subincanum Sterculiaceae

Cushillu Cambic is a cacao relative with equally as delicious fruits. It too, was in high production and its seeds were directly planted onto the line.

Pungara Rheedia macrophylla Cluseaceae

Pungara is a beautiful understory tree, it has yellow sap, and produces a tart but extremely sweet crystalline white pulp contained within a delicate yellow casing. Many seeds of this delicacy were planted.

Sapote Quararibea sp. Bombacaceae

Sapote is a characteristic towering canopy tree with large buttress roots. Its fruits are eaten by monkeys and other wild life.

Pitón Grias neuberthii Lecythidaceae

Pitón is a unique cauliflorous understory tree. It has edible fruits, whose meat is highly nutritious and which taste somewhat like a mixture of avocado and almond with a carrot like coloration and texture.

Pásu Gustavia longifolia Lecythidaceae

Pásu is a distinctive understory tree, and a close relative of *Pitón*. Its fruits too are highly nutritious.

Nuts :

Huachansu Cariodendron orinocense Euphorbeaceae

Huachansu is a large primary forest nut tree. The trunk's characteristic smoothness and coloration make it a highly visible tree in the primary forest. This tree produces a high quality edible nut, Hence the Spanish name " mani de árbol " - tree peanut. We were fortunate to find a treasure trove of thousands of saplings at the base of a tremendous mother tree.

Over the course of the next month we successfully created nineteen kilometers of boundary line around the north eastern side of Galeras, and along the northern boundaries of the low land sector .(see map). The boundary line crossed thirty-three creeks and eleven rivers all of which were crystal-clear of a superb freshness, and from which we drank from daily. Don Pancho Mendoza, our topographer, who has been working in the remote regions of tropical Ecuador for over twenty-five years, exclaimed that he had never before seen so many crystalline waterways in such a small area.

The raw beauty, purity, and abundance of wild foods and medicines in this land gave strength and inspiration to the group. Other than occasional minor cold and flu symptoms there was no occurrence of sickness during the whole month. A community member did however suffer a machete cut on his wrist. Fortunately we had a sutchers needle and silk thread on hand and the presence of Isabel Mamallacta who had the experience necessary to stitch it together. Although there was no anesthesia used Papa Lucho was grateful for the four stitches and the wound began to heal well.

Many isolated and distinct micro-climates and floristic communities were prevalent in this region due to the broken and steep nature of the terrain and the high annual precipitation. The observation of these, and many other characteristics not

mentioned in this report, has led us to suspect a potentially high occurrence of floristic endemism. We suggest that this area is a prime candidate for further floristic inventory and biological studies. Further studies of the region will undoubtedly reveal to science the biological uniqueness of Napo - Galeras and its' surrounding forests, and thus inevitably unveil misconceptions in our lack of understanding of "mega-diversity" and its' implicit function in maintaining the stability and fertility necessary for the continued existence of complex life on earth.

IV The Demographic situation East of Galeras

To understand the demographic situation East of Napo - Galeras first it is important to understand, that this region, until approximately forty years ago was an extension of the Huaorani traditional territory (E.Legisamo, Rio Bueno 1992 personal communication). With the introduction of roads nearby, an increasing population along the North bank of the Napo river, and missionary activity within Huaorani territory, the Huaorani retreated south of the Napo river. At this time the Quichua people from the populated mission settlement area of Archidona - Tena gradually began settling the south east side of Napo - Galeras. The areas original Quichua settlers were led by two, now deceased, pioneer brothers - Don Eduardo and Vicente Legisamo, to populate the land so as to not have the " Auca " - Huaorani return. Others were brought by colonist land owners as workers, as in the case of the Ollala brothers. Then others, Quichua and mestizos alike, when it was sure that the Huaorani were not to return North of the Napo, came on their own adventuresome terms to settle and claim the land, in search of a new and free life untrammled by the troubles of overpopulation, colonization and lack of resources and hunting so greatly prevalent in the Archidona - Tena area .

In the region east of Napo - Galeras surrounding the petitioned for National Park, low land sector, it is only within the past decade and sooner that the local population has organized itself into distinct and separate community organizations. Today the land tenure situation is defining itself as a series of community organizations primarily along the Rio Napo, Rio Bueno, Rio Cotapino, Rio Pucuno and Hollin - Loreto Road. These varied communities all have their own community leadership and organizational structures, and the greater majority have already been physically demarcated by the community members themselves, and in some cases by IERAC (Instituto Ecuatoriano de Reforma Agraria y Colonización). these community organizations primarily consist of Quichua speaking people and or mestizo Spanish speaking people, and some communities are mixed. Never - the - less the greater majority of the settlers east of Galeras both Quichua and mestizo alike have not been there for more than 35 years.

The long term land tenure is gradually solidifying as many communities are beginning to receive legal communal land titles, such as 10 de Agosto and Santa Rosa de Arapino, which are alongside and just to the South of the Hollin - Loreto road, respectively. The 10 de Agosto community boundaries and Santa Rosa de Arapino community boundaries now define the permanent limits of Galeras National Park to the north, as for 10 de Agosto, and to the northeast, as well as the northern section of the petitioned eastern low land sector, in the case of Santa Rosa de Arapino.

Land tenure and demography along the Rio Bueno, to the Southeast of Galeras is a much more complex and transitory situation, due primarily, to the ongoing and unfolding "frontier" like nature of the area. The presence of both Quichua Indians and a mixed mestizo colonist population from varied regions of Ecuador, fostered by the individual nature of the settlers, each with their own 50 hectare parcel, out in the woods on their own terms has made community organization a difficult and unstable situation. This instability has also been a primary reason for the higher rates of

deforestation in this sub-region, in that, in order to individually claim the land, essentially what is yours is what you have cleared, with or without land title, whilst primary forest is seen as "free" land, up for grabs to thou with the sharpest machete. Only recently are the definitive communities beginning to shape and take form both demographically and geographically, and this has been, primarily, a manifestation of the local population to install some sort of sovereignty and stability in the face of many years of land conflicts and disputes. Today the communities along the Rio Bueno, have organized to encompass an affiliation of family groups with one or more 50 hectare parcels, some of whom have individual land title to their parcels, and many of which have several (2 to 6) 50 hectare parcels throughout the region. This consequently has complicated the possibilities for governmental global land granting, as in the cases previously mentioned with 10 de Agosto and Santa Rosa de Arapino, which on the other hand are newer communities who have had, ironically but true, less time to complicate their land tenure.

The Rio Bueno communities land area is defined primarily by the affiliation of their members 50 hectare parcels, like San Vicente del Rio Bueno, and in some cases with a communal forest reserve for hunting, gathering and as a place for their children's 50 hectare parcels, as in the case of Asociación Las Galeras and Buen Pastor del Rio Bueno. These three communities boundaries also define the permanent limits of the Galeras National Park and it's Eastern low land sector. Asociación las Galeras borders to the Southeast of the massif and alongside the Southern portion of the lowland sector, while Buen pastor and San Vicente border only the low land sector's Southern boundary.

It is in a sense a mere fate of chance that the lowland sector has over all this time remained unclaimed, this of course was also the primary reason for it's inclusion into the " Patrimonio Forestal del Estado " declaration in 1987. From a contextualized point of view it is as if the inclusion of this sector to National Park status is just meant to be. Thus the low land sector has now been naturally defined by the solidifying demographic situation in this region. Therefore, due to its primarily " unclaimed " nature, un-intervention by IERAC, titularly being " Patrimonio Forestal del Estado ", and its outstanding biological condition, the inclusion of this sector into the Napo - Galeras National Park exists. From a ground level and practical perspective this is a definite possibility; assisting towards the consolidation of a long socio-political and ecological predicament. On the contrary, if it were to be left as is it would be in the near future, the source of tremendous disputes, land speculation, colonization, ecological erosion and a weak point for the regions social and demographic stability which the local residents so seek and desire.

IV b : Colonization within the low land sector :

On May 6th a commission departed from the demarcation camp on a long two day trek south to the low land sector. Our mission was to negotiate the indemnification and or equitable relocation of a group of Quichua settlers that have claimed land within the most fragile portion of the low land sector, it's narrow biological corridor unifying the area with the larger massif land mass. (see annexed map)

This meeting was the latest planned event culminating over one and a half years of communication with Don Francisco "Mundiri" Grefa and his two sons, Mario Jose and Jorge Virjillio Yumbo Grefa and their, " Cuñado " , brother in law, Deonicio Tapuy.

These are the only people who have a land claim within the low land sector since slightly before the ministerial accord which declared this region "Patrimonio

Forestal del Estado*. Primarily for this reason we entered the dialogue with the understanding that they must receive an equitable indemnity, with the end result being an acknowledged improvement of their current condition.

At the inter-institutional work meeting, which comprised of Victor Caicedo of INEFAN - Tena, Gabriel Segundo Alarcón of IERAC - Tena, Jonathon S. Miller of CIBT, Ramon Mamallacta of IMU, Flavio Santi of the Quichua community of Amazanga, and the party in reference, the settlers happily agreed to accept the indemnification offered. Primarily due to the fact that they don't live there full time, and claimed the land only on the pretense of a proposed road project through the region, that was to facilitate their desire to extract the timber and sell the land. Now that the rumor of this road project has diminished and with the area being proposed for a National Park, they stated that they no longer desired to stay.

Don Francisco "Mundiri" Grefa had claimed this piece of land for his two sons, and then some two years ago had invited his son in law to "work" the land nearby. Mundiri is a member of the community, Buen Pastor del Rio Bueno. When we first detected his presence, and dialogue began, we felt strongly that there were no secrets here to be concealed, and that these types of negotiations had to be held with the full understanding of all parties and peoples involved. Therefore several meetings were held with the community leaders and members of Buen Pastor del Rio Bueno to discuss these matters and seek the best possible solution. The Community of Buen Pastor, from the projects inception have been strong advocates of the project and agreed to help and take an active participation towards the protection of Napo - Galeras. It was decided by the community leaders that the best solution was to buy the possession of a community member who had left many years ago and was now living elsewhere. They assured us that there were 5 farms available within the community boundaries and that they would contact their owners so as to negotiate a price. This way Mundiri's sons could live within the community. We were all pleased and this last of meetings was to simply consolidate the final negotiations.

The situation became more complex than expected. The original plan rendered impossible, since for some mysterious late of chance, all the community members that had abandoned their farms decided to return and live within the community. So now there was not one single available farm within the community for Mundiri's two sons. The irony of the situation was revealed when Mundiri's two sons explained how they didn't want to live within the community, they wanted to live along the road.

On May 7th, 1994, after much dialogue we proceeded to make an economic assessment of the settlers work in order to determine the value of their claim. This was done in the official manner with the state representative Gabriel S. Alarcón of IERAC. The following are the results of the assessment both economically and in terms of the amount of work present.

The current exchange rate at the time was 2,000 sucres per 1 US. dollar.
Francisco "Mundiri" Grefa's his two son's farm was estimated at:

147,000 sucres	For his rancho. (small palm roofed hut)
2,534,200 sucres	For his 4 hectares of cacao and coffee plantations including his fruit trees.
2,681,200 sucres	Total

Deonicio Tapuy, Mundiri's son and law's work was estimated at :

291,500 sucres	For 800 square meters of cacao.
185,500 sucres	For 1 hectare of coffee.
477,000 sucres	Total

It was decided upon, as for Deonicio Tapuy, he would receive 500,000 sucres for his work, which he would invest in his farm in Archidona. As for Mundiri's two sons, being that their possession was substantial and that they had been there since before the declaration of " Patrimonio Forestal ", a farm or a land claim would need to be bought for them as long as it was roughly the same amount as their current claim. They were pleased with the outcome of the meeting and agreed to begin looking for another place.

A future meeting date was set to negotiate this process and the parties returned to their respective destinations.

There also exists the presence of several small land claims within the eastern most portion of the low land sector along the Rio Tucuno. (see map). These are Quichua settlers from the Archidona region. Although we have never spoken directly to these people we have been informed by various long term residents of the surrounding communities that these people have, only in the past two years, begun to claim the land, and that they come from Archidona were they have their permanent settlements. We were also informed that they have no permanent settlements within the low land sector and that they visit the area infrequently and primarily as a hunting reserve. The one visit to their claim within the low land sector made in February of 1994 by Victor Caicedo of INEFAN - Tena, and J. Miller of CIBT accompanied by " Mundiri " Grefa, revealed a rotted shack, in the center of a neglected one hectare clearing sparsely planted with corn, now over ripe and rotting, and several small coffee plants. A letter of citation from INEFAN - Tena was left soliciting the settlers to a meeting with the IERAC and INEFAN zonal chiefs in Tena.

V Conclusion :

Again we stress the importance of the low land sector. This area is amongst the last regions capable of being legally protected of the "mega-diverse" Tropical Wet Forest life zone within Ecuador. Ironically, despite the Tropical Wet Forests outstanding and unique characteristics it is currently the least represented life zone within Ecuador's national forest protection plan. If swift and appropriate action is not taken soon by INEFAN and/or other concerned institutions or individuals, the area will surely succumb to colonization and ecological erosion. Ecuador and the world will have lost in perpetuity a critical and greatly misunderstood component of humanities biological heritage.

This four month trajectory of activities and coordination was a definitive leap forward. It was the culmination of over three years of a diverse series of multifaceted efforts. Including, amongst others, visits to the surrounding communities, endless meetings and dialogue, topographical studies and map making, physical demarcation and much ground level, socio - political, and governmental coordination, respectively.

Permaculture was also introduced as a valid alternative land use practice via several practicals and one day courses at several of the communities surrounding Napo - Galeras, to both Quichua and colonist alike. Also, and primarily, via the CIBT 5th 2 week intensive Permaculture seminar held in Archidona at the "Izhu Mangallpa Urcu" cultural center.

These events have consolidated and given root to the permanent north and northeastern physical boundaries of Napo - Galeras National Park, thus making relevant at ground level the official governmental decree. Consequently the physical

demarcation has also contributed to the establishment of "principal infrastructure" for the reserves long term ground level protection.

Our activities have also disseminated a baseline of information towards the protection of the 2,200 Hectares of Tropical Wet Forest found in the eastern low land sector and the 1,160 Hectare Pucuno river canyon to the North; both on ground level - amongst the surrounding communities - and on a governmental level - via, the INEFAN commissions, technical reports and inter-institutional meetings. We aspire that this report highlights the necessity of protecting the low land sector, and that it will be used as a base line of information by INEFAN to equitably relocate and indemnify the settlers currently claiming land within this vital and vanishing tropical Ecuadorian patrimony. Again, we stress, that without urgent, swift and appropriate action Ecuador and the World will lose in perpetuity the opportunity to conserve amongst the last regions of Tropical Wet Forest capable of being legally protected within the Republic of Ecuador.

We believe that these events are critical facets towards the tenuous challenge of setting into motion a long term and coherent socio - political protection process, capable of protecting in perpetuity Ecuador's most recent National Park, which consequently as well is an immemorially revered and sacred mountain, " Izhu Mangallpa Urcu, " Eygahueyaboga " , Napo - Galeras.

May the great tropical forests found on and around Napo - Galeras always exists, for our children's children...

We would also like to express cordial appreciation and gratitude to Dr. Joan Lessin and the Eco - Emissaries group # 1. With their financial assistance this work was made possible.

Jonathon Sparrow Miller - Ethnobotanist
Casilla 17 - 12 - 52
Quito Ecuador

Salvador Jorgensen
2343 Mcgee Ave.
Berkeley, CA 94703



Huairachina Yacu - The river of the wind-teacher bush,
in the Eastern Tropical Wet forest - Low Land Sector.



A view of Napo - Galeras from Santa Rosa de Arapino.



** La Comisión **

The INEFAN commission to the 2,200 Hect. Tropical Wet Forest - Low Land Sector.
L to R : Oswaldo Mosquera, Victor Caicedo, Carlos Espín, Jose Mariño,
Dr. Rafael Andrade, J.S. Miller, in April 1994.



** La Fiesta **

The work team at our last day feast, celebrating Salvador Jorgensen's birthday, and the culmination of 19 Kilometers of boundary line around Napo - Galeras National Park.