

# WHITLEY FUND FOR NATURE

## FINAL REPORT FORM

*Recipients of funds from WFN are required to submit a report twelve months after the receipt of funds. Please use this form for reporting to us about your project. Please answer all questions. If you need to adapt this form, you can but please keep information clear and to the point.*

**For Whitley Award winners:** Please note that you will not be eligible to apply for Continuation Funding unless all funds have been spent and you have submitted a full report using this form.

<b>Date:</b>	15 <sup>th</sup> of July, 2009
<b>Name of Winner:</b>	Angela Maria Maldonado Rodriguez
<b>Project Name:</b>	Calderón Project
<b>Type of Award:</b>	Associate award
<b>Year of winning this grant:</b>	2008
<b>Grant amount received (in GBP):</b>	£10,000
<b>Grant amount remaining (in GBP):</b>	£0
<b>Date final report due:</b>	15 <sup>th</sup> July 2009

**NOTE:** In this report we are including updated information (from January to July 2009) that complements the interim report presented in December 2008.

### 1. Executive Summary of Objectives

Please summarise the objectives of your work as set out in your application for funds. Have there been any changes to your objectives?

1. Identifying economic incentives increasing pressure on natural resources
2. Supporting participatory assessment among stakeholders (**SH**) to establish common-ground knowledge
3. [Training local stakeholders in wildlife monitoring methods and GIS techniques](#)
4. Estimating densities/abundances and distribution of hunting target species (mammals/birds)
5. [Assessing the abundance of key plant species](#)
6. Identifying technologies for the improvement of local economies
7. Training local students in conducting research and disseminating their findings

**Objective 3:** From the seven objectives stated in the initial application, the only objective we did not achieve completely was objective #3. Our initial aim was to update the current GIS database collected by Amacayacu National Park (**ANP**), CORPOAMAZONIA<sup>1</sup> and other local NGOs in order to compare past and present forest coverage in ANP and its buffering zone, the Calderon basin. However, despite our best efforts we failed to coordinate with governmental organisations. In order to overcome this limitation we contacted Fundacion Tropenbos, as its director has long-term experience working alongside those organisations. He suggested that we need first to take into account the idiosyncrasy of governmental organisations in the Amazonas department, and therefore, in order to update the GIS database it is necessary to decide which data to record, which information the government agencies are willing to share with others, who will provide funding for data analysis and organisation, and which organisations will hold the data during the analyses. It is important to have the agreement in writing to formalise that process. Finally he suggested that local needs should be attended first in order to address local issues prior to presenting the outcome to the regional above mentioned organisations. Therefore a local workshop in “*social cartography*” was held in the Mocagua community, with the participation of CORPOAMAZONIA, ANP, two Tikuna communities overlapping ANP, one local NGO, Fundacion Tropenbos and Fundacion Entropika. The results are explained in point 4. Part of the GIS data base collected in 2008 was to be presented in the form of maps by a past member of ANP and Fundacion Entropika, but on account of his moving to another organisation, we have not yet been able to analyse those data. We aim to have the maps and GIS database ready during the second semester of 2009.

CORPOAMAZONIA and ANP are willing to initiate the update of the database when funding and infrastructure allows. The representative from CORPOAMAZONIA suggested the first semester of 2010 as feasible for getting the basic infrastructure (e.g. computers, software programmes). In return Entropika’s role would be to secure funding for paying the living and travel expenses of two programmers to initiate both the consolidation of the database and to train personnel from ANP, CORPOAMAZONIA and Entropika in the use of the software ArcView 9.3. It is likely that the Universidad Nacional, Leticia campus, will join the project if the infrastructure is in place by 2010 (e.g. computers room), as well as Reserva Cerca Viva (please see point 9).

**Modification of objective 5:** Initially, we had planned to create permanent vegetation sampling plots covering a total area of 24 ha at three sites for the identification of plant species recognised as the food sources of large mammals or key species consumed by humans.

We propose to survey a total of 10 ha in the Calderón basin: 5 hectares in the Sábalo Creek and 5 hectares at the head of the Calderón River near ANP in the buffering zone. Permanent plots will be established and all trees with a diameter at breast height DBH>10 cm will be included, and therefore not just food sources for large mammals or key species for human use, so as to give us a broader understanding of the forest.

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<sup>1</sup> **CORPOAMAZONIA:** Regional environmental authority in charge of regulating the use of natural resources in the Colombian Amazon, outside protected areas. It is responsible for the administration of the Calderon Basin and buffering zone of ANP.

## 2. In your own words, how has the Award/Grant helped you/ your project?

This grant has supported our effort to promote sustainable livelihoods through participatory research giving us the opportunity to continue working for the adequate management of natural resources in ANP, and its buffering zone, and to implement fieldwork in the Calderón basin. This year of research (2008-2009) was crucial for the consolidation of a complete data set for estimating densities and sustainability of the hunting of primates and other hunting targets in ANP and two Tikuna indigenous communities.

From a personal point of view, winning the WFN award brought me the recognition of two other funding bodies (WWF-USA and Rainforest Concern-UK), who extended their support in order to pay for my living expenses during 2009, as they are aware of the fact that I do not earn a salary although I am working full time to ensure the continuation of research in the Colombian Amazon. Additionally, my research is part of the long-term projects that receive institutional support from Oxford Brookes University (OBU) and I am presenting research results to the new MSc and PhD students (Anthropology and Geography department at OBU) when in the UK.

## 3. Main achievements - Highlights

We will use this report to highlight what you have achieved with our support to our supporters. Please use short bullet points to draw attention to the main achievements of your work funded or part-funded by the Whitley Fund for Nature, or which resulted from publicity associated with our support. If possible, please include details of scientific evidence and/or social data which shows evidence of success.

- **Conservation evidence:**

- Mocagua Tikuna community has rigorously applied the hunting ban for woolly monkeys. Our local coordinator (Cristobal Panduro) presented the research results to the Mocagua and San Martin Tikuna communities. As a result, Mocagua formed a group of local co-investigators for monitoring nocturnal species, focusing on *Aotus* spp. (night monkeys), a highly exploited species in the study area. This is the only Tikuna community, out of the six communities localised close to ANP, to initiate a local based-monitoring. We feel proud to see how local people are taking their own initiative in monitoring their wildlife. Training in data collection and data input is currently offered by Fundacion Entropika.
- Establishment of the “Palosangre” campsite in the Calderon basin. This place has been proposed as a monitoring and research centre.

- **Scientific evidence:**

- Densities of primates and other large-vertebrates in ANP (see appendix 1)
- Calculation of the sustainability of hunting, comparing extraction rates of two Tikuna communities, ANP (see appendix 2).
- Submission of two scientific articles titled:

Parathian, H.E and Maldonado A.M. *in rev.* Human-nonhuman primate interactions amongst Tikuna people: perceptions and local initiatives for resource management in Amacayacu National Park, Colombian Amazon. American Journal of Primatology.

- One published article, however funding from WFN was not used for data collection of this research: Maldonado, A.M., Nijman, V. and Bearder, S.K. in press. Assessment of trade in night monkeys *Aotus* spp. in the Brazil-Colombia-Peru tri-border area showing the ineffectiveness of enforcement of international wildlife trade regulations. *Endangered Species Research*.
  - Abstract published after oral presentation in International congress: Maldonado, A. and Bearder, S. 2008. Assessing the impact of hunting on harvest-sensitive primates within protected areas and indigenous lands in the Colombian Amazon. *Folia Primatol.* 79(5): 357–358
  - Complete pictorial guide of key plant species combining Traditional Ecological Knowledge (**TEK**) and scientific knowledge (see appendix 3).
  - Tree survey data collection initiated for the monitoring of the Calderon basin area, with the establishment of a permanent plot.
- **Socio-economical data:**
    - Elaboration of the local proposal: *Valuing integrated subsistence ponds alternative at Mocagua Tikuna community, Amacayacu National Park, Southern Colombia*. A Tikuna family from Mocagua is leading this proposal; however, still assessing the feasibility of the project bearing in mind local limitations in resources acquisition and funding management.
    - Identification of the economic alternative: The process of freeze drying non-timber forest products, such as Amazonian fruits. This alternative is in its design step.
    - Suggestions on how to implement a sustainable and legal extraction of Cedar (*Cedrela* spp.) in the San Martin community, as an economic alternative for commercial hunting (work in progress).
  - **Law enforcement:**
    - Submission of two reports to CORPOAMAZONIA and *The natural resource protection and monitoring committee of the Amazonas department (TNRPMCA)*<sup>2</sup> informing them about new deforested areas and other environmental threats (Calderon basin).
    - Submission of one report to ANP providing results on primate densities and the sustainability of the 15 most important game species in Mocagua and San Martin.
    - Annual report submitted to the Colombian Special Parks Unit-Bogota (UEASPNN), providing the main results of use of resources and environmental education in Mocagua.

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<sup>2</sup> **TNRPMCA:** This committee was established to aid the monitoring of illegal natural resource extraction, as the entity responsible for taking action. It is composed of: CORPOAMAZONIA, Environmental Police, DAS (Administrative Department of Security), INCODER (in charge of legalising land tenure), County Council (of the municipality of Leticia) and Governor (of the Amazonas department), NGOs (Reserva Cerva Viva and Fundacion Entropika).

- **Environmental Education:**

- Over 130 people of the Mocagua and San Martin Tikuna communities, within an age range of 7 to 65 years old, participated in educational activities focused on the Project-Based Learning and Participatory Video<sup>3</sup> (PV) over the course of the year.
- The participant communities have permanent record of the activities in the form of DVDs, which can be used as educational resources in the future.
- The DVDs will form part of an educational exchange between Colombia and the UK (work in progress).

#### 4. Summary of work funded by the Award/Grant

This section should form the bulk of your report, together with your financial report. Please make it clear what has been achieved so far, and what problems have been encountered. Refer back to your objectives as proposed in your original application so it can clearly be seen what has been achieved to date:

Original Goal	Work done to achieve goal	Detail of progress / Problems encountered. How have you overcome any challenges?
<p><b>1. Identifying and quantifying the current economic incentives increasing pressure on Natural Resources (NR)</b></p>	<p><i>1.1. Collection of qualitative and quantitative data on the harvesting of Natural Resources (NR). Six fieldtrips for data collection.</i></p>	<p><b>1.1.</b> The probability of clearing more primary forest for agricultural purposes is increasing at the moment because inhabitants of the Calderón basin grow subsistence crops. The soil is thus becoming poorer in these cultivation areas, which renders less productivity, and availability of land for cultivation in “rastrojos<sup>4</sup>” is becoming more limited.</p> <p>Some “rastrojos” were cleared last year and are currently being used by the “Israelitas<sup>5</sup>” to grow a special type of rice in <i>tierra firme</i> forests for local consumption. This community also grows commercial crops, such as guanábana (sour sop) (<i>Annona muricata</i>) and ají maicito (hot peppers) (<i>Capsicum</i> sp.), in cultivation areas that were cleared more than five years ago to sell in Leticia. There is also an increase in the hunting pressure they exert over certain endangered species, such as the tapir (<i>Tapirus terrestris</i>), because the entire community can feed from that one individual.</p>

<sup>3</sup> **Participatory Video:** is a method used to involve community members in creating their own films on issues relevant to them. It is important to make the distinction between PV and documentary making as PV is the production of materials by the communities themselves rather than an interpretation of messages by an “outsider”. This means that rights to material, control over its ultimate representation and the decision-making process remains firmly in the hands of the participants (Lunch and Lunch 2006).

<sup>4</sup> **Rastrojo:** Secondary forest growth after initial clearing of primary forest.

<sup>5</sup> **Israelitas:** Religious group of approximately 96 people, located in the Calderon basin. Land tenure is illegal. Their livelihood is based on land cultivation, hunting and trade of forest products.

	<p><b>1.2. Seed exchange festival:</b> <i>GROUP 1: 15 day visit to Buenos Aires; 5 days of Participatory Video (PV) workshop and local training and 2 days in the “Seed Exchange Festival”.</i></p> <p><i>GROUP 2: 15 day visit with the CIMTAR authorities to the nine communities in the Cotuhé-Putumayo Indigenous Reserve supporting the organisation of the seeds to be exchanged in the event.</i></p>	<p>The colono<sup>6</sup> settlers grow crops for self consumption and do not commercialise products in Leticia. Some of the colonos are currently promoting tourism in the area and consumption of bushmeat by tourists will therefore probably occur more often as visitors arrive. One of these settlers is searching for gold at the head of the Calderón River and the Purité River, located around 40 kms to the north, with no positive results so far. He mentioned that he would be leaving the area in the near future.</p> <p>The illegal extraction of cedar (<i>Cedrela</i> spp.) in the San Martin community is increasing deforestation rates and hunting. ANP and local authorities were informed and are aware of this situation. In 2008 A. Maldonado approached the new director of ANP and suggested the implementation of a cooperative association in order to allow sustainable and legal extraction of Cedar by San Martin. It is currently crucial to develop an economic analysis to determine the sustainability of Cedar harvest by local people. <b>Limitations:</b> There are several internal issues amongst the Tikunas regarding ownership of the available wood, although San Martin and ANP are working together in mapping Cedar distribution in their overlapping areas. Local limitations, related to lack of organisation and governance, have to be addressed before designing a sustainable extraction of Cedar by the community. We are currently not working with San Martin, as internal issues have to be solved before outsiders can get involved in community decisions regarding management of resources. In the meanwhile, we would like to support ANP in the economic analyses of Cedar extraction. The involvement of an economist in this process is crucial and we are thus looking for a volunteer that could start the economic feasibility study.</p> <p><b>1.2.</b> The “Seed Exchange Festival 2008” event, initiative lead by the CIMTAR (indigenous organisation of the northern area of ANP) with the support of ANP, took place in the Tikuna community of Buenos Aires with the participation of the rest of the Cotuhé-Putumayo Indigenous Reservation<sup>7</sup> (IR) (Puerto Tikuna, Puerto Huila, Puerto Nuevo, Ventura, Santa Lucía, Nueva Unión, Pupuña and Cañabrava) as well as the participation of San Martín from the southern area of ANP. A total of 164 varieties of plants, grown as a food source by the Tikuna people, were mentioned; more than 100 of these were taken to the “Seed Exchange Festival”.</p> <p>The festival had a positive impact on the participants and the CIMTAR Indigenous Association and represents a tool to recover traditional knowledge on the cultivation of key plant species, particularly important to Tikuna people and remoter communities, to gather and share their traditional knowledge. A PV workshop was held in Buenos Aires a few days before the seed exchange event causing some inconveniences and misunderstandings in respect to the role of the non-indigenous participants and the use of this audiovisual material. Only a few photographs and hours of recording were taken during this</p>
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<sup>6</sup> **Colonos:** Non-indigenous inhabitants from other parts of Colombia that have settled in the area.

<sup>7</sup> **Indigenous Reservation:** (Resguardo indígena) Legal and socio-political institution made out of an indigenous community, with a title of collective ownership, which possesses its territory and is ruled by the indigenous code of laws and its cultural guidelines and traditions (Republic of Colombia 1990).

		<p>event following the disagreement of some of the elders towards the filming of the Seed Exchange. A copy of all videos and photographs taken during the Seed Exchange and PV Workshop is under CIMTAR's supervision and a copy is also guarded by ANP and Fundación Entropika. A legal agreement is in process in order to access this information with the prior consent of the CIMTAR. Another Seed Exchange was proposed for the year 2009 where CIMTAR decided upon the sole participation of traditional authorities and ANP.</p> <p>The above-mentioned event was held on June 26-28, 2009 in the community of Ventura with the participation of ANP, but unfortunately the communities from the south of ANP (Mocagua, Palmeras and San Martín) did not participate. ANP has played a crucial role in promoting the Seed Exchanges and has also been monitoring the growth of the seeds that were exchanged last year between the nine communities of the northern area of the park. One of the conclusions drawn from the events held in Buenos Aires and Ventura is that there are numerous varieties of manioc, plantain, banana, pineapple, yam and Aroid tubers which are especially important to the Tikuna diet. These varieties require more attention in order to promote their use and transmission of traditional knowledge to secure their conservation. The "Seed Exchange" is becoming the "Traditional Knowledge Exchange" in a future event scheduled for the year 2010 by the CIMTAR because not only seeds are exchanged but more awareness has been generated about the importance of cultural spaces like these.</p>
<p><b>2. Supporting participatory assessment among stakeholders (SH) to establish common ground knowledge, skills and resources</b></p>	<p><b>2.1. Workshops with SH:</b> <i>Dissemination of preliminary results</i></p> <p><b>2.2. Social Cartography workshop, Mocagua, May 16-18, 2009</b></p>	<p><b>2.1.</b> Fundación Entropika organised a visit to the Calderon Basin with the participation of the Environmental Police, local leaders from the Calderon basin, Reserva Cerca Viva and Reserva Tanimboca. A complete report was submitted as a result of this visit. The information presented originated two further meetings to discuss the irregularities regarding the use of NR in the area. <b>Limitations:</b> The participation of CORPOAMAZONIA was crucial as it is in charge of regulating the use of NR in this area. Nevertheless, after confirming the participation of a representative from this organisation, they did not attend this visit. A written complaint was presented by the Environmental Police, but never obtained a response from CORPOAMAZONIA. This situation has been common in previous visits/meetings regarding the Calderon basin. The lack of involvement of CORPOAMAZONIA is one of the main constraints for enforcing environmental regulations in the area. However, we keep updating CORPOAMAZONIA with reports as well as inviting them to other workshops that are likely to interest them, such as the <i>Social Cartography</i> workshop held in Mocagua (see below).</p> <p><b>2.2.</b> The <b>Social Cartography</b> workshop was developed with the communities that overlap ANP in its southern part as their participation to the Seed Exchange Festival in June 2009 was not possible due to resources and transport constraints; this workshop aimed gathering Tikuna communities and other important SH, such as ANP, CORPOAMAZONIA, Fundación Tropenbos, Entropika and local NGOs, together.</p> <p>Entropika and Tropenbos presented in this workshop feasible alternatives to effectively communicate on</p>

		<p>issues, such as land protection and management, law and policy on the use of NR and boundaries between contiguous IR, between the environmental authorities and indigenous people, owing this to the misunderstandings that the latter have regarding these issues. Local people gained an insight on environmental legislation as a result of this workshop.</p> <p>The participation of ANP and CORPOAMAZONIA was essential to discuss current issues on IR boundaries and new proposals of IR extension, as is the case of the San Martin community. Maps made by local leaders were produced with the active involvement of elder and women. This is the first time since 2004 that CORPOAMAZONIA participates in the dissemination of new or modified legislations on the use of NR that indigenous people have to be aware of.</p> <p>This workshop made an approach between Mocagua and Palmeras Tikuna communities possible as they have a common territory where boundaries are not clear; first discussions about management of resources in this territory were elicited. Fieldtrips organised by leaders of both communities will confirm territory limits inside ANP.</p> <p>Fundacion Tropenbos has a long-term experience in developing workshops focusing on cartography and management of resources by indigenous people; Entropika's involvement was crucial as our permanent presence helps to monitor and support the collection and organisation of new information gathered by Tikuna people.</p>
<p><b>3. Estimating densities/abundances and distribution of hunting target species (mammals/birds)</b></p>	<p><b>3.1</b> Monthly fieldtrips to conduct census surveys were carried out as well as continuous training in monitoring methods for local co-investigators was offered.</p>	<p><b>3.1.</b> Please see results in Appendices 1 and 2 for overlapping areas (Mocagua and San Martin).</p> <p><b>3.2</b> Five census fieldtrips were conducted in the Calderon basin from February to June 2009. A total of 7 trails with a cumulative distance of 18 km were cut and marked for carrying out census surveys. Walked distances of 61 km of census surveys were completed. A database with 216 observations of primates and other large-vertebrates, including diurnal and nocturnal census is available. We obtained a total of 82 visual detections composed mainly out of primates (88%) followed by rodents, carnivores and ungulates. A detailed list of observed fauna is included in appendix 4.</p>
<p><b>4. Assessing the abundance and distribution of key tree/food mammal species</b></p>	<p><b>4.1.</b> Five fieldtrips to the Calderón River area with the participation of three volunteers.</p>	<p><b>4.1.</b> At the moment, a one hectare grid has been established and recording of botanical data with TEK methodology has been carried out in 60% of the grid. A total of 369 trees with a DBH&gt;10 cms have been mapped, tagged and measured and around 600 trees are expected to be surveyed in this hectare. Seventy (70) vegetation samples were collected, then dried at the Universidad de los Andes herbarium and classified at the COAH Colombian Amazonian Herbarium (see Appendix 5). Tree species such as alcanfor, mata mata and cumala tend to dominate the vegetation in the area.</p> <p>Training and education: Two English nationals had the opportunity to volunteer for fieldwork in the</p>

	<p><b>4.2.</b> Completion of two years of tree survey research in ANP with the Tikuna communities of Mocagua and San Martín.</p>	<p>Calderón basin. One biology student from Universidad de los Andes volunteered for fieldwork as he will develop his thesis for a Bachelor's degree next semester and was in search of more insight on the region.</p> <p>Collection of initial GIS database information on the Sábalo Creek area around the "Palosangre" campsite and the Calderón basin between the "colono" settlements and the "León de Judá" community (work in progress).</p> <p><b>4.2. Fruits of the Forest Pictorial Guide:</b> This guide is the result of a four hectare tree survey on the fruits that are consumed by primates in the southern part of ANP and includes several years of field work on plant photography. It is intended to facilitate recognition of local species and to serve as an environmental education tool. The "Agustín Codazzi" and "Antonio Ricaurte" schools from San Martín and Mocagua have an available copy to work with the students. ANP has also been delivered a copy for environmental education purposes (see Appendix 3).</p> <p><b>Limitations:</b> The pictorial guide has not been distributed to the rest of Tikuna communities located at the southern part of ANP and the communities from the Calderon basin, as planned by Entropika, as funding for this purpose is not available yet. To overcome the funding limitations, Entropika is presenting the guide to funding bodies to publish a first edition and distribute it locally.</p>
<p><b>5. Training local students in research methods enabling them to conduct research on environmental issues, and disseminate their findings</b></p>	<p><b>5.1.</b> Participatory Video Workshops carried out in the community of Buenos Aires during the Seed Exchange Festival in September 2008.</p>	<p><b>5.1.</b> Three members of the community of San Martín were formed into teaching Participatory Video, resulting in the community now having a capable team, with experience, to continue the work started by external facilitators and to manage the filming process. The next step is to facilitate them in edition of the films to enable independent completion of the process. This work, led by Hannah Parathian and supported by Entropika, is in progress.</p> <p>Each group produced their own video which each have their own own educational value for the participants and the future viewers, by documenting the importance and practical preparation of the Seed Exchange event, creating a drama, outlining a social problem in the communities, and regenerating knowledge of traditional stories by committing them to film.</p> <p>DVDs of all of the footage have been made available to every community involved in the exchange.</p>
	<p><b>5.2.</b> Project-based Learning and Participatory Video activities carried out with schoolchildren in the Community of</p>	<p><b>5.2.</b> in Mocagua 87 people were involved in one or more of the activities carried out, representing around 1/5 of the entire community.</p> <p>48 people, the majority of whom had never visited the Maloca previously, were able to take part in the field trips.</p>

	<p>Mocagua. The activities used the Maloca<sup>8</sup> and its surrounding area as a focus for environmental education.</p>	<p>The children were given complete autonomy in the learning process, allowing for peer-based learning and the sharing of information, leading to increased confidence in their own abilities and knowledge.</p> <p>The participants were able to use the Maloca as a space for cross-generational learning and sharing of traditional and cultural knowledge.</p> <p>The community had a permanent record of the activities in the form of the DVDs, which can be used as educational resources in the future.</p> <p>The DVDs will form part of an educational exchange between Colombia and the UK.</p>
<p><b>6. Identifying appropriate technologies for the improvement of local economies</b></p>	<p><b>6.1.</b> Continuous visits to the indigenous market on Saturday mornings in Leticia, participatory data collection through semi-structured interviews with related SH and gather of data during workshops.</p> <p><b>6.2.</b> Information search, organisation and analysis of identified technologies for the improvement of local economies.</p>	<p><b>6.1.</b> Palm tree species bear massive harvests and are a very important food source from the forest that has been used for centuries. Local commercialisation of five palm tree species Asaí, Bacaba, Milpesos, Chontaduro and Canangucho). At the moment, novel technology to further process the large proportion of the fruit production that spoils every year is not available and there is limited development of alternative products derived from palms and the forest in general. There are also key fruits, such as Cancharana, Coposú, Marañón, Borojó, Hot peppers and other products from the forest, that confer a vast development potential, in this sense, to this region.</p> <p><b>6.2.</b> Local organisation is weak and positive results have been obtained from working with families instead of the whole community. Every family has an area which they use to grow crops and fruit trees, where, during good harvest seasons, a relevant amount of the fruit spoils. Non-timber forest products, such as Asaí, have been industrially commercialised in Brazil for many years and machinery associated to processing these forest products is available. Products from the Colombian Amazon have been historically isolated from the rest of Colombia because of the lack of local processing facilities of products that do not expire quickly, can be stored and commercialised with low transportation costs. The process known as liophilization or freeze drying is an essential process which Leticia and the region does not use. Its implementation would enable massive harvests and non-timber forest products to be used more wisely.</p>

<sup>8</sup> Maloca - A traditional communal home customarily used by Tikuna people where various families share living space and childcare, partake in the preparation and eating of food, tell folktales and perform traditional ceremonies. In recent years people have abandoned this type of communal living and now inhabit communities with each family having their own individual house. Many communities maintain a *Maloca* to use for traditional celebrations and educative purposes, as well as for tourist attractions.

## 5. In what ways could WFN help you further?

There are four key processes that were consolidated during the year we received funding from WFN, that are the product of our long-term work and presence in the study area:

1. **Local-based monitoring of nocturnal species in Mocagua:** It is crucial that Mocaguans feel that we keep supporting them in this unique project although we are in the process of making monitoring self-sustainable. For this reason we would like to keep offering the local team of co-investigators the means to continue their monitoring project, such as training and evaluation in census techniques and collection of harvest data, materials, and refreshments for fieldwork. We think that it is decisive to make a proper transfer of knowledge to local people, enabling them to analyse their own data. This process has to be continuous in order to evaluate results and, owing to the literacy level of local people, requires our constant follow up. It is important for us to be able to provide the required support and funding still needed.

2. **Monitoring of plant species:** A database for the monitoring of the forest in the Calderón basin will allow further comprehension of the tree species in the local area. This information is necessary to identify appropriate alternative products from the forest that can be managed sustainably and which promote local economies and livelihoods associated to the conservation and use of natural ecosystems.

3. **Identification of economic alternatives:** It is clear that local organisation and funds management still is a limitation for local people. Nevertheless, it is important for us to initiate at least one of the identified economic options, such as the freeze drying of non-timber forest products. We would like to make the economic analyses of this project in order to begin its feasibility study. It is likely that, after local people see results, they will join the project, especially more organised communities like the Israelitas in the Calderon basin. For us as conservationist it is crucial in the meanwhile to move forward in the implementation of economic alternatives that may bring a sustainable way of funding local research. Further funding is needed for the implementation of the feasibility project as it will require the participation of a multi-disciplinary team, that, due to the economic limitations of a developing country such as Colombia, requires a minimal salary to fulfil its living and travel expenses. An appropriate expertise and an initial economic investment are needed in order to identify the appropriate non-timber species for the freeze drying process. One team member has a piece of primary forest of 18 hectares (Natural Private Reserve), needed for monitoring the studied species, as extraction of plant species in non-private forests is illegal in the Colombian Amazon. Additionally, another team member offers a piece of land in Leticia for the implementation of the processing infrastructure.

WFN continuation funding would aid in the monitoring of the tree survey plots as well as to commence work with Natural Private Reserves, located in the rural area near Leticia, on estimating local crops and fruit harvest amounts. This information will be the baseline to promote the production of alternative products from the Colombian Amazon which are envisioned to be processed using novel technology (freeze dry facilities) in the region.

4. **Enforcement of wildlife trade regulations:** We denounced the alarming rates of illegal trade on night monkeys in the Colombian-Peruvian Amazonian border as part of our results during 2008-2009. We would like to keep in touch with international organisations located in other tropical areas to share information, having an impact at international level, to enforce wildlife trade regulations. It would be very helpful to be able to count on the collaboration of WFN in contacting those organisations, as well as in international dissemination of our results to organisations like CITES and IUCN

## 6. Were there any outstanding members of your team? Please briefly explain their contribution

- Eliana Martinez (Colombian): She is the director of Pure National Park, in the Colombian Amazon, since July 2008.
- Carlos Zarate (Colombian): He obtained a PhD degree from Universidad Nacional de Colombia. His thesis topic was the commercial trade between Tikunas from Colombia, Brazil and Peru, in the Amazonian frontier.

- Carolina Montoya and Mauro Reyes (Colombian): They collected fieldwork data for their MSc degree at Schumacher College (UK) while volunteering for Entropika in 2008. MSc degrees obtained in November 2008.
- Daniel Aristizabal (Colombian): Daniel secured a full-funded scholarship for a MSc degree in Netherlands, with Entropika's support, after volunteering for Entropika in 2008.
- Hannah Parathian: She secured funding for completing fieldwork in Mocagua and San Martin for her PhD degree at Oxford Brookes University.

## **7. What impact has your work had on the local community to date? What are your future goals regarding the community?**

Local settlers from the Calderón basin have knowledge of Entropika's research permit and initiation of activities. The "colono" settlement is comprised of houses located along the Calderón basin, frequently inhabited part-time or by only one person, generally men. This makes the involvement of the "colonos" more related to a personal interest in participating. The "Israelita" community has not yet decided to begin work, although a small group of six men are interested and know that the next step is training with us on natural resource monitoring techniques. The "Israelita" community is in search of ways to manage the land adequately, because CORPOAMAZONIA has prohibited the clearing of more forest, and need to effectively maintain the fruit crops they have established to commercialise. Our future goals are to support this process, if required by the community, and to begin training and monitoring activities with the local groups that are interested.

For overlapping areas (Mocagua and San Martin) please see points 3 and 5.

## **8. Have other local organisations contributed significantly to your work, and, if so, which organisations were these?**

Our strategic long-term alliance with ANP has established an enduring relationship. This has allowed us to actively participate and contribute to the monitoring of the management of resources in the area. Additionally, the institutional support of ANP and the Colombian Park System, through research permits granted by them, allowed us to maintain our presence in the area, building up a good-will among local communities, governmental and non-governmental organisations.

Fundacion Tropenbos has played a key role for Entropika in providing advice on participatory research. Tropenbos' director (Carlos Rodriguez) has been supporting us through funding volunteers for conducting fieldwork (in 2006) and organising and co-funding the social cartography workshop (2009). Their long-term experience has provided us with crucial information to avoid mistakes regarding funding investment with local people when considered risky.

Reserva Cerca Viva was in charge of collecting the socio-economic and ecological data of the Calderon basin during the last decade as part of contract granted by CORPOAMAZONIA. Its participation during visits, meetings and fieldtrips organised by Entropika, has provided us with an insight on human-wildlife interactions. Their work in 2004 was the baseline for our current research in the Calderon basin and further collaborative work is planned for 2010.

## **9. Have you worked with anybody who you believe might be appropriate for a Whitley Award? Please give contact details and briefly outline the work they are involved in.**

1. We are interested to know whether your project has succeeded in raising **other funds**. Provide information about other funds raised for your project and (if relevant) for your organisation. A detailed income and expenditure breakdown for the project, which shows all sources of funding clearly would be ideal.

**Please see point 6 and appendix 6.**

2. Where possible, please supply a copy of the **audited accounts** for your organisation for the last financial year or since winning the Award.

**Please see appendix 6: Audited accounts from 1<sup>st</sup> January to 31<sup>st</sup> December, 2008**

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