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FINAL EVALUATION REPORT  
"EMPLOYMENT AND NATURAL RESOURCE SUSTAINABILITY"  
PROJECT No 527-0341  
PACAYA SAMIRIA NATIONAL RESERVE

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## EXECUTIVE SUMMARY

### EVALUATION SUMMARY

As far as the Evaluation Mission is concerned, the balance of the Project's four years was positive. Despite the short period under implementation, the project's achievements have been significant, although certain deficiencies were evident due to the experimental nature of the project, the complexity of the area and the fact that PRONATURALEZA and TNC are more experienced in conservation than in social-economic development.

During a later stage, planning aspects need to be reinforced (Master Plan, zoning, monitoring system, participatory planning, strategic planning, etc.) and the participation of the population in all Project stages must be guaranteed. The following are understood to be the most important strengths and weaknesses of the Project.

### STRONG POINTS

- ⇒ Opinions of local technicians and the local population in general coincide in that there is not only evidence of a change in attitude but also of significant changes in the management of the PSNR and in the way the population use the resources.
- ⇒ Between the first evaluation and the last, the different development agents and the local population seem to have gained a better understanding of the importance of the PSNR and the need to develop adequate resource management experiences and instruments.
- ⇒ It is evident that the institution is capable of responding to the "low intensity" stage that the Project is currently going through. Although there are fewer CECODES, they continue supporting development activities with the population and providing assistance to Guard Posts and Park Rangers, at least until December this year.
- ⇒ Although it is difficult to ensure that the Project will have an impact on the recovery of strategic species such as *taricaya* turtles and black alligators due to the lack of baseline information and continuous monitoring, it is obvious that the Project's efforts to disseminate the importance of these species and recovery and management techniques, have influenced other institutions and the population to do the same. Consequently, increasing numbers of these species have been identified, which must be confirmed by appropriate methods.
- ⇒ The general opinion among local institutions is that the project has helped improve the management of the PSNR by providing direct area administration assistance. Also, that it has developed research activities regarding potential natural resource management and development, social-economic aspects and income-generating activities with the local population, among many other positive aspects that are generally acknowledged in the region.

### WEAK POINTS

- ⇒ In view of the Project's uncertain financial situation, it is obvious that no adequate plans or provisions were made regarding its imminent conclusion.
- ⇒ The experience of both PRONATURALEZA and TNC is based on matters concerning the conservation of natural resources and the management of protected

natural areas. Although in recent years they have learned more about including aspects such as development and community participation, there is still a lack of balance between their methodological expertise and their conservation skills. Consequently, even though a social-economic study was carried out and a publication in this respect was sponsored, the results with the target population were not as successful as the management of the PSNR resources.

- ⇒ In view of the above
  - Income-generating activities were not properly weighted within the context of a market economy, nor in terms of technological opportunities and proposals.
  - Neither was sufficient care taken in developing and evaluating participatory methodologies to guarantee the population's involvement in identifying and implementing activities, as well as in decision-making and management aspects.
- ⇒ Despite the efforts made, the planning and project monitoring activities never materialised due to the irregular instruments developed. Priority was placed on programming and the monitoring system was never fully implemented. The logical framework prepared half-way through the Project is over ambitious and the indicators respond to neither the scenario analysis, the implementation time nor the project's resources. During a later stage it must be ensured that the indicators reflect the true circumstances of the area as well as the Project's capacity.

## **SUMMARY OF THE EVALUATION RESULTS**

### **Purpose of the evaluation and methodology used**

The purpose of this final evaluation of Project No. 527-0341 "Employment and Natural Resource Sustainability of the Pacaya Samiria National Reserve (ENRS)" requested by PRONATURALEZA and TNC is to analyse and appreciate the results obtained during the four years under implementation, with inputs introduced by the Project, mainly income-generating and PSNR management assistance components.

The evaluating team analysed the documents produced by the Project for management purposes as well as for generating and standardising information on the resources and social-economic characteristics of the area.

This document contains the Report on the Final Evaluation carried out in November 1997, which included a visit to the Project area as well as interviews of the project staff, the target population and representatives of institutions involved in the planning, administration and financing of the project.

During the evaluation process, PRONATURALEZA and TNC provided valuable co-operation in logistic terms as well as in making inter-institutional arrangements and providing the documents required for verification purposes.

This document describes each of the most significant evaluation aspects, based on the Terms of Reference for the Evaluation and the Project's Logical Framework.

### **Purpose of the activity evaluated**

The project's main objective is to promote the conservation of natural resources, protect the ecosystems and encourage the sustainable economic growth of the PSNR. To this end, two components were established, one to provide management assistance, which

includes supporting control and surveillance activities and the other referred to as income-generating activities carried out with local populations in order to find production alternatives that are viable in economic and environmental terms

### **Main results and conclusions**

- ⇒ The balance of the Project's four years is positive, as progress is being made with achieving the main objectives established in the project design
- ⇒ The Mission hereby certifies that it was difficult to evaluate the Project's impacts in quantitative terms, due to several factors
  - The project's short implementation period
  - The participation of various other agents in the same issues and working areas
  - The lack of baseline information for comparing results
- ⇒ It was evident that the population, authorities and technicians in the region have a better understanding of the importance of the PSNR and of the development of experiences and instruments for adequate resource management, however they coincide in that the implementation period was too short to generate an irreversible growth
- ⇒ The experimental nature of the project, the lack of experience on which to base the work, the size of the area, the initial delays and the lack of foresight during the final stage created serious obstacles which the project team had to overcome
- ⇒ Due to the project's current financial uncertainty, it is obvious that no adequate plans and provisions were made for its imminent completion. The Project team and the Lima office are making every effort to guarantee the continuity of the main activities, although these may be curtailed due to the lack of funds. TNC is striving to obtain other sources of finance and PRONATURALEZA is also placing priority on the search for financial alternatives for the continuation of the Project
- ⇒ It must be stressed that despite the "low intensity" stage, the Project is still operating. CECODES are carrying out their development activities and continue supporting Guard Posts and Park Rangers, at least until December this year
- ⇒ Given the experience and institutional background of both PRONATURALEZA and TNC, the Project has placed more emphasis on identifying existing resources than on learning about the characteristics and peculiarities of the target population. Despite the social-economic study undertaken and the fact that a publication in this respect was sponsored, the lack of expertise in the methodological management was evident
- ⇒ The latter influenced the structure of the field teams and technical teams in Iquitos, which are mainly comprised by natural science experts
- ⇒ Planning aspects and project monitoring activities developed unevenly. Priority was placed on programming and the monitoring system was never fully implemented. The logical framework prepared half-way through the Project is over ambitious and the indicators fail to respond to either a scenario analysis, the implementation time or the Project's resources. It must be ensured during a later stage that the indicators reflect the real circumstances of the area and the Project's capacity
- ⇒ The Project failed to pay due attention to the existing community organisation and its improvement as a general and decisive decision-making framework, which in the end would guarantee the effectiveness and sustainability of the project
- ⇒ In general terms, the Project and PRONATURALEZA enjoy a good image among local institutions. The general opinion is that the project has helped improve the

management of the PSNR by providing direct area administration assistance. Also that it has developed research activities regarding the potential management and development of National Resources, social-economic aspects and income-generating activities with the local population among many other positive aspects that are generally acknowledged in the region

- ⇒ As mentioned above the impacts on the situation of certain species such as turtles and black alligators are difficult to evaluate due to the lack of a baseline study for accurate comparison purposes. However, the population project technicians and experts coincide in stating an increase in the number of these two species as a result of current management and control procedures particularly the assistance provided by the project
- ⇒ Standard graphic, numerical and textual information in the data base is limited. According to the IIAP - the entity that receives ecological data developed by the CDC from the UNALM - the latter has failed to deliver full information. Nevertheless the limited information available is neither properly disseminated nor shared with other institutions involved in the Project
- ⇒ The population participates in the implementation of resource management projects such as *taucaya* and *charapa* as well as in designing management plans for community fishing. In addition, techniques to prevent the plundering of resources are gradually being implemented, particularly as regards the fruit of palm trees
- ⇒ PSNR surveillance and management assistance activities are well underway and deserve to continue and improve. It is worth pointing out that there are now 42 park rangers, of which 16 are paid by the project and have access to 13 inhabitable guard posts with average communication, supplies and operating logistics
- ⇒ Income-generating activities were not properly weighted within the context of a market economy, in terms of opportunities and technological proposals. Neither was sufficient care taken with the development and evaluation of participatory methodologies to guarantee the population's involvement in identifying and implementing activities as well as in decision-making and management aspects
- ⇒ It is worth pointing out that tourism has increased recently, the results of which are difficult to envisage
- ⇒ By the end of the project, the population's involvement in the project's activities to improve the conservation of resources had progressed slightly, however as mentioned above, participatory methodologies and strategies were lacking
- ⇒ The population is aware of the control measures implemented by the project regarding the use of natural resources and their participation is relative, with a tendency to violate them. It is therefore essential to establish instruments to encourage the abidance of these measures (agreements, standards, regulations)

### **General recommendations**

The Project's current priority is to find more local sources of finance as soon as possible (municipal taxes, public treasury), or International Technical Co-operation to guarantee the continuity of certain key activities for the medium and long-term success of the Project in particular and of the PSNR in general. These activities are understood to be

- Assistance with drawing up the Master Plan and dividing the area into zones (see Annex 5)
- Continue supporting patrols and covering the surveillance of the PSNR (implementation and operation)

- Continue with National Resource Management Programmes, particularly turtles and alligators as well as palm trees
  - Continue efforts to plan fishing through Community Fishing Units
  - Draw up a Tourism Development Plan
  - Develop income-generating activities
  - Environmental education and training
- ⇒ During this “low intensity” stage, the Iquitos team should start thinking about the achievements and deficiencies observed during this first stage and prepare itself for the next stage by identifying approved methodologies
- ⇒ The planning activity should also be analysed in the light of its operating capacity in the field, in order to obtain feedback for the analysis and generate management, evaluation and monitoring instruments
- ⇒ Income-generating activities require an in-depth analysis of the potential profits within a real market context and within the population’s involvement and participation strategy
- ⇒ The recommendations of this evaluation should be taken into consideration for the design and logical framework of the second part of the project
- ⇒ The technical team should include a social scientist (sociologist, anthropologist or economist) who could apply adequate instruments that would reveal the social-economic characteristics and cultures of the population in order to value, recover and take advantage of their knowledge regarding the use and control of natural resources
- ⇒ In the next stage, it is necessary for the institution to incorporate the Participation and Gender approach at all project planning and implementation levels
- ⇒ Improve the implementation of productive activities and reforestation as well as the application of appropriate techniques
- ⇒ Instruments for the planning and overall development of the PSNR must be included within a regional development framework which should also form part of a national territorial system
- ⇒ The information generated by the Project or through studies promoted by the Project must be properly disseminated and shared with other institutions involved in regional development, particularly the development of the PSNR
- ⇒ Training of the Project’s technicians, park rangers, outreach workers and the population in general, must be considered a project priority

### **Lessons obtained**

The following were the main lessons obtained from the project

- ⇒ Despite the difficulties encountered in implementing a Project with these characteristics, the results show that progress is gradually being made in heightening the awareness of the population and the authorities regarding the need to base development on better standards of living for the rural population, taking advantage of the environment in a sustainable manner
- ⇒ The most obvious achievements of the projects did not stem from the components in which the greatest efforts and funds were invested, but from those in which the working methodology was correctly implemented and involving the population. In this case, the management of turtles, palm trees and community fishing are examples of the above

- ⇒ The Project design should be the result of a participatory study involving the population, authorities and technicians, in order to establish the framework for the activities and for discussing implementation methods and opportunities for the population's involvement
- ⇒ When designing the project it is important to analyse implementation periods in relation to the expected impacts. It is not enough to analyse the time in relation to activities and goals
- ⇒ Planning instruments should be simple and dynamic to guarantee changes in the project implementation to suit new scenarios. To this end, the Lima Office and Iquitos should have a team of experts devoted to these issues
- ⇒ A flexible and realistic strategy is required to implement activities with the population, containing the following at the very least
  - The approximate number of dwellers directly or indirectly involved and the approximate number of people influenced by the project's activities
  - The location of towns or communities that can be used as demonstration centres for the Project's activities
  - Periodic participatory evaluation techniques for quickly identifying the population's opinion regarding the progress of the activities (see Annex 4)
- ⇒ The fact that technicians and local dwellers cohabit, as occurs in the CECODES, is no guarantee that relations with the population are fruitful. Sometimes it is necessary to keep a distance in order to avoid internal pressure or to prevent technicians from becoming too involved. When deciding what activities to carry out and who with, they often tend to base their actions on commitments acquired rather than on technical criteria
- ⇒ In order to obtain reliable information regarding project impacts, a baseline study of the main resources or the activities to be implemented should be drawn up

## 1 INTRODUCTION

The Pacaya Samiria National Reserve is a Protected Natural Area belonging to the National System of State Protected Areas. It is situated in the Loreto Region in the north-eastern zone of the Peruvian Amazon basin covering an area of 2,100,000 hectares, most of which are lowlands prone to flooding. The boundaries of the PSNR are the left and right banks of the Marañon and Canal Punahua rivers, respectively, which include the Pacaya and Samiria river basins.

This PNA is vitally important for the Region as it provides resources for the population of the buffer zone and of the region in general. It is estimated that nearly 60,000 people benefit from the hydro-biological, forestry and wildlife resources, medicinal plants and other resources found in this area. There are 136 riverside communities in the area, as well as nearby settlements. The area of influence includes towns like Iquitos and Yurimaguas.

This final evaluation of Project No. 527-0341 "Employment and Natural Resource Sustainability in the Pacaya Samiria National Reserve (ENRS)" requested by PRONATURALEZA and TNC reveals the results of the sustainable employment opportunities generated and the Conservation and Development activities carried out within the scope of the PSNR.

This document reports on the Final Evaluation carried out in November 1997 which included a visit to the Project area as well as interviews with the project staff, the target population and representatives of the institutions involved in the planning, management and funding of the project.

During the evaluation process, PRONATURALEZA and TNC provided valuable cooperation in logistic terms as well as in making inter-institutional arrangements and providing the documents required for verification purposes.

Each of the most significant aspects of the evaluation are described below, based on the Terms of Reference for the Evaluation and the Logical Framework for the Project.

Although it is too soon to establish definite project conclusions, the relevant aspects and results included herein provide a better understanding of the overall Project area, its problems and difficulties as well as the opportunities to achieve a consistent development, in keeping with national objectives and interests.

Also envisaged in this report are recommended guidelines to improve the implementation of activities, as well as positive impacts on the management of natural resources in the PSNR, with the population participating in every stage of the project.

## II. METHODOLOGY

This evaluation was undertaken based on a Work Plan, the main objective of which was to

Analyse and evaluate current activities and, whenever possible and bearing in mind the time that has lapsed, identify the project's impacts and point out relevant aspects

concerning the progress made by the project and the aspects that could restrict its future operations once the project has ended

In order to evaluate the two specific components, a field visit was made to the project area and several local authorities and dwellers were interviewed (see Annex 2) in order to obtain their opinion regarding the achievement of the project's original objectives

The following components were taken into account

## 1 Programme for the Sustainable Use of Natural Resources

### ⇒ Participatory Strategy

The evaluating team was well aware of the fact that the local population's participation in various project actions is the only guarantee for the success and sustainability of the project. Hence the participatory evaluation exercises carried out to establish the degree and quality of the population's participation in the project's activities in general and in income-generating activities in particular

### ⇒ CECODES

Visits were made to the CECODES in the Manco Capac and 20 de Enero communities to check their operations and to observe their activities, the capability of the technical team and the participation of the local population

### ⇒ Income-generating activities

This involved a field evaluation as well as with the team in Iquitos to check whether these activities are in fact helping to generate income and create marketing systems and mechanisms in local communities and settlements, also, to evaluate the sustainability and replicable nature of these activities as sources of employment and income in terms of the conservation of resources

The evaluating team placed emphasis on the local government institutions' perception of the project, to which end they carried out a number of interviews in the Sub-Regions of Requena and Nauta as well as in the farming, fishing and education sectors

## 2 PSNR Management Assistance Programme

### ⇒ Protection and Surveillance System

In order to evaluate the efficacy and current state of this component, three different guard posts were visited and park rangers were interviewed with a view to evaluating the effectiveness of the facilities, staff, communications, operations and logistics as far as the protection and surveillance of the Reserve are concerned. Care was also taken to carry out evaluation exercises with the population in order to determine the level and quality of their participation and to make recommendations aimed at improving participatory control actions

### ⇒ Relationship between the project and the objectives of the Reserve and key biotic resources

The methods for evaluating this point were direct observation and interviews with the population and local experts in order to establish positive and negative impacts before and after the project in terms of conservation and resource management and the maintenance of land and water ecosystems. It must be stressed that it was difficult to make an accurate evaluation because of the lack of baseline studies with which the current information could have been compared.

⇒ Planning process

The evaluating team interviewed the staff of CECODES in Iquitos and Lima in order to determine the methodologies, instruments and other procedures for evaluating their efficiency and relevance with respect to achieving the project's main objectives in the Reserve as well as to ensure the conservation of natural resources, the protection of the ecosystems and a sustainable economic growth.

### 3 Project Management and Co-ordination

⇒ Co-ordination with the regional and local government

During the evaluation, the team took time to review the effectiveness of current and potential levels of co-ordination regarding the protection and surveillance of the Reserve. In this respect, meetings were held with Regional Government authorities in Iquitos (Environment Office, Regional Fishery Office, Agricultural authorities, the Project Management/INRENA) as well as with sub-regional authorities (Managers of the fishery, agriculture and education sectors) and provincial and district mayors.

⇒ Co-ordination with other regional and local institutions

The team also met with members of local institutions like the WWF in order to appraise them and the levels of co-ordination with other regional and local institutions with respect to the management and conservation of the Reserve.

⇒ Monitoring and evaluation

Bearing in mind the project's experimental nature and its impact on resource management in this area, aspects concerning the monitoring of both the project's activities and its impact on resources were dealt with very carefully.

To this end, field managers in Iquitos and Lima were interviewed in order to analyse the monitoring and evaluation system in terms of local participation, economically important and threatened species and the environmental degradation caused by mankind.

⇒ Training, dissemination and communication

The evaluating team considered that an expert in these subjects was required to pay special attention to this project aspect. The entire team met with the Iquitos area manager and then the evaluating expert analysed the contents, methodology and local scope of the training, dissemination and communications programme and its potential

for changing the mentality attitudes and practices of the local population as far as the environment is concerned as well as the potential for generating long-term cultural changes

⇒ Schedule of activities

The team interviewed the annual and quarterly project planning managers in the field as well as in Iquitos and Lima regarding the possibility of introducing different actions adjusting objectives and adapting to the changing circumstances of the project area

#### 4 Management systems

The quality, effectiveness and efficiency of the project's registration, control and monitoring systems was considered, as well as the use of this system by decision-takers and the project staff, both in the field and at meetings with the local manager in Iquitos

⇒ Economic sustainability of Conservation and Development activities in the Reserve and its Buffer Zones

The project's economic feasibility was analysed based on the income-generating activities promoted in recent years

#### 5 Public Image

The evaluating team's expert carried out a number of procedures and surveys to find out the public image projected by Pro Naturaleza, TNC and the project since the last evaluation

#### 6 Follow-up actions at the Project end

The follow-up strategy and the continuity of the project were discussed with the field teams in Iquitos and Lima. Actions and methodologies were suggested, as well as specific studies to consolidate the project's progress, correct deficiencies and create the instruments required to fulfil the medium and long term goals and objectives

Obviously the evaluating team carried out preliminary desk work to become acquainted with the way the project was operating. To this end they obtained secondary information and interviewed the Lima staff. Subsequently, they visited the project site to confirm the current state of the activities and to interview the population, community leaders, municipal authorities, technicians and others. They also carried out some exercises with the population in order to obtain data and opinions about each component and about the activities (see Annex 3)

Then they held meetings with the technical team in Iquitos, comprised of the TNC Advisor, the planning Advisor, the Technical Director, the Administrator, the Data Base Manager and the Communications Manager

In Lima they held meetings with the management team of PRONATURALEZA (the Project Director and the Technical Director), the General Bureau of Protected Natural Areas of INRENA and members of USAID responsible for the environment

To coincide with this evaluation and as part of the work programme of PROFONANPE, a workshop was held to analyse the situation of certain PNAs, with the participation of the Technical Committee of PROFONANPE and other experts as well as the administrators of such areas. One of the areas selected for this exercise was the PSNR with the participation of the leader of the evaluating team as a member of the Technical Committee. This exercise was very useful as it provided the opportunity to obtain the opinions of different experts regarding the situation of this PNA.

Finally, the evaluating team drew up a preliminary report which was presented at a meeting with PRONATURALEZA, USAID and TNC.

### **III PROJECT BACKGROUND**

PRONATURALEZA - The Peruvian Foundation for the Conservation of Nature assisted by The Nature Conservancy and sponsored by AID is implementing the 'Employment and Natural Resource Sustainability' Project No 527-0341 Pacaya Samiria National Reserve based on agreements signed with Ministry of Agriculture authorities INRENA the Loreto Regional Government and their sectoral administration units

The project was originally designed to relieve the pressure placed on the natural resources in the Reserve and maintain the ecosystems shared by wildlife and human beings. To this end activities would be promoted to improve the population's income based on a sustainable management of natural resources and also to improve the management of the Reserve and ensure its adequate protection.

The project was conceived to operate as a pilot project with an experimental nature, to establish appropriate methodologies for the management of an area with particular ecological and social characteristics, to encourage the riverside population to introduce strategies that would ensure the conservation of the Biological Diversity and to approve development techniques that would provide economic benefits for the communities themselves.

The project's guidelines were established on this basis which explains the final results obtained.

The project was expected to benefit 5 000 people in 18 communities who mainly depend on the Reserve, through income-generating activities that would give the fishery and agro-forestry resources and marketing activities a value added factor rather than increase their volume.

In addition to institution-building for an adequate administration of the Reserve it was expected that the project would have a positive impact on maintaining species with a good economic potential and in heightening the awareness of the communities regarding the advantages of sustainable natural resource management.

The project officially ended in September 1997, hence the anticipated final evaluation to establish the project's success and deficiencies as well as its impact on the target population and on key natural resources. Finally recommendations are made for a prospective second stage.

### **IV LOGICAL FRAMEWORK-BASED ANALYSIS**

#### **4.1 Logical Framework**

The Mission feels that the Project's Logical Framework which was drawn up halfway through the project provides neither a realistic analysis of the situation nor the characteristics of the working area.

As no baseline studies were carried out of the main components or resources on which an impact was expected the random selection of success indicators was too arbitrary and

bore no relation to the magnitude of the problem and the funds invested. The current project had an experimental nature and therefore its main purpose was to prove the effectiveness of methodological instruments for natural resource conservation surveillance and control of a natural protected area, through the development of the population involved.

Consequently, emphasis should have been placed on an adequate analysis of such instruments. Instead of working with 30% of the families, fewer families should have been involved, but making sure that their income-generating activities actually improved their income and, above all, their standard of living. However, no steps were taken to determine whether it was the project's activities or other circumstances that improved family income (aid from other projects, sectoral policies, their own initiatives). It would therefore be too bold to state that, if the standard of living improved, it did so as a result of the project and its activities.

On the other hand, the Project's real achievements in terms of heightening the population's awareness of the importance of the PSNR and its resources cannot be observed under the current Logical Framework.

At the same time, to improve the standard of living of this population with a relatively small investment in such a short time, is not a viable proposition. Furthermore, the sustained efforts of many institutions are required to achieve an evident and permanent impact on certain vulnerable species, such as the black alligator and the *taicaya*.

Finally, the Logical Framework includes several activities that are beyond the project's responsibility, such as regulations or the full operation of the GIS financed by the Project, which should be put into operation by other institutions such as IIAP.

The Mission suggests that the Logical Framework should continue to be used for establishing the direct relationship between inputs and outputs, however that instrument must be the result of a participatory planning exercise with the population. Furthermore, the baseline information should be obtained before the activities take place so that the results can be confirmed. Monitoring and planning systems must be taken into account as well as mechanisms for periodically evaluating changes in the project scenarios, so that changes in the Logical Framework can be made.

#### 4.2 Logical Framework-based analysis of inputs and results

As shown in the tables of Annex 1, neither the inputs nor the outputs proposed in the Logical Framework achieved satisfactory progress. Inputs were as follows:

- ⇒ Social-economic study
- ⇒ Quick Ecological Evaluation
- ⇒ Research studies on key wildlife species
- ⇒ Creation of a data base and a GIS

Nevertheless, these outputs were hardly used for planning the project's activities, neither were the majority used by other development institutions.

Despite the above, there is no doubt that given the quality of the documents produced, in the near future when more information is required on existing resources in the area and its social-economic characteristics, full advantage will be taken of them. At the present

time it is impossible to judge the merits of these documents because of the short time since they were produced and given their limited dissemination. The most practical way of proving their usefulness would be as an analysis instrument during the project's implementation.

#### Inputs related to the surveillance and control facilities component

- ⇒ Control and reconditioning of 15 control posts, administration blocks and biological stations, as well as the formation of a force of 25 outreach workers
- ⇒ The construction of 4 CECODES
- ⇒ Education, training and dissemination programme (100,000 people and 1,500 teachers, leaders, etc.)

As is common practice in development or conservation projects, activities involving facilities are much easier to complete as they generally depend on contractors and the availability of funds. In this case, however, the Project deserves some credit as weather and transport conditions made it very difficult to meet these targets.

As mentioned in the tables, 13 surveillance posts were built and refurbished, however, no biological station was established. Only 13 outreach workers were contracted and relatively trained by the project.

As mentioned in the analysis of the training component, outreach workers are still inexperienced in the management of community work methodologies and lack the technical skills required for an experimental project aimed at approving technologies.

#### Inputs for income-generating activities

- ⇒ Market surveys, marketing studies and improved price information systems
- ⇒ Eight to ten production models based on natural resource management in the PSNR and its influence areas
- ⇒ Study and application of unconventional credit systems
- ⇒ Participatory promotion activities in 18 communities to improve social services and facilities
- ⇒ Creation and support of 150 to 200 family business units
- ⇒ Design and implementation of a food security strategy, with the participation of communities, local governments and other public institutions

The fact that this is the Project's weakest component has been repeated throughout this document. There is a lack of market surveys, there is no reliable information on prices and no approved productive models are operating. There are no unconventional credit systems and the community activities aimed at improving the social infrastructure are relatively successful, as the progress made by the communities in terms of electrification and educational facilities cannot be attributed solely to the Project. Nevertheless, the merits of the outreach workers must be recognised. Finally, the food security system is non-existent.

**LOGICAL FRAMEWORK  
ANALYSIS OF INPUTS**

Project inputs	Analysis of the progress and use of anticipated inputs
a) Baseline social-economic study of the PSNR and its influence area (100 000 people)	The study was undertaken satisfactorily but the results were not applied in the implementation. The study did not pay due attention to cultural aspects
b) Quick ecological evaluation of the natural resource potential	<p>The following studies were carried out</p> <ul style="list-style-type: none"> <li>⇒ EER by the CDC</li> <li>⇒ Evaluation of Natural Resources and Greater Use Capacity</li> <li>⇒ Land use by the CDC in the anthropoid influence zone</li> </ul> <p>These studies were used to identify income-generating projects and put them into operation</p>
c) Specific research of key wildlife species	A Management Plan for wild turkeys and guans was drawn up (Begazo) and a study on the potential use of resources by the riverside population (Bodmer et al)
d) Creation of data base and geographic information system including data on basic studies and the monitoring of project activities	The GIS and the data base are inoperative although progress is being made with their implementation
e) Implementation of a project monitoring and evaluation system	There is no project monitoring and evaluation system
f) Zoning of the PSNR and regulating the use of its natural resources	Progress was made with a technical proposal for zoning the PSNR, but it is pending implementation
g) Building or refurbishing 15 control posts, administration blocks and biological stations, forming a fully equipped force of 25 conservation outreach workers	One control post was built and no biological stations
h) Building 4 Conservation and Development Centres (CECODES) in communities near the Reserve and acquiring and fitting two boats for similar purposes as those used by CECODES	<p>Four Conservation and Development Centres, duly equipped and staffed are in operation, with the participation of the community</p> <p>Not so the two fully equipped boats, operating in nearby areas</p>

<p>i) Education, training and dissemination programme aimed at the population of 100 000 people as well as 1 500 teachers community leaders local authorities government officials and the project staff</p>	<p>Documents leaflets and news bulletins were published in the Project area and Iquitos technical reports were distributed to community leaders covering relevant topics for community leaders and extension workers but we believe the goal was nowhere near achieved nor is the population well aware of them</p>
<p>j) Market surveys, marketing studies and improved price information systems</p>	<p>This important input was nowhere near ready and the data base on markets and trading aspects for the products of the PSNR and its influence areas is non-existent in the region</p>
<p>k) 8-10 production modules based on natural resource management in the PSNR and its influence areas</p>	<p>There are no documented studies or evaluation records to prove the effectiveness of small projects designed for family units and community reserve areas</p>
<p>l) Study and application of unconventional credit systems - credit in kind improved "habilitation" and others - in 60 communities</p>	<p>Efforts in this field are insufficient and too conventional</p>
<p>m) Participatory promotion activities in 18 communities to improve social services and facilities</p>	<p>Few such activities were observed</p>
<p>n) Creation and support of 150-200 family and community business units in approximately 60 communities</p>	<p>The goal was nowhere near achieved (4 or 5)</p>
<p>c) Design and implementation of a food security strategy with the participation of communities local government and other public institutions This strategy will relieve the effects of natural phenomena such as floods on natural resources used for subsistence purposes</p>	<p>There was no mass development of a food security system Although productive activities (farming and livestock breeding) are taking place they need to be intensified</p>

**Objective Promote the conservation of natural resources, the protection of ecosystems and the sustainable economic growth of the Pacaya Samiria Reserve**

INDICATORS	ACHIEVEMENTS	PROGRESS	VERIFYING SOURCES
30% of the families participate in income-generating activities promoted by the project, thus increasing their family income and improving their standard of living	Of the 2,600 families, only 88 have improved their standards of living as a result of the Project	Approximately 5%	All the documents mentioned in the AGI (under results)
Species with an economic potential and threatened species are preserved – black alligators on the shores of the Samiria river increased from 0.20 animals/km in 1993 to 0.25 in 1997 and in the Pacaya river from 2.45 to 2.60 animals/km – <i>Chatapas</i> (in the middle part of the Pacaya river) increased from 260 in 1993 to 300 in 1997	Through surveillance and control activities, some species were preserved but unfortunately there are no accurate figures to confirm this statement		
Curtailement of environmental degradation caused by human activities such as deforestation – Areas affected by mankind within the PSRN increased no more than 5000 hectares in 1997 compared to 55,000 in 1993 – Land affected within the influence area of the PSNR increased no more than 10% in 1997 compared to 175 000 hectares in 1993	No references available		

**Establish management and production systems in the PSNR, based on a balance between (a) Natural resource conservation and biodiversity protection and (b) the economic use of natural resources and sustainable production in the project area**

INDICATORS	ACHIEVEMENTS	PROGRESS	VERIFYING SOURCES
<p>a) Natural resource conservation and biodiversity protection</p> <ul style="list-style-type: none"> <li>- Protection of representative samples of all ecosystems in the PSNR</li> <li>- Stable numbers of black alligators, <i>charapas taricaya choio monkeys yancutuna and tuyuyo</i>, compared to the numbers at the beginning of the project</li> <li>- Reduce the plundering of species with an economic potential from 10 to 20% <i>sajino huangana, red and ash deer tonsoco, majaz, añuje carachupa motelo pucacunga</i></li> <li>- Felling of <i>chontales</i> reduced by 20%</li> <li>- 90 communities actively involved in the management and conservation of PSNR resources and the protection of ecosystems</li> <li>- Sufficient funds available from public and private, national and international sources to continue conservation and ecosystem protection activities</li> </ul>	<p>Representative samples that are adequately protected include bodies of water Rocky woodlands have an average protection and hillside forests are less protected than the rest</p> <p>53 330 <i>charapas</i> 62,231 <i>taricayas</i> and 650 nests were freed (there were 260 nests in 1993)</p> <p>According to 93 data, there were no <i>manati Maquisapa</i> or <i>river seals</i> and few <i>choio</i> monkeys the <i>manati</i> was first seen in this area in 1997 as well as 7 handfuls of river seals, <i>maquisapas</i> and <i>choio</i> monkeys on a large scale</p> <p>There are no accurate figures regarding the reduction of species with an economic potential but the excessive hunting of <i>tapiti</i> is a known fact Nor are there any accurate figures regarding the drop in reforestation, but a useful index is that each person can currently cut down 600 hardwood palm trees a year and reforestation involved 400 000 <i>huasi</i> plants</p> <p>Six communities are managing <i>taricaya</i> and five in CFUs Funds currently available are from PROFONANPE (\$50,000), Regional Government (\$450,000), FPCN (\$450,000) and WWF (undefined)</p>	<p>25 to 40% (difficult to determine)</p>	<p>Jose Alvares' Report Park Rangers' register Pacaya Samiria video PSNR Manager/s report</p> <p>PROFONANPE Workshop</p>

<p>b) Economic use of natural resources to increase sustainable income and productivity</p> <ul style="list-style-type: none"> <li>- Sustained value of micro-companies in approximately 60 communities that obtain and process resources from the PSNR in an ecologically sound manner</li> <li>- 1200 families significantly increase their family income based on environmentally clean economic activities</li> <li>- 8 pilot income-generating and economically sustainable projects documented and approved in family properties and community reserve areas</li> </ul>	<p>12 income-generating activities promoted but pending consolidation and with their sustainability uncertain (marketing needs to be guaranteed)</p> <p>35 communities participating in 8 micro-companies (again their sustainability is uncertain and non-existent marketing systems make them very vulnerable)</p> <p>Techniques for incorporating improved seeds through revolving funds helped increase the income of 309 families who did not necessarily improve their standard of living (more income leading to a higher consumption of alcohol)</p> <p>The sale of fish (ornamental and for food) improved the income of 64 families, of rice 41 families and of poultry breeding 37. A total of 451 families improved their income, although not significantly</p>	<p>30%</p>	<p>POM PRA PREWs Interviews with the population Interviews with outreach workers Interview with Consultants Interview with the Technical Director</p>
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Results 1 Conservation of natural resources and protection of ecosystems of the PSNR				
INDICATORS	ACHIEVEMENTS	PROGRESS	VERIFYING SOURCE	PROBLEMS/OBSERVATIONS
Organisation and regulating framework approved for the management of the PSNR region	<p>The organisation structure has been available since 1996 (Area Manager, 2 River Basin Managers, 2 Resource Managers 2 Environmental educators, 2 Project Managers, 41 Park Rangers)</p> <p>– So far they are still directly managing the PSNR, however in view of the results obtained the Loreto Regional Government decided to become involved in the control activities</p>	An estimated progress of 50% or less due to the recent implementation but with a good potential	<p>PPA January 96</p> <p>PPA June 96</p> <p>Annual report of workshops</p> <p>PSNR Master Plan Report on workshops</p> <p>Annual Report of Workshop held in PSNR headquarters (for all those who continue working there)</p>	The project supported park rangers and provided logistics for them
Approval of zoning standards and control procedures for gaining access to and using resources within the PSNR	<p>– Only the 96 Master Plan is available establishing the zoning standards and procedures No new standards for the PSNR itself have been established, despite the change in the legislation governing the use of resources by the population who have settled in such areas</p> <p>– A technical team was formed and the authorisation of INRENA was obtained for the zoning work The opinion of authorities was obtained and three more field surveys are pending</p>	20%		The process was too slow because the State institutions involved failed to recognise its importance They are afraid of doing something that has not been done before and of making mistakes

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a Operation of the PSNR management system for maintaining the Reserve in prime condition

15 PSNR control facilities set up equipped and staffed with 24 trained on-site managers	There are 13 Guard Posts and 2 mobile Guard Posts , as well as 40 park rangers who have received training on strategic planning Their on-site activities include control and surveillance, setting up agro-forestry plots, promotion and services	75%	Annual Report of the workshop Project administration documents	6 Guard Posts were built and 7 were refurbished The project has no direct working relations with the park rangers
National and local government staff trained on natural resource management and conservation (300 people in 100 days)	Not quantified Too much time spent on informal training (conversations assistance at project introduction events etc ) The following workshops were carried out <ul style="list-style-type: none"> <li>• Meeting of political authorities and PSNR Administration authorities attended by 51 people</li> <li>• Meeting of local authorities attended by 41 people</li> <li>• Legislation Workshop for local authorities (15)</li> </ul> A total of 100 people trained	Report on Workshops Report on the Reserve Management Workshop Interviews with authorities	More than 30%	
Geographic and social-economic information system working generating data on the PSNR and surrounding areas and their population	<ul style="list-style-type: none"> <li>- The project financed the fishing survey undertaken by IIAP</li> <li>- A GIS was implemented in the UNALM Data Centre</li> <li>- The project carried out fishing surveys and monitoring activities in Monte Bello</li> </ul>	Administrative information	10% or less	
<b>b Inhabitants of communities in the PSNR organised and eager to participate in Reserve control, protection and management activities</b>				
90 communities participate in conservation activities	16 communities participating in 3 conservation activities (Management of <i>Taricayas</i> , fishery management and management of palm trees)	18%	PPA POMs Interviews with dwellers and outreach workers	There is a potential for doing so in 35 communities however these exercise some

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				control in one way or another (part of the conservation activities)
Four CECODES established and operated by communities	4 CECODES operating with communities There are 10 outreach workers 2 river basin co-ordinators All CECODES are fully equipped with communication and transport facilities field equipment and basic services	90%	PPA POM Interview with the Technical Director Interview with dwellers	Use of facilities by national, regional and local authorities for their interviews with communities These facilities provide the opportunity for joint control (outreach worker-community)
Two boats equipped to carry out similar activities in CECODES areas operated by communities	Not implemented	0%	Interview with the Project Manager and the Technical Director	Unbalanced budget
180 male and female leaders of participating communities trained on natural resource management and conservation	Training of 15 leaders on fishery management, 5 on the management of <i>taricaya</i> , 24 on the management of palm trees Total 44 people 249 other people trained who are not necessarily leaders	24%	POMs October 96 - January 97 PPA Interviews with dwellers Interview with outreach workers Interview with the Technical Director	Failure to give leaders more intensive training was a weak point of the project

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<p>1500 male and female rural teachers to receive environmental training</p>	<ul style="list-style-type: none"> <li>• 110 teachers exchanged experiences in Requena and Manco Capac</li> <li>• 1 teacher with a post graduate course in environmental education repeating the training at workshops</li> <li>• 50 teachers attended the Environmental Education Workshop</li> <li>• 63 teachers in school tourism courses focused on nature</li> <li>• 13 teachers applying farming techniques on small plots</li> </ul>	<p>12%</p>	<p>Annual Report of the Reserve Management Workshop Interview with authorities</p>	
<p>100 000 people of both genders receive information on natural resources conservation and protection of ecosystems through educational/ awareness campaigns</p>	<p>300 people in Nauta through the video disseminating the PSNR  13 000 community members obtained some form of education / awareness  1000 PSNR posters  2400 <i>Pacaytos</i> distributed  2572 primers distributed in communities</p>	<p>50%</p>	<p><i>Pacayito</i>  Magazines  Primers  Videos  Reports from city dwellers  Interview with rural dwellers  Interview with management staff of NGOs  Interview with a communications expert</p>	<p>Many actions were carried out in this respect however a dissemination and promotion strategy was lacking  Unfortunately this type of project action caused no impact on the people as it is no good simply to hand out publications  There are no campaigns designed for the population within and outside the PSNR</p>

<p>A monitoring and follow-up system designed and operating</p>	<p>A social-economic monitoring system has been implemented since June 96 There has been no ecological monitoring</p>	<p>30%</p>	<p>POM PPA Monitoring forms/Surveys FPCN-Navy Agreement Monitoring and evaluation plan Proposed structure for the system of information obtained from CECODES for social-economic monitoring purposes, September 1995 Matrix for monitoring the ecological impact June 1995 Monitoring for the PSNR Management Plan November 1996</p>	<p>The technical planning unit was not implemented No basic information is available Despite the good intentions the system is not implemented hence the large number of forms that are changed every now and then The magnitude and importance of monitoring activities was not duly appreciated by the Project Management There is some doubt as to whether the project should take over the ecological monitoring of the PSNR There is a lack of trained staff in</p>
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				<p>Iquitos to support the field and desk work</p> <p>There is no follow-up and monitoring system specified by activities although plans have been made</p> <p>Consequently there is a lack of measurable information and outreach workers do not include this perspective in their reports</p>
<p>Participatory development activities designed and implemented in at least 10 communities</p>	<p>TERP in 20 communities as an input for establishing development activities and supporting community management The project assisted with the management of community projects, achieving the following Electrification (02), Parabolic antennae (03) radiophone (06), drinking water 01), medical post (01) Power Plants (04) Influence in 15 communities to appoint teachers Management of new projects (the case of Japan)</p>	75%	<p>Annual Report of the Meeting of authorities</p> <p>Annual Report of PREWs Copies of Projects to PRONAA</p> <p>Applications addressed to FONCODES</p>	<p>The existing community organisation was not strengthened</p> <p>Through workshops with local and regional authorities, health visits to the communities increased and 1 shelter for 40 students was implemented</p>

Results	Achievements	Progress	Verifying sources	Problems / Observations
<b>2 Sustainable and environmentally clean income-generating activities designed and implemented</b>				
Approximately 8 to 10 income-generating projects using the Reserve's resources in an environmentally sensible manner, established in pilot areas	The following projects are being implemented Production of <i>paiche</i> limes management of community fishing, removal and replacement of palm trees, management of <i>bolaina</i> for producing <i>tipas</i> management of <i>uña de gato</i> production of jute brushes, sponges honey management of <i>aguajes</i> , community management of <i>taucaya</i> , production of paw-paw jam Total 12 activities, not all of them fully established	Approx 25%	PPA October 96 - January 97 Basic record and AGI monitoring record	Although these activities have developed none of them are operating in an autonomous and sustained manner
<b>a Income-generating projects designed and implemented</b>				
A market and marketing mechanism implemented to help participants obtain better prices for the Reserve's products	No mechanism available	0%		It took too long to establish the type of product that would have the best results <ul style="list-style-type: none"> <li>• This is coupled with the marketing problem in Iquitos (closed changing market etc )</li> <li>• Credit to rural micro companies is not included in the goals of banking or State entities</li> </ul>

<p>60 men and women trained - at least one person in each community - on aspects concerning credit sources for micro companies and fund-raising procedures</p>	<ul style="list-style-type: none"> <li>- Members of different micro companies realise the importance of business organisation and credit systems and are reimbursing loans</li> <li>- 41 members of the firms ECOMAC (12) ECOSAP (12) and ECOAVE (17) negotiated a loan from FPCN</li> <li>- 30 members of CFUs are working on credit</li> </ul>	<p>An estimated 30%</p>	<p>Interview with the Technical Director</p>	<p>Courses on loan procedures and fund-raising negotiations are planned for the end of November and December</p>
<p>150 micro companies at community and family levels organised and established to produce goods using resources from the PSNR and its influence areas, in an environmentally sensible manner</p>	<p>The following micro companies have been organised and established          ECOMAC (01), Bee-keeping (04) CFUs (05) ECOAVE (01) <b>jute brushes (01)</b>, Sewing (02), <i>uña de gato</i> (01) <b>TABLIMAC (91)</b>, <b>RIPEMAC (01)</b>, <b>EPROFAR (01)</b>, <b>ECOSAP (01)</b>, <b>EMPAMAC (01)</b> Total 20 units          The units in bold writing (07) are organised and in production but not for sale Effectively there are 17 units</p>	<ul style="list-style-type: none"> <li>- Although they are not effective the fact that 20 are organised is a 13% progress</li> <li>- As regards effective companies operating, only 11% progress</li> </ul>	<p>Interview with dwellers</p>	

B Reproduction of income-generating activities				
One document drawn up to disseminate the application of technologies and the experience acquired	There is no consolidated document Reports are available, as well as data on the main activities (management of <i>taicayas</i> ), management of CFUs) but these have not been standardised Monitoring forms were designed initially for outreach workers and later for the target population, but these are very simple	No standard progress		<ul style="list-style-type: none"> <li>* The project management did not foresee the real magnitude of standardisation work, therefore no time was set aside for outreach workers to write about their experiences</li> <li>* No-one in the Iquitos office supported standardisation actions</li> <li>* There is no standardisation methodology</li> </ul>
Income-generating activities repeated as a model in approximately 90 communities within the PSNR	<p>The following activities are being repeated in the project area</p> <p>Bee keeping - started with one and repeated in 3 cases</p> <p>Poultry breeding - started with two and repeated in 13 cases</p> <p>Pig farming - started with one and repeated in 8 cases (*)</p> <p>Handicrafts - started with 1 and repeated in 2 cases</p> <p>Revolving seed fund - started with 4 and repeated in 32 cases (*)</p> <p>Planned school plots - started with four and repeated in 13 cases (*)</p> <p>CFUs - started with 3 and repeated in 8 cases</p> <p>Removal and replacement of <i>huasai</i> - started with 9 and repeated in 1 case (*)</p> <p>Micro-company - started with 1 and repeated in 3 cases (*)</p> <p>Management of <i>taicayas</i> - started with 6 and repeated in 3</p>	<p>Taking them all into consideration 95% progress was made</p> <p>If only model activities are considered due to their success and viability, only 32% progress was made</p>	Partial Evaluation Report (March/Sept 97)	<ul style="list-style-type: none"> <li>* The activities were not disseminated in other communities</li> <li>* 45 communities were covered by the project not 90</li> <li>* The project's operating capacity was not sufficient to support 90 communities</li> </ul>

	<p>cases Considering all these activities, replication involves 86 communities. If only the model activities are considered, then without those marked (*) only 29 communities are involved</p>			
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## V ANALYSIS BY COMPONENTS

### 5.1 Programme for the Sustained Use of Natural Resources

#### 5.1.1 Participatory Strategy

There were different levels of community participation during the project. The PREWs involved many people and much time as a source of information, but not for decision-making purposes. Community participation is recorded in PREW documents and in interviews, not so in the implementation of activities. For example, although one of the conclusions in Manco Capac was to support community organisation, during the work itself the formation of groups of interest was promoted.

As regards supporting Community Organisation, the project held Participatory Rural Evaluation Workshops (PREWs) in 20 communities in the Pacaya and Samiria river basins, attended by authorities, leaders and the population in general - an average of 24 male and female dwellers from each community. The population participated as informers and collecting information.

At the PREWs, community problems in general were analysed rather than focusing exclusively on the activities the project intended implementing, hence the identification of education and health problems in addition to the use of natural resources.

In every summary of problems encountered at PREWs, first of all the need for organisation before undertaking a specific activity was stressed. *'increase the production of taricayas and charapas (in artificial beaches) after the organisation and training stage'*, *'better organisation is required'* (taken from the Annual Report of the PREW in the Manco Capac community). The community remember these workshops and believe that in one way or another they enabled them to identify their problems if not solve them. Organisation is based on conservation activities.

#### \* Participation methods

When planning income-generating activities, the decisions were made in Iquitos without consulting the population, who feel the activities were imposed on them by the Iquitos office.

After the PREWs, there was an evident gap in the target population's decision-making process. Productive and control activities were established by project staff and then the population were informed. In the Samiria river basin, the project planned reforestation with *Huasaí*, but the population did not decide on either the species or the tree farming area. Likewise, it was agreed to start a nursery to produce *aguaje* for reforestation and this never took place.

Furthermore, in the Pacaya river basin, the information obtained from the beneficiaries of income-generating activities revealed that the people were not consulted regarding what activity they should be involved in. Women currently making jam stated that *"it was Miss Lihana's idea, she would not teach the mothers and she made jam to sell in*

*Iquitos We would like to have done sewing or cooking because clothes can be sold anywhere and everyone buys them*

As regards control activities the people felt obliged to follow instructions (they refer to the agreements to carry out reforestation instead of extraction, closed seasons etc) They have no say in the decisions and this is reflected in the lack of community documents to guarantee the fulfilment of agreements

The level of participation of the communities benefiting from the project's activities differs, as detailed in table No 01 In productive activities (sowing *taicayas* reforestation, CFUs) local dwellers participate actively and have high hopes of increasing their production During project monitoring activities, community participation is non-existent

The participation of the population varied, depending on the type of activity and the person's interests Many more people participate in rice-hulling activities (Bello Horizonte, Manco Capac), whereas only 3 people are involved in jam-making, as the "beneficiaries" tend to abandon such activities when they see no results (marketing) The impact of activities with little participation will not be significant, considering the effort and expenses incurred

## 5 1 2 CECODES

The physical infrastructure has all the necessary requirements for the staff to carry out their work Initially, the objective of CECODES was to expand the activities to other communities, instead, they have become centres in which the activities are concentrated, neglecting neighbouring communities (for budget reasons) CECODES are well integrated into the community, the outreach workers are identified as community members and they are governed by community standards

The technical operations of CECODES can be divided into the type of actions they carry out

- Community Management of Resources

### Community Management of *Taricaya*

This is one of the most successful activities, due to the level of participation and the achievement of nesting and freeing goals The communities involved are capable of doing this on their own as they already know the technique The project outreach workers are among the few experts who manage the technique at a regional level Scientific actions were also implemented with the communities

### Community management and reforestation of *Huasar*

Reforestation with *huasar* was not a voluntary action but rather an obligation forced upon the community, which indirectly encouraged some of them to value reforestation and make future plans in that respect As regards the advice provided to outreach workers in this activity, the reforestation technique needs to be accurately established

(size plant to be used, number of plants per hole maintenance of reforested area) Also there are no plans for managing *choua* (priority areas, volumes extracted, size or age of palms at harvest time etc) The only indication at the moment is that the extraction and reforestation ratio is 4 x 1

#### Community management of *Aguaje*

The palm scaling technique is well accepted by the population who are sure this will result in the conservation of resources Unfortunately, they do not put the technique into practice because they envisage no economic benefits from it As in the case of *huasai*, management plans need to be established

#### Management of fishery resources

The Community Fishing Units promoted by the regional Fishery Office were improved and consolidated by the project Management plans are available and progress has been made with hydrographic zoning, although this must be incorporated in cartographic materials Beneficiaries have "learnt" to fish they no longer catch *aihuana* and *paiche* and in the latter case they respect the closed season In some cases these CFUs have increased their income by more than 100%, although the market and marketing mechanism are not operating efficiently

### 5 1 3 Income-generating activities

#### Management and use of natural resources

Various activities were boosted, neglecting those that had no favourable results, such as the production of *aguaje* pulp due to the lack of a proper technique, the production of *aguaje* oils, *caiachama* sauce and fish meal for animal feed either due to the lack of good marketing techniques or the lack of a market

#### Improvement of traditional activities

The farming plan promoted the use of improved rice and peanut seeds, establishing a Revolving Fund system 70% of the target population is capable of reimbursing loans but unfortunately there are no seed storage or post-harvest treatment facilities, therefore seed loans have become a routine in every farming season Furthermore, the production of peanuts was not guaranteed due to the lack of a preliminary feasibility study in a community that did not germinate a single seed

Advice should be provided constantly during each farming season in order to establish plant health control and prevention systems It is not a good strategy merely to hand over seeds

Poultry modules provide short-term income for families, however the families should be told exactly what type of bird they are receiving (egg-laying or breeding) and taught sanitary breeding techniques (chicken runs with high floors, vaccination schedule sanitary care and prevention of diseases) As these are pilot models (2 in each

community), efforts could be made to fulfil the technical requirements and ensure that other families can implement their own modules

Pig-farming was less feasible in every sense (due to geographic conditions and the type of animal introduced), as there is no certain source of food for the animals

More income is obtained from fishing because fish are sold fresh, dried and salted in addition to ornamental fish That is why the CFUs invest 2% of the profits in community activities

#### Improvement of post-production technologies and services

Micro companies were formed for different activities Production of *bolama* boards, jute by-products (brooms), nail files, jams peanut butter rice hulling Companies that have rice mills obtain the best results although their success is temporary due to the uncertain nature of the market (PRONAA) The population is stimulated by such companies, but their cost-benefit ratio must be assessed

It was very evident that the activities in which women participated had the worst results and least participation This is because the women have to spend more time outside their homes and more often than not their produce remains unsold Some women are totally discouraged although they realise that these activities can be an opportunity to improve the education and health of their children

Activities	Level of Participation	
	Communities	Participants
Management of <i>Taricaya</i>	6	87
Management and reforestation of <i>huasai</i>	5	83
Community management of <i>aguaje</i>	8	35
Management of fishery resources	5	64
Bee-keeping	3	4
Companies producing vegetable flora	1	10
Production of <i>paiche</i> limes	1	12
Promotion of jute brush production	1	13
Management of <i>uña de gato</i>	1	20
Revolving seed fund	25	173
School Plots plan	13	309
Poultry module	15	34
Pig farming module	8	14
Handicrafts	2	28
Monitoring of marketing and services	3	50
Monitoring of sewing workshops	2	18
Production of paw-paw jam	1	3

#### 5 1 4 How local government institutions view the project

In general terms, the Project and PRONATURALEZA enjoy a good image among local institutions. The general viewpoint is that the project served to strengthen the management of the PSNR by providing direct assistance to its headquarters, developing research studies on natural resource management and development potential, researching social-economic aspects with the IIAP implementing income-generating activities with the local population, among many other positive aspects mentioned about the project.

Negative aspects include the lack of inter-institutional co-ordination particularly with the sectors and the lack of planning to ensure the project's sustainability.

At the meeting held with the Manager of the Loreto Development Sub-Region, the latter mentioned that PRONATURALEZA was an organisation working in the PSNR that had become involved with the communities in order to heighten their awareness. He emphasised that dwellers now look after their resource (*aguaje* harvest) and that a community surveillance post for hydro-biological species had been created. He also referred to the conservation of turtles in artificial beaches and the help given to communities to encourage productive activities. The participation in workshops organised by the Sub-Region and the Municipality were also mentioned.

#### 5 2 PSNR Management Assistance Programme

##### 5 2 1 Protection and surveillance system

The fact that the project influenced many reserve conservation and protection aspects and regulated the natural resource management system is widely acknowledged by communities and park rangers. The system of including the population in the control of resources is a successful strategy, but even so the work should be made easier and the Ministry of Agriculture should be influenced to vouch for the caretakers. (At the moment dwellers are only equipped with canoes for controlling the area and are constantly threatened by trespassers). The participation of outreach workers in control activities is such that the CECODES in 20 de Enero is considered a surveillance post.

*They have helped to protect nature but they have not increased income, before it was a free area for everyone (income was higher before because of loggers) now we must become organised and work together'* (Statement of a member of the 20 de Enero community)

Until the end of the year, the project will pay the wages of 16 park rangers. Food and transport expenses have already been assumed by the Regional Government who also provide Ecological Police (2 members). Some guard posts have no means of communication and their engines are in a poor state which causes concern because of the long distance between these people and the opportunities for them to help each other are remote.

There is no doubt that the control activities have helped to increase the animals in the reserve (alligators, *pariche*), but there are no initial or current studies to check the information provided by dwellers and park rangers.

## 5.2.2 Relationship between the Project, the Reserve's objectives and key biotic resources

The prime objective of the PSNR Master Plan is to "*Conserve ecosystems that represent the lower jungle of the Peruvian Amazon region and preserve their genetic diversity*". In this respect, Pro Naturaleza has contributed significantly to support the construction, refurbishment and equipment of the different Guard Posts, paid 16 park rangers and supplied food and fuel. In order to improve the conditions of the guard posts, a better control system was established (albeit still inefficient), thus helping to recover deteriorated ecosystems and protect those that are not under pressure.

Furthermore, the regional government has assumed greater economic responsibilities for the PSNR, but financial contributions are still required to consolidate the conservation and control system and improve the potential of the community control processes promoted by Pro Naturaleza.

The second objective is to "*Encourage adequate research of wild and aquatic flora and fauna, particularly endangered species, species currently used and those with a good potential*". In this respect, the project financed different research projects and carried out various joint actions with other institutions:

- Quick Ecological Evaluation Studies
- Studies on hydro-biological resources with IIAP
- Social-economic study
- Study on Birds
- Study on CFUs

To a certain extent, this research work has given rise to more information on the PSNR. However, more accurate details can be obtained by monitoring wildlife and establishing the nature of the wildlife resources used by the population (age of the *huasari* trees, gender of *aguajes*, economic appraisal of the use of resources in the reserve). The study on the population's involvement in the production of turtles obtained the best results.

As regards the third objective to "*Encourage the social economic development of the population who inhabit the PSNR and its surrounding areas*", Pro Naturaleza is helping to create a new experience aimed at linking conservation programmes and incorporating the social aspect. To this end, clear strategies are still required regarding ways of incorporating the communities and ensuring that income-generating activities are introduced, taking marketing aspects into consideration. Communities are currently changing their fields of action (from extraction to production) and they need to be closely monitored to prevent the reversal of this process and further pressure on natural resources. The following aspects are still pending in order to achieve the objectives of the PSNR:

- 7 Consultation Workshops (4 inter-community, 2 sub-regional and 1 regional) to establish strategies and specifics of the Master Plan
- Specific natural resource management plans (tourism, eco-development management of palm trees, turtles, environmental education, etc.)

- Zoning of the PSNR area
- Materialisation of the different plans that have been discussed

### 5.3 Project Management and Co-ordination

#### 5.3.1 Co-ordination with the regional government and other regional and local institutions

The Mission proved the irregularity of the co-ordination with the different agents in this area. With the Regional Government and the Environment Office, close co-ordination and mutual collaboration was evident. Through the project PRONATURALEZA supported the management and surveillance of the area and the Regional Government provided facilities for the project work.

The relationship with the fishery sector began well and a project was even implemented (ESONPEC) for a year, with interesting results. Subsequently the project was forced to close down because of certain pointless measures and the lack of funds. However, the CECODES continued the task of establishing fishing zones and forming Community Fishing Units.

Different officials from the agricultural, health and education sectors stated that their work with the Project depended on their interests. In this respect the farming sector stated that:

- There are close ties with the sector
- There are two working areas, Yanayacu and Utarinas
- The protection and conservation of the PSNR was encouraged
- Communities not covered by Agriculture were reached
- Work is carried out with community groups (CECODES)
- Seeds and technical advice are provided
- There is special interest in reforestation with *huasari* and in extending the *aguaje* scaling technique

The education sector mentioned that:

- Its job is to protect nature and the population is changing its attitude towards conservation
- It provides staff for their work
- It is supported by training workshops (Tourism)
- Conservation is being introduced in children's education
- A teacher who received training in Lima on Natural Resource Conservation and Maintenance is training others

The project monitoring and evaluation system was not implemented until the project had nearly reached its end although some progress was made in putting into operation the system of regular activity reports and quarterly evaluations

The implementation of a system for monitoring and evaluating impacts on key resources was not implemented because of the lack of baseline information The information generated in the Data Base with the CDC is not used because of problems gaining access to it

It would be worth working with verifiable impact indicators of actions implemented with the population (reforestation areas quantity of products obtained from the reserve and marketed, etc )

Certain instruments are lacking such as an updated Master Plan zoning to establish adequate monitoring indicators for both activities and impacts

### 5 3 3 Training, dissemination and communication

There is a Training, dissemination and communication area at present Dissemination materials were produced, including three issues of the "Pacayito" magazine and primers backing field activities (production of *taicayas*, reforestation of *huasai*, *aguaje* harvest, bird care etc ) Likewise, an environmental journalism workshop was held, with the participation of local reporters In advertising terms, t-shirts were produced as well as posters that were distributed in Iquitos and the Sub-regions These actions started a year ago

Although the materials were distributed in the communities they seem to have caused no great impact because they are not identified as project benefits none of the people we talked to mentioned them or remembered them Representatives of institutions mentioned the posters but made no reference to the "Pacayito" magazine

Furthermore, the potential of means of communication that reach the communities was increased in order to disseminate work aspects and achievements The radio station "La Voz de la Selva" (Jungle Voice) invited the previous Director to an interview at least four times but never received a reply Current plans include disseminating conservation issues through this station as well participating in its Native Dawn project

Training is a weak aspect, both among outreach workers and dwellers The communities have no-one with more training than others to give continuity to the training actions, nor do they have a network of community outreach workers Positive experiences between river basins must be boosted and experiences that produce good results should be exchanged

Outreach workers received training on Project Planning this year It would be worthwhile for the area manager to analyse the subjects in which they should be trained i.e communication and extension techniques, participatory monitoring systems, ways of standardising experiences

In addition it would be worth thinking about new varieties of seeds, forestry production techniques and the exchange of experiences during the months that the staff are working in the field taking into consideration that they need to update their knowledge

Management training should be provided to beneficiaries including ways of identifying markets, negotiating etc This training should be different for men and women

A network of rural outreach workers (men and women) should be formed, to follow a more intensive training process so that they can replace promoters who are away from the community In addition incentives should be evaluated with the population (community work, payments or others), to avoid harming anyone

#### 5 4 Periodic planning

The project's annual and quarterly plans provided the opportunity to make timely changes in schedules but not to adjust objectives or adapt to changing circumstances in the project area There is a lack of balance between the activities proposed by outreach workers and the activities of beneficiaries

The quarterly plan took too long to draft (10-15 days) and it did not have the expected impact in the field A more flexible strategy could be established (to include community proposals) placing priority on activities discussed with the population

Despite the implementation of a Planning Unit, there was no substantial improvement in its operation As mentioned in several parts of this report priority was placed on planning activities rather than on analysing them and the objectives that should be achieved

#### 5 5 Management systems

The evaluating team considered that the effectiveness and efficiency of the project's registration, control and management systems were acceptable Field technicians made no complaints about the response to their requirements, which is a positive indicator

#### 5 6 1 Economic sustainability of Conservation and Development activities in the Reserve and its Buffer Zones

#### 5 6 2 Management and alternative use of natural resources

Various activities were encouraged and those that had no favourable results were abandoned because of the lack of a good technique or a limited market, i.e the production of *aguaje* oils, *carachama* sauce, fish meal for animal feed

### 5 6 3 Improvement of traditional activities

In the farming plan the use of improved rice corn and peanut seeds was promoted the Revolving Fund system was established 70% of the target population has the capacity to reimburse loans, however because of the lack of seed storage methods and post-harvest treatment seed loans have become a routine in every farming season Furthermore the peanut production was not guaranteed due to the lack of a preliminary feasibility study in a community that did not germinate a single seed

Advice should be provided constantly during each farming season in order to establish plant health control and prevention systems It is not a good strategy merely to hand over seeds

Poultry modules provide short-term income for families, however the families should be told exactly what type of bird they are receiving (egg-laying or breeding) and taught sanitary breeding techniques (chicken runs with high floors vaccination schedule sanitary care and prevention of diseases) As these are pilot models (2 in each community), efforts could be made to fulfil the technical requirements and ensure that other families can implement their own modules

Pig-farming was less feasible in every sense (due to geographic conditions and the type of animal introduced), as there is no certain source of food for the animals Knowledge about community participation, reforestation techniques production and management of poultry and pigs and training for community outreach workers in other areas should be constantly developed among outreach workers

The project placed special emphasis on communities that inhabit the PSNR and not on those in surrounding areas, thus creating a risk as these people could obtain products from the reserve despite the control measures implemented In this respect, educational materials and means of communication should also reach these communities so that the project's activities and the purpose of the PSNR can be disseminated among them

### 5 6 4 Economic feasibility of the project based on the income-generating activities promoted in recent years

There is no certainty of the economic sustainability of the control and development activities Intensive marketing work is required as well as transport for the products The population do not feel they are earning more money or reinvesting to reduce the pressure on the PSNR resources on the contrary, they feel that unless their circumstances change soon they will do better as trespassers

As regards the project itself it is unlikely that the current circumstances of income-generating activities will guarantee the continuity of the surveillance and control activities or community development

### 5 7 Public Image

Representatives of the different development organisations in Iquitos are aware of the existence of Pro Naturaleza, although they are not too sure what they do In general

they realise they work in the PSNR and are involved in the conservation of natural resources (100% of those interviewed) that they are linked to the State through INRENA and/or agriculture (80%) and that their work is still not disseminated (60%)

Inter-institutional relations are still incipient and apparently short-term. Posters are a good way of selling the institutional image, but again monitoring is required and activities should be introduced. Furthermore, the competitive relations with the WWF Programme are obvious.

As regards TNC, Mr Duran is well known but he is not identified with the institution. There is no awareness of the institution's participation in different actions in the region, whether it provides only advice or finance or whether it only works with PRONATURALEZA or with other institutions in Peru, and on what issues.

Advantage could be taken of the different experiences of institutions (ADAR, CARE, AECI, SNV, INIA, LVS) to strengthen the experiences. There is no need to discover new ones, as these institutions have been involved in natural resource management and community micro-companies. The organisations could provide working facilities and visit other field work, advisors could analyse the results of micro-companies and the ways and means of establishing closer ties with communities in order to improve the work.

The direct flow of information, participation in different inter-institutional events and the introduction of objectives are too weak and short-term, no formal relations have been established. The dissemination of posters gives an idea of what the institutions do but not enough. The organisations interviewed are willing to exchange experiences on natural resource management, gender, participatory methodologies, farming in flood-prone areas, environmental education. These relations should be formally established in Iquitos, through agreements.

#### 5.8 Follow-up actions at the project end

Based on the evaluation of Project components, a number of actions are suggested for the continuity of the project's activities:

- The Project's priority at this time is to find one or more local sources of finance (municipal taxes, public treasury) or CTI to guarantee the continuity of certain key activities and thus ensure the medium and long-term success of the Project in particular and of the PSNR in general. These activities are understood to be
  - Assistance for drawing up the Master Plan and zoning the area
  - Assistance for continuing patrols and surveillance of the PSNR (implementation and operation)
  - Continuation of Natural Resource Management Programmes, mainly turtles and alligators, as well as palm trees
  - Continue efforts to plan fishing through Community Fishing Units
  - Draw up a Tourism Development Plan
  - Develop income-generating activities

- Provide environmental education and training
- ▭ During this “low intensity” stage, the Iquitos team should reflect upon the achievements and restrictions observed during this first stage and prepare itself by identifying worthwhile methodologies for the next stage
  - ▭ The planning activity should also be analysed in the light of its ability to obtain information in the field to provide feedback for the analysis, and to generate management, evaluation and monitoring instruments
  - ▭ Income-generating activities must be analysed in depth from the point of view of the potential profits to be obtained in a real marketing context and within the population involvement and participation strategy
  - ▭ The design and logical framework for the second part of the project should take into consideration the recommendations made herein
  - ▭ Actions concerning monitoring and the continuation of the Project’s activities should place priority on co-ordination with different regional and sectoral agents as well as NGOs involved within the scope of the PSNR, preferably the following

Activities	Possible implementation and/or co-ordination institutions
1 Assistance with drawing up the Master Plan and zoning the area	INRENA, IIAP PRONATURALEZA Universities CDC
2 Continue patrols and surveillance of the PSNR (implementation and operation)	INRENA, GR, PNP, the Navy, Producer Organisations, the Fishery sector financial sources, PROFONANPE
3 Continue Natural Resource Management Programmes, mainly turtles and alligators as well as palm tress	INRENA, PROFONANPE, Regional Agricultural Office, Universities, IIAP, INIA, IVITA, ICRAF, CIFOR, NGOs
4 Continue efforts to plan fishing through Community Fishing Units	Fishery sector, riverside communities, NGOs
5 Drafting of a Tourism Development Plan	Tourist Sector, Municipalities, NGOs
6 Development of income-generating activities	INRENA, General Agricultural Office, Universities, IIAP, INIA, IVITA, ICRAF, CIFOR, NGOs
7 Environmental education and training	Education sector NGOs

## VI GENERAL CONCLUSIONS

The balance of the Project's four years was positive as progress was made in achieving the main objectives established in its design

- The Mission hereby confirms that it was difficult to evaluate the Project's impacts due to various factors
  - a) the short project implementation period
  - b) the participation of several other agents in the same working areas
  - c) the lack of baseline information to compare results
- The population, authorities and technicians in the region feel there is a better understanding of the importance of the PSNR and the instruments required for adequate resource management but they also coincide in that the project implementation period was too short to generate an irreversible growth
- The experimental nature of the project, the lack of experience on which to base the work, the size of the area, the initial delays and the lack of foresight in the final stage were serious obstacles which the project team had to overcome
- In view of the Project's uncertain financial situation, it is obvious that no adequate plans or provisions were made regarding its imminent conclusion. The Project team and the Lima office are making every effort to guarantee the continuation of the main activities, although these may be curtailed due to the current lack of funds. TNC is making every effort to obtain sources of finance and PRONATURALEZA is also placing priority on the search for alternative funding to continue the project
- It is worth pointing out that the Project continues operating even though it is going through a "low intensity" stage. CECODES still carry out their development activities with the population and assistance is still being provided to the Guard Posts and Park Rangers, at least until December this year
- Given the experience and institutional background of both PRONATURALEZA and TNC, the Project has placed more emphasis on identifying existing resources than on learning about the characteristics and peculiarities of the target population. Despite the social-economic study undertaken and the fact that a publication in this respect was sponsored, the lack of expertise in methodological management was evident
- The latter influenced the structure of field and technical teams in Iquitos, which consist mostly of natural science experts
- Project planning and monitoring aspects developed unevenly. Priority was placed on programming and the monitoring system was never fully implemented

- The project failed to pay due attention to the existing community organisation and its improvement as a general and decisive decision-making framework which in the end would guarantee the effectiveness and sustainability of the project
- In general terms, both the Project and PRONATURALEZA enjoy a good image among local institutions. The general opinion is that the project has helped improve the management of the PSNR by providing direct area administration assistance. Also that it has developed research activities regarding the potential management and development of National Resources, social-economic aspects and income-generating activities with the local population, among many other positive aspects that are generally acknowledged in the region.
- As mentioned above, the impacts on the situation of certain species such as turtles and black alligators are difficult to evaluate due to the lack of a baseline study for accurate comparison purposes. However, the population project technicians and experts coincide in stating an increase in the number of these two species as a result of current management and control procedures particularly the assistance provided by the project.
- Standard graphic, numerical and textual baseline information in the data base is limited. According to IIAP, the entity that receives the ecological data compiled by the CDC of the UNALM, the latter has failed to provide full information. However, the limited information available is not properly disseminated or shared with other institutions involved in the Project.
- The population participates in the implementation of resource management projects such as *taicaya* and *charapa*, as well as in designing management plans for community fishing. In addition, techniques to prevent the plundering of resources are gradually being implemented, particularly as regards the fruit of palm trees.
- PSNR surveillance and management assistance activities are well underway and deserve to continue and improve. It is worth pointing out that there are now 42 park rangers, of which 16 are paid by the project and have access to 13 inhabitable guard posts with average communication, supplies and operating logistics.
- Income-generating activities were not properly weighted within the context of a market economy, in terms of opportunities and technological proposals. Neither was sufficient care taken with the development and evaluation of participatory methodologies to guarantee the population's involvement in identifying and implementing activities as well as in decision-making and management aspects.
- It is worth pointing out that tourism has increased recently, the results of which are difficult to envisage.
- By the end of the project, the population's involvement in the project's activities to improve the conservation of resources had progressed slightly, but as mentioned above, participatory methodologies and strategies are lacking.

The progress made so far should be continued with the help of experts, particularly as regards training the staff of CENCODES and improving community organisation

- The population is aware of the control measures implemented by the project regarding the use of natural resources and their participation is relative with a tendency to violate them. It is therefore essential to establish instruments to encourage the abidance of these measures (agreements standards regulations)

## VII GENERAL RECOMMENDATIONS

- The Project's current priority is to find more local sources of finance as soon as possible (municipal taxes, public treasury), or International Technical Co-operation to guarantee the continuity of certain key activities for the medium and long-term success of the Project in particular and of the PSNR in general. These activities are understood to be
  - Assistance with drawing up the Master Plan and dividing the area into zones (see Annex 5)
  - Continue supporting patrols and covering the surveillance of the PSNR (implementation and operation)
  - Continue with National Resource Management Programmes particularly turtles and alligators as well as palm trees
  - Continue efforts to plan fishing through Community Fishing Units
  - Draw up a Tourism Development Plan
  - Develop income-generating activities
  - Environmental education and training
- During this "low intensity" stage, the Iquitos team should start thinking about the achievements and deficiencies observed during this first stage and prepare itself by identifying approved methodologies for the next stage
- The planning activity should also be analysed in the light of its operating capacity in the field, in order to obtain feedback for the analysis and generate management, evaluation and monitoring instruments
- Income-generating activities require an in-depth analysis of the potential profits within a real market context and within the population's involvement and participation strategy
- The recommendations of this evaluation should be taken into consideration for the design and logical framework of the second part of the project
- The technical team should include a social scientist (sociologist, anthropologist or economist) who could apply adequate instruments that would reveal the social-economic characteristics and cultures of the population in order to value, recover and take advantage of their knowledge regarding the use and control of natural resources

- In the next stage, it is necessary for the institution to incorporate the Participation and Gender approach at all project planning and implementation levels
- Improve the implementation of productive activities and reforestation as well as the application of appropriate techniques

Instruments for the planning and overall development of the PSNR must be included within a regional development framework which should also form part of a national territorial system

- The information generated by the Project or through studies promoted by the Project must be properly disseminated and shared with other institutions involved in regional development, particularly the development of the PSNR
- Training of the Project's technicians park rangers, outreach workers and the population in general, must be considered a project priority

## VIII CONCLUSIONS BY COMPONENTS

### 8 1 Programme for the sustainable use of natural resources

- In this respect, it is worth emphasising that the PSNR is recognised in public registries under title No 12142 Record 23277 (item c) dated 9<sup>th</sup> September 1997 which also includes the possibility of developing natural resources under a management plan

#### 8 1 1 Participatory strategy

- A significant participation of the population was observed in the identification of community problems, not so in the next stages
- There was an effective response to problems not directly related to the project, such as the case of positive negotiations for building schools, appointing teachers and supplying food from PRONAA for reforestation work
- Nevertheless, the technical team's point of view of participation is based on the number of people involved and not the quality of the participation (implementation of activities, proposals, evaluation)
- People have changed their way of thinking and are currently aware of the importance of preserving resources and protecting the PSNR
- Management training should be provided to beneficiaries, including market identification and negotiation methods, etc This training should be different for men and women
- A network of rural outreach workers could be formed (men and women) who could follow a more intensive training process and thus replace outreach workers who are

away from their community. Incentives should also be evaluated with the population (community work, payments and others) to prevent harming anyone.

### 8.1.2 CECODES

- Outreach workers of CECODES are willing to carry out numerous activities but there was evidence of technical deficiencies in productive activities. They consider the standardisation of experiences to be essential and therefore need the support of the Iquitos staff and advisors.
- Project activities developed at different levels\* (partly due to population differences), depending on the staff's level of involvement. In the Samiria river basin, community control and monitoring carried more weight, whereas productive and income-generating activities have fallen behind. In the Pacaya river basin, income-generating activities have progressed.
- There is a limited presence of community leaders to ensure the sustainability of the project's activities.
- The incorporation of economic activities for women was not sufficiently analysed or consulted. Promotion is carried out without a minimum evaluation of market conditions or marketing methods.
- There are too many activities for the limited staff of CECODES, therefore they cannot monitor the process all the time. The population have expressed an interest in the presence of outreach workers during reforestation and when obtaining *chonta*, etc.
- In general, the population acknowledge and value the technical advice provided by outreach workers.

### 8.1.3 Income-generating activities

- Deficient technical aspects were observed in the reforestation and there were no management plans for available areas in the reserve.
- There is no community system to control the reforestation goals achieved by each family (according to their quota).
- The population easily lose motivation when they fail to obtain positive economic results during the implementation of conservation measures (reforestation and harvesting of *aguaje*).
- The numerous activities implemented during different periods without any participatory planning or specific objective, also lack effective marketing methods and guaranteed prices to compensate the use of conservation techniques.

## 8 2 PSNR Management Assistance Programme

### 8 2 1 Protection and surveillance system

There was an obvious improvement in the facilities and staff for surveillance and control activities. This is clearly apparent in the analysis of the matrix to evaluate the performance. Despite this the control of trespassers and the population's involvement in the system are still deficient.

- According to the exercise carried out by the Technical Committee of PROFONANPE with the participation of the PSNR Headquarters, illegal hunting and fishing is the most serious problem in this area.
- Nevertheless there is no doubt that the Project has improved the facilities and equipment by helping to build and refurbish 13 guard posts and providing basic equipment. Basic conditions (mainly communication and transport) are still insufficient for efficient surveillance and control work.
- The work carried out by CECODES, the training provided to the population and the implementation of natural resource management activities improved the short-term situation of certain species, thus providing the satisfactory results of this line of work. Continuity still needs to be guaranteed.
- Although there is a certain level of co-ordination between the different institutions involved in this area they need to agree on the papers and mandates issued by each one in order to improve the surveillance and control system permanently, beyond the project completion date.
- Park rangers are not sufficiently trained to cope with emergencies or accidents that could occur in cases of isolation.

### 8 2 3 Relationship between the project, the Reserve's objectives and key biotic resources

- Community activities slightly and temporarily reduced the pressure on the reserve, although the population is still tempted to trespass in order to obtain immediate economic resources.
- Turtle reproduction techniques were learnt and practised by communities, as well as the rational management of palm trees and fishing controls.
- Impacts on certain species such as turtles and black alligators are difficult to assess due to the lack of a baseline study to accurately compare changes. However, interviews with the population, project technicians and experts coincide in stating that both these species have increased in number thanks to the current management and control, mainly with the project's assistance.

#### 8 4 Project Management and Co-ordination

Project management aspects gradually improved and were adjusted to the circumstances of field technicians. The management procedures and mechanisms improved further under the new Director.

- Administration systems responded to the requirements of the field staff and in general, despite the variety of units (CECODES, Iquitos, Lima, Washington), the activities were unaffected.

#### 8 5 Follow-up at the Project end

- The Project's activities are being implemented despite the limited funds, however many fundamental activities such as community development will be seriously affected as from December, thus threatening the progress already made.

### **IX RECOMMENDATIONS BY COMPONENTS**

#### 9 1 Programme for the sustainable use of natural resources

##### 9 1 1 Participatory Strategy

- Include the participation of women in all stages of the project, with different strategies
- Decide priority actions, alternatives and methods together with the population so that they feel involved and assume the productive and income-generating activities as their own
- Improve the potential of PREWs and analyse the results in each community
- Recover annual reports, resume discussions with authorities and the community to evaluate progress and plan joint actions
- Resume and evaluate activities and adjust them to the needs, knowledge and organisation of each community
- Strengthen community participation as a general framework
- Include a sociologist in the technical team to apply instruments that reveal cultural characteristics and value local knowledge of the use and control of resources
- Include the Participation and Gender approaches at all levels

## 9 1 2 CECODES

- Outreach workers consider it essential to standardise experiences, hence the need for the assistance of the Iquitos staff and advisors
- In view of the numerous experiences in Loreto regarding what Pro Naturaleza intends to achieve, the production and natural resource management activities of CARE and the work with micro companies carried out by ADAR should be visited
- Local dwellers should be trained to support the work of outreach workers
- Further analysis and consultations are required to incorporate economic activities for women. Promotion should take place when the right conditions arise (market, marketing system). A person well versed in marketing and links with consumers etc is required
- Activities for the conservation of palm trees should be included in a Master Plan of the Reserve, to which end the reforestation work should be completed and monitored, taking into consideration the natural on site aftermath growth of different palm trees and mixed reforestation including *aguaje*, *huacapu huasai*, cedar and other species depending on the population's needs
- Carry out research on the survival rate, number and gender of freed *tairicayas*
- Study the possibility of communities becoming turtle producers and selling them to communities near the town of Iquitos
- Within the management plans, study the possibility of certifying products and identify opportunities for local and regional governments to support such actions
- The project should be the link between communities and marketing centres and its staff should include marketing experts
- In every stage of productive activities (sowing, plague and disease control, post-harvest and marketing) particularly in the sowing of short cycle crops (rice, peanuts, corn beans), it is important to prove to the population that it is possible to obtain equally as good or better income from farming as from obtaining products from the reserve, avoiding trespassing
- Production prospects should be discussed with communities to avoid future conflicts (the 20 de Enero community intends to clear the higher jungle to sow rice)
- Carry out studies on standards of living in communities where income has increased. At the same time, include training on re-investment and economic appraisal

## 9 2 PSNR Management Assistance Programme

□ Basic communication and transport activities are aspects that should be given priority for the efficient operation of the control system. This component should be co-ordinated with INRENA, the Regional Government, municipal authorities, NGOs Universities, IIAP financial sources, PROFONANPE in order to identify sustainable solutions that can gradually be assumed by competent authorities, assisted by the population

□ It is essential to provide First Aid training to park rangers as a work incentive

### 9.3 Follow-up at the Project end

□ When planning follow-up actions and the continuation of the project's activities, priority should be placed on co-ordination with different regional and sectoral agents and NGOs involved in the PSNR

Activities	Potential institutions for implementation and/or co-ordination
1 Assistance in drawing up the Master Plan and zoning the area	INRENA, IIAP, PRONATURALEZA, Universities CDC
2 Continued patrol and surveillance of the PSNR (implementation and operation)	INRENA, Regional Government, National Police, Navy, Producer Organisations, Fishery sector, financial sources, PROFONANPE
3 Continuation of Natural Resource Management Programmes, mainly turtles and alligators as well as palm trees	INRENA, PROFONANPE, Regional Agricultural Office, Universities, IIAP, INIA, IVITA, ICRAF, CIFOR, NGOs
4 Continue efforts to plan fishing through Community Fishing Units	Fishery sector, riverside communities, NGOs
5 Draw up a Tourism Development Plan	Tourist Sector, Municipalities, NGOs
6 Develop income-generating activities	INRENA, Regional Agricultural Bureau, Universities, IIAP, INIA, IVITA, ICRAF, CIFOR, NGOs
7 Environmental education and training	Education sector, NGOs

## ANNEX 1

Terms of Reference of the Mission's Final Evaluation of the "Employment and Natural Resource Sustainability" Project No 527-0341 Pacaya Samiria National Reserve

### I OBJECTIVES

- 1 Establish the extent of achievement of the Project goal stipulated in the logical framework, by obtaining the anticipated results and nearing the status predicted for the project end
- 2 Establish the effectiveness of the various project inputs
- 3 Evaluate the needs of the Pacaya National Reserve and surrounding communities once the project period has ended and make recommendations for meeting such needs
- 4 Using the results of the previous project evaluation as a reference, establish conclusions regarding the project's general effectiveness
- 5 Suggest ways of improving the project and how the achievements could be reproduced in other areas and projects
- 6 Recommend basic guidelines to support the Project during a later second stage

### II TASKS

#### A Programme for the Sustained Use of Natural Resources

- 1 Analyse the use of a participatory strategy for the project
- 2 Analyse the effectiveness of CECODES facilities, staff and activities
- 3 Evaluate the choice and effectiveness of income-generating activities
- 4 At a local level, evaluate the viewpoint of government institutions (Requena and Nauta Sub-Regions) regarding the Project and the assistance provided by it, placing emphasis on farming, fishing and education

#### B Pacaya Samiria National Reserve Management Assistance

- 1 Based on documents, interviews and direct field evaluation, analyse the effectiveness of the protection and surveillance system supported by the project (facilities, staff, communications system, operations and logistics)
- 2 Evaluate the progress made in the Reserve planning process

C Project Management and Co-ordination

- 1 Analyse the current and future level of co-ordination with the government particularly at regional and local levels
- 2 Analyse the current and future level of co-ordination with other institutions particularly local and regional ones IIAP, UNAP, WWF, tourist operators
- 3 Evaluate the monitoring and evaluation programme established by the project
- 4 Evaluate the training courses and the publications, videos and other dissemination and communication materials prepared by the project
- 5 Evaluate the effectiveness of regular annual and quarterly project plans
- 6 Evaluate project management systems reports, information file, management staff
- 7 Analyse opportunities for wide-ranging, diversified and long-term financing for the Reserve and the work with local populations, from local, regional and national sources, private and international sectors, sustainable local development
- 8 Analyse the image projected by Pro Naturaleza, TNC and the Project at local, regional and national levels

D Follow-up actions at the project end

- 1 Make a recommendation regarding whether or not current project actions and methodologies should continue
- 2 Suggest new actions and methodologies to be introduced in the project area
- 3 Suggest specific studies to establish future actions and methodologies in the project area



## ANNEX 2

### People and institutions interviewed by the Evaluation Mission

#### MARAÑON-SAMIRIA RIVER BASIN

##### VEINTE DE ENERO COMMUNITY

Raul Ochavano Ricopa	Governor
Tercero Sangama Silva	Dweller
Mario Guerra Tanchiva	Dweller
Leopoldo Dante	Dweller
Agustin Shapiama	Dweller
Wilson Tello Guerra	Dweller
Norberto Shapiama	Dweller
Rony Ruiz Sangama	Nursery School Teacher
Luis Rodriguez Navarro	Nursery School Teacher
Abel Zamora Nascimento	Dweller
Manuel Gongora Ramirez	Dweller
Segundo Sandoval Parana	Dweller
Cuarto Sangama Silva	Dweller
Pablo Macedo	Dweller
Reynerio Macuyama	Dweller
Omer Guerra Arimuya	Dweller
Mario Guerra Arimuya	Dweller
Pedro Castermoque Tamani	Dweller

##### AREQUIPA COMMUNITY

Eulogio Ahuanari	Dweller
Adolfo Sanchez	Municipal Agent
Enrique Huaymacari Tamani	Governor
Cesar Malafaya	Dweller
Reinerio Carihuasairo	Dweller
Aurelio Silvano Pacaya	Dweller
Roberto Sanchez Murayari	Dweller
Wilson Armas	Dweller

##### BUENOS AIRES COMMUNITY

Cesar Lancha	Governor
Jose Santos Macuyama	Dweller
Hector Tangoa	Dweller
Atilio Huaymacari	Dweller
Justo Pizango	Municipal Agent
Maria Mozombite Jaba	Dweller
Israel Tangoa	Dweller
Adrian Tello	Teacher
Nilda Pizango Mozonbite	Dweller
Gerardo Del Aguila Mego	Dweller

NAUTA INSTITUTIONS

LORETO-NAUTA SUB-REGIONAL MANAGEMENT

Alfonso Huaman Fachin	Manager
Julio Pizango	Planning Manager
Teodoro Morales	Budget Manager

SUB-REGIONAL EDUCATION BUREAU

Calvino Reategui Hidalgo	Cultural Office
Pedro Navarro Canales	Teaching Office
Carlos Navarro Vasquez	Representative

SUB-REGIONAL BUREAU OF AGRICULTURE

Enrique Soria Lopez	Bureau of Agriculture
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MUNICIPALITY OF NAUTA

Federico Melendez Torres	Deputy Mayor
Hermes Sinacay Vasquez	Councilman

UCAYALI-PUINAHUA RIVER BASIN

REQUENA INSTITUTIONS

REQUENA SUB-REGIONAL MANAGEMENT

Carlos Pezo Mera	Manager
Angel Charpentier	Planning Bureau

REQUENA MUNICIPALITY

Armando Mafaldo	Mayor
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SUB-REGIONAL EDUCATION BUREAU

Pedro Silva Ruiz	Teaching Bureau
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SUB-REGIONAL BUREAU OF AGRICULTURE

Alejandro Garcia	Director
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SUB-REGIONAL FISHERY BUREAU

Pedro Poma	Director (e)
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MANCO CAPAC COMMUNITY

Alberto Tamani Ahuanari	ECOMAC President
Victor Tamani Ahuanari	ECOMAC Treasurer
Leon Maycahua Silvano	ECOMAC Secretary
Hugo Pineda	CFU President
Antonio Pacaya	Dweller
Leon Maricahua	Dweller
Gabriel Dosantos	Dweller
Jorge Arrue Gonzales	Dweller
Graciela Marichaua	Dweller (Ecomac)
Maria Tanchiva	Dweller (Ecomac)
Estela Tamani	Dweller (Ecomac)

Poultry and Pig-farming beneficiaries

Diner Maldonado	Dweller (pigs)
Ramon Silvano	Dweller (pigs)
Graciela Maricahua	Dweller (poultry)
Nohemí Ahuanari	Dweller (poultry)

PSNR PARK RANGERS

Manuel Vasquez	Pacaya Basin Chief
Fredy Sangama	Yarina GP Co-ordinator
Jose Urresty	Yarina GP Park Ranger
Hitler Rodriguez	Yarina GP Park Ranger

### ANNEX 3

Comparison of evaluation conclusions with the “matrix for judging the degree of biodiversity conservation by consolidating the management of PNAs” by Vasques and Irus

The last study on “a matrix for judging the degree of biodiversity conservation by consolidating the management of PNAs” (Vasques and Irus 1996) mentions that the conditions in the PSNR are acceptable for an efficient management in terms of the protection and surveillance of the area and the population’s involvement in sustainable economic activities

The Evaluating Mission considers that in general terms the Project’s operation has developed the right management conditions through its PSNR Management assistance component although a conservation strategy that places priority on the population’s participation through more aggressive training remains pending. The population involvement strategy should be based on activities that have been well received, such as turtle management

The study mentions twelve important elements that establish the capacity of PNAs to fulfil their objectives pointing out that this matrix neither provides direct information on the quality of the biodiversity protection nor hints at which is the best or most important PNA from a bio-geographical point of view

Nevertheless, as the effectiveness of the proposed matrix is being judged in terms of the PSNR and because according to the capacity of this PNA it would appear to offer the best conditions, the Mission decided to compare this information with the results of a more qualitative evaluation in order to contrast the differences between what was “installed” and what was “implemented”. There is no doubt that, in accordance with its objective the matrix is a useful guideline for analysing results and appraising the value of methodological instruments as a way of creating a methodology for monitoring management quality. As mentioned in that study, a specific evaluation of a PNA - the PSNR in this case - reveals whether or not there is any consistency between the area management facilities and the achievement of the objective

It must be stressed that this is an evaluation of the “Employment and Natural Resource Sustainability” Project No 527-0341, Pacaya Samiria National Reserve, implemented by PRONATURALEZA with the financial and technical support of The Nature Conservancy - TNC and the financial support of USAID, it is not an area management evaluation. The main analysis is therefore aimed at pointing out the contributions and deficiencies of this project with respect to management assistance and involving the population in income-generating activities. The purpose of using the matrix is to prove the value of this important instrument and use it as a guideline for analysing the project’s activities

Below is a description of the results obtained by the study, taking the PSNR as a sample. As regards the physical and legal land reclamation, the PSNR had not been registered in Public Registries and the task of establishing boundaries had not been completed, hence the final value of 3 which is equivalent to 50% below the highest value under an ideal

actions aimed at achieving objectives. The most obvious proof is the inadequate design of the Logical Framework which never really served its purpose.

The study awarded 7.65 to the Ecological Monitoring component of a maximum score of 9. The Mission considers this too high, in view of the limited volume of standard information in the data bases of the area's bio-physical and social-economic components. The matrix assessed the information on evaluation parameters based on a single survey without taking into consideration the dynamic aspects of such components nor the need for a regular evaluation of the information.

The involvement of private institutions like PRONATURALEZA and WWF as well as co-ordination with the local community and local governments was considered low (1 out of 4). The mission shared this point of view.

In terms of local participation in sustainable economic activities, according to the study there are pilot programmes for the sustainable management of *taucayas* (*Podocnemis unifilis*) and Community Fishing Units (CFUs) are being organised with a view to rationalising non-industrial fishing awarding a final score of nearly 7 out of 9. We believe the quality of the participation needs improving and that income-generating activities must be identified in terms of the market and its requirements.

As far as threats are concerned, land use conflicts with government sponsored development programmes were mentioned, reporting the sectoral interference and overlaps that create misunderstandings between the different State agencies that manage natural resources, the most critical case being the hydrocarbon activities of the Energy and Mines sector. In the case of the PSNR, it was maintained that the population and the Reserve management launched a campaign to prevent the prospecting work of an oil company which finally withdrew from the area. In this respect, the PSNR was awarded 50%.

Finally, the study awarded a final score of 72.93 to the PSNR, this being the highest score of all the PNAs analysed. The on-site observation revealed a slightly negative trend in terms of the current management and adequate performance of the PSNR. The methodological aspects of each component need to be strengthened.

The evaluating of the "Employment and Natural Resource Sustainability" Project No 527-0341 Pacaya Samiria National Reserve, consider that the matrix was an important instrument for determining the relation between appropriate conditions and appropriate implementation methodologies.

The next step would be to develop an accurate, fast, efficient and economic instrument for establishing qualitative evaluation criteria to complement the viewpoints obtained from the matrix, so that sampling could be done with quick exercises and the use of the media through reporters trained in fast participatory evaluation methods and quick visits to check the information.

## ANNEX 4

### Participatory Evaluation Methodology and Results used by the Mission

#### 1 External institutional diagram

**Objective** Encourage the population to identify the different external institutions or organisations working in their communities or that have influence on them, and to identify the positive and negative aspects of such relations

**Participants** Community dwellers (usually not leaders or authorities)

#### Methodology

- Explain the objective of this instrument and the resources to be used (primers of different colours felt pens paper)
- Make a list of institutions
- Establish what the population think of these institutions and choose which card to give them Large card = they work well and are well accepted by the community Medium card = average work Small card = they work badly and the population have a poor opinion of them
- Identify the reason why they chose the different sized cards, mentioning the positive and negative aspects

#### **20 de Enero Community (Abel Zamora, Cuarto Sangama, Segundo Sandoval)**

Institution	Positive Aspects	Negative Aspects
FONCODES	Helped build a school Donated a power generator	The building of an artesian well remains pending
MUNICIPALITY	They saw the Mayor once when he was brought by FPCN	- Nothing has been achieved since the town was created - Most people do not know the Mayor
REGIONAL GOVERNMENT DEVELOPMENT SUB-REGION	- Provided Lodge facilities - Donated a parabolic antenna - Provided a launch - Provided TV	
EDUCATION	- Primary and secondary school - Teachers appointed since 1978 - The situation of bad teachers was rectified	

	two years ago	
PRONATURALEZA	<ul style="list-style-type: none"> <li>- Supports negotiations and achieves results</li> <li>- Advice on reforestation with <i>huasai</i></li> <li>- Advice on climbing <i>aguaje</i></li> <li>- Eggs obtained from hens donated by the foundation</li> <li>- Became organised to control the PSNR</li> </ul>	<ul style="list-style-type: none"> <li>- Refuse to provide transport The aid has come to an end</li> <li>- Children have died from the lack of assistance</li> <li>- Helped initially by providing hens, then chickens, creosol no longer provided</li> <li>- Explanation of PSNR standards still pending</li> </ul>
AGRICULTURE	<ul style="list-style-type: none"> <li>- Provided seeds through PRONATURALEZA</li> </ul>	<ul style="list-style-type: none"> <li>- Confiscates products</li> <li>- Excludes us despite our control work</li> <li>- We are carrying our reforestation and in Nauta they confiscated our products</li> </ul>

In this community Pro Naturaleza was identified at the end after forcing the situation. The Project is valued in terms of farming. The people believe the CECODES is a PSNR control post. They are resentful because of the death of three children (supposedly because of the lack of transport to Nauta). They mention that they work together with Agriculture but that no organisation has disseminated standards in this respect.

**7 de Junio Community**  
**(Baluarte Vela, Amelia Aquituarí, Moises Macahuache, Edwin Parana)**

Institution	Positive Aspects	Negative Aspects
CECODES	<ul style="list-style-type: none"> <li>- Provided hens and pigs to 2 families</li> <li>- Provided petrol</li> <li>- Held a PREW</li> </ul>	<ul style="list-style-type: none"> <li>- A year since the last visit</li> <li>- No invitation to the closing of "charitos" (<i>tancayas</i>)</li> </ul>
CHURCH	<ul style="list-style-type: none"> <li>- Christenings and weddings</li> <li>- No food provided during work</li> </ul>	<ul style="list-style-type: none"> <li>- The lack of a chapel and a Christian leader</li> </ul>
MEDICOS SIN FRONTERAS"	<ul style="list-style-type: none"> <li>- Provided medicines</li> <li>- Trained one outreach worker</li> </ul>	<ul style="list-style-type: none"> <li>- No longer visit</li> </ul>
PRONAA	<ul style="list-style-type: none"> <li>- Provided school breakfasts</li> <li>- Supported the Glass of Milk programme</li> <li>- Fulfilled their commitments</li> </ul>	
MUNICIPALITY OF BRETaña	<ul style="list-style-type: none"> <li>- Supported the Glass of Milk programme</li> <li>- Supported the Nursery School</li> <li>- Helped hire a teacher</li> <li>- Is willing to help</li> <li>- Provided telephones</li> <li>- Organised the visit of physicians</li> </ul>	
CARITAS	Gave the Outreach worker medication	Only visited once
AGRICULTURE	Give talks	<ul style="list-style-type: none"> <li>- INRENA declared the area a reserved zone but Bretaña dwellers destroy it</li> <li>- The Reserve is not properly taken care of by park rangers</li> <li>- They take away the resources and sell them, they took the canoe This is considered robbery</li> <li>- They were the first to destroy the reserve</li> <li>- Park Rangers are often drunk and do business in Bretaña</li> </ul>

HEALTH	Visits and medicines	<ul style="list-style-type: none"> <li>- A sanitary post is required</li> <li>- The outreach worker works at home</li> </ul>
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Although outreach workers stopped supporting this community they still value the work carried out although they give no reasons why They think Pro Naturaleza does not visit them because of their poor work They believe the Reserve is not effectively controlled and that members of the community who know the area should be hired as they would look after it and not do business

## Results

The inter-institutional relations of Pro Naturaleza in the town of Nauta are reflected in the communities The population recognise the management assistance in health and education sectors On the other hand, relations with the Ministry of Agriculture, INRENA and the area management are not appreciated because of the lack of dissemination of standards in the PSNR The project could carry out dissemination activities and studies in Community Assemblies and in schools

Communities who no longer receive aid still have a good opinion of the work and relations with Pro Naturaleza Clearly there is a lack of criteria for establishing close ties and it would be better to explain why the aid has stopped Relations in Requena were obviously still very weak, as only the relations with the Municipality of Bretaña were referred to

## 2 Community Map

**Objective** Encourage the population to identify different physical areas in which they obtain products or resources for self-consumption or for sale At the same time, identify the areas assisted by the Project

**Participants** Community dwellers (usually not leaders or authorities)

### Methodology

- Explain the objective of this instrument and the resources to be used (felt pens, paper)
- Draw the physical area currently occupied and where they obtain their resources
- Identify the work they feel happy with (and why) and where they feel unhappy (and why) Then pinpoint the areas assisted by FPCN with coloured asterisks A red asterisk means not present, a blue asterisk means present and an orange asterisk means the outreach worker is sometimes present
- Justify the happy or unhappy faces and the asterisks

**20 de Enero Community**  
**(Abel Zamora, Cuarto Sangama, Segundo Sandoval)**

Physical area	Happy	Unhappy
Rice fields	Good harvest this year Food available <ul style="list-style-type: none"> <li>• Seeds obtained from FPCN</li> </ul>	No land for everyone in the lowlands Plagues Severe transport problems and low prices of rice
Fishing	<ul style="list-style-type: none"> <li>• Plenty of fish</li> <li>• Fish can be sold fresh, dried or salted</li> <li>• Fishing does not take up much time</li> </ul>	<ul style="list-style-type: none"> <li>• There is no CFU to support fishing</li> </ul>
<i>Aguajal</i> and <i>chonta</i> forest	<ul style="list-style-type: none"> <li>• <i>Chonta</i> no longer cut down</li> <li>• Food available for people and animals</li> <li>• Plants no longer killed</li> <li>• Money is more easily earned</li> <li>• <i>Aguaje</i> climbing technique taught</li> </ul>	<ul style="list-style-type: none"> <li>• No knowledge of climbing and harvesting</li> <li>• Not everyone carries out reforestation</li> </ul>
Rock ledge	<ul style="list-style-type: none"> <li>• Safe place for a farm</li> <li>• Rice, bananas, corn and cassava can be grown</li> </ul>	<ul style="list-style-type: none"> <li>• It is forbidden to clear much land</li> </ul>
Reforestation	<ul style="list-style-type: none"> <li>• <i>Chonta</i> will be near</li> <li>• Good future prospects</li> <li>• Basic for obtaining <i>chonta</i>, otherwise it is impossible</li> <li>• The fruit attracts animals</li> <li>• Provides work guidelines</li> <li>• Good initiative</li> </ul>	<ul style="list-style-type: none"> <li>• The idea came from FPCN The people were not consulted</li> <li>• Reforestation should not only include <i>chonta</i> but also cedar, <i>aguano</i>, <i>aguaje</i></li> </ul>

The population feel that they have a right to decide what activities should be carried out in accordance with their needs. Although they realise they should not carry out logging they believe they could use cedar and *aguano* for reforestation purposes and that their children are entitled to these plants. Again, there is a lack of dissemination regarding the rights and duties of settlers in Protected Natural areas.

### 7 de Junio Community

(Baluarte Vela, Amelia Aquituarí Meza Moises Macahuache Edwin Parana)

Physical area	Happy	Unhappy
Rice fields	Seeds were provided	<ul style="list-style-type: none"> <li>• Production eaten by animals (<i>tonsoco</i>, <i>yellow bird</i> and <i>pedro</i>)</li> </ul>
Animal breeding	<ul style="list-style-type: none"> <li>• Food available to eat and sell</li> <li>• Only provided to two families</li> <li>• Medicines and vaccinations provided for pigs</li> </ul>	<ul style="list-style-type: none"> <li>• Birds attacked by plagues</li> <li>• Animals stolen</li> <li>• Work should involve everyone</li> </ul>
Peanuts		<ul style="list-style-type: none"> <li>• Bad seeds were provided</li> <li>• Work was pointless</li> </ul>
Fishing	Taught how to smoke fish	Fish-smoking a failure because we were forced to do it

There is clear idea in both communities of the assistance provided by outreach workers and the points of view of the people. In both communities the lack of techniques were evident in the activities.

In this community sketch, the lack of technical advice for the activities was easily identified as were the actions without positive results (smoking fish). With a monitoring system the faults would be corrected within a short time. Unfortunately the uncertainties and mistakes give the community a bad impression (outreach workers are believed to support actions in which they have an interest).

### 3 Flow of Production and Trade

**Objective** To encourage beneficiaries of micro companies producing jam to analyse the current situation and evaluate the work of Pro-Naturaleza as far as their activities are concerned

**Participants** Female members of micro companies (all three)

#### Methodology

- Explain the objective of this instrument and the resources to be used (card of different colours, felt pens, paper)
- Remember all jam-making activities
- Identify areas in which outreach workers are helping
- Analyse the problems encountered in each production and trading stage
- Analyse the assistance provided by the project

- At the end, place a happy or unhappy face according to how they feel about their lives

## Results Manco Capac Community

### a Production stages and problems (transcript)

- Obtaining the raw material (paw-paw)
  - No transport available to carry the paw-paw
  - Paw-paw orchard too far in summer
  - Transport takes too long
  - Very heavy drivers only help out sometimes
- Jam production
  - No premises of their own
  - All materials belong to CECODES
  - Inputs like sugar containers etc are borrowed
  - Everything must be brought in from Iquitos
- Marketing
  - Not many sales now, previously a tourist launch stopped in the community
  - Few people in this or neighbouring communities eat jam (teachers, priest)

### b Problems in general (transcript)

- Local sales are low, no demand from Iquitos or other markets
- CECODES neither help with the marketing nor different production stages, due to the fact that “ *outreach workers only work in the rice mill because they are members, they do not assist us because they would gain nothing from that* ”
- Making jam was “*the idea was Miss Lilitana's who did not want to teach the mothers and took the products to Iquitos to sell them We wanted help with sewing and cooking, because clothing and food can be sold easily* ”
- The company takes up too much time and separates us from our children sometimes we are away from home for a day and a half Sewing and cooking could be done at home
- To continue in the firm, the Project must find a secure market for us, take the jam to Iquitos We know that the Co-ordinator (Mr Merlin) calls Iquitos and does everything possible but the people in Iquitos do not help
- In any case, we should be taught how to negotiate so that we can make progress
- We regret the poor results (unhappy face) (After a while, once certain advantages are pointed out, they also decided on a happy face) They are happy about the future prospect of being able to feed and educate their children

## Results

Activities with women require a preliminary analysis, as they could be causing more work than they already have and negatively affect them and their families

Separate PREWs should be held for men and women to identify actions that are consistent with needs and expectations In order to involve women in economic

activities secure markets, management skills and shifts are required (one looks after the children or cooks a communal meal - various strategies should be discussed with them)

In general income-generating activities were neither planned nor analysed with the population and no advice was obtained in this respect. Several activities were promoted that were abandoned as soon as they failed. Rice mills and CFUs obtained positive results by coincidence (because they coincided with the men's expectations). A marketing expert is required as a link and it would be worth considering the certification of the products from the PSNR. Consumers should be encouraged to consume slightly more expensive products. In this respect, communication plays an important role.

## ANNEX 5

### PSNR Zoning Guidelines

#### Introduction

As a basic instrument for the territorial system, zoning helps to establish adequate land use by capacity and provides information on the physical-natural, biological, social-economic components, including the human component, existing inter-relationships and systematic growth

Despite the existing mandate to carry out zoning in protected areas, there is no national policy governing the territorial system as a development instrument and strategy to improve and guide the creative efforts of the experts involved

The population's participation in zoning decisions could help reinforce the internalisation of concepts like the sustainable use of resources, conservation and the rational use of space, based on their knowledge of the current and future potential of the area, its problems and limitations, potential use and the concerted actions required for an adequate use of this territory

As regards the above, it is worth mentioning that a Workshop was held in Iquitos in April 1997 to "Design a Master Plan and Zoning Plan for the Pacaya Samiria National Reserve" At this event, representatives of the institutions involved in the development of this area suggested the criteria to be taken into consideration for drawing up the Master Plan and the Zoning Plan

Zoning of Protected Areas is a resource management and maintenance planning instrument to suit the area's potential

#### Justification

The following are the main legal provisions that form part of the wide-ranging, specific legal grounds

#### a) Law governing Protected Natural Areas - Law No 26834, June 30, 1997

This law governs the management of Protected Natural Areas (PNAs) and permits the regulated use of the area and the management or restricted use of the resources (Article 1), establishing the participatory design of a Master Plan to be reviewed every five years, defining zoning strategies and general policies for the management of the area (Article 20)

#### b) The Master Plan is the most important planning document of a PNA

In addition, it establishes that each Protected Area must be zoned in accordance with its requirements and objectives, establishing zones for the different use of space (Article 23)

- c) Law governing the conservation and sustainable development of the biological diversity - Law No 26839 July 8, 1997

This law confirms that the State promotes the incorporation of ecological criteria for the conservation of the biological diversity in environmental and territorial processes (Article 5, item h)

Likewise Article 22, Title V Protected Natural Areas establishes that the development of natural resources and any other activity in Protected Natural Areas can only be authorised if they are compatible with the zoning category allocated and the area management plans

- d) Organic law governing the sustainable development of natural resources - Law No 26821 June 25 1997

Article 11 of this law establishes Ecological and Economic Zoning to support the territorial system based on priority areas consistent with national interests regarding the conservation of the natural heritage and the sustainable development of natural resources

- e) Regulation governing the Organisation and Duties of the National Environment Council (CONAM) - Supreme Decree No 048-97-PCM , October 3, 1997

Article 20 of this legal provision states that the purpose of the Environmental System is to guide and establish the conditions for the use of space and its components, in accordance with its ecological, economic, cultural and social characteristics in order to take the utmost advantage of them without compromising their quality and sustainability

Article 21 mentions that land use conditions must be qualified based on aptitude, sustainability and the development requirements of the country

### The need for Zoning

In the PSNR, zoning is mainly required due to the following

- 1 To comply with existing legal provisions
- 2 To support the design of an updated Master Plan, in keeping with the new legislation governing PNAs
- 3 To acquire a deeper knowledge of the area in order to respond to questions regarding what to do in and with the territory and establish ways and means of implementing the respective actions
- 4 Provide land use options for the population in the area
- 5 Provide facilities to include the PSNR planning and overall development instruments in a regional development framework which forms part of a national territorial system

### Zoning Objectives

- 1 Draw up land use proposals to support rational decisions regarding the management of the PNA, in keeping with current legislation and national objectives
- 2 Provide land use alternatives, taking into consideration the interests, needs and priorities of settlers, in harmony with the environment and promoting a sustainable development
- 3 Establish the potential use of the PNA and the distribution of resources for an adequate territorial and management system
- 4 Support the design of Management Programmes that contribute to the protection and rational use of resources
- 5 Support PNA monitoring and surveillance activities
- 6 Disseminate and share information on the PNA among different institutions involved in its development

### Zoning Requirements

Various inputs or elements are required in order to fulfil the zoning objectives

- 1 Clearly established legal grounds defining the PNA development objectives and strategies
- 2 Basic information of a high quality, obtained from existing information compiled systematically and/or a multi-disciplinary study that provides overall knowledge and understanding of the area, its growth and the internal and external processes affecting it
- 3 Expert manpower experienced in zoning processes and territorial systems as well as experts on natural resources and social-economic aspects to comprise the multi-disciplinary team
- 4 Remote sensing digital processing systems and geographic information systems
- 5 A system for monitoring physical, biological and social-economic components of the PNA

### Zoning Stages

The main stages of this activity are detailed below. It is worth mentioning that permanent community participation throughout the process is a key factor for the success of the zoning process.

- 1 Definition, objectives and scope of the study area
- 2 Structure of the multi-disciplinary team
- 3 Design of the General Work Plan and specific TOR
- 4 Compiling, updating and/or generating topical information
- 5 Analysis and digital saving of information
- 6 Developing models
- 7 Generating preliminary outputs
- 8 Verification
- 9 Generating final outputs
- 10 Drafting the report

As decision-makers regarding the use of their area, dwellers will have more confidence in the actions carried out by the State and national and international development organisations. However, a consultation process and agreements between different sectors involved in the development of the area are required to guarantee the adequate use of space in accordance with the zoning objectives.

### Main Zoning Outputs

- 1 An Area Zoning map
- 2 A report describing the methodology employed and the development of land use and occupation models
- 3 A graphic, numerical and textual data base containing relevant bio-physical and social-economic aspects of the area