A.I.D. EVALUATION SUMMARY – PART I

5 6250

1. BEFORE FILLING OUT THIS FORM, READ THE ATTACHED INSTRUCTIONS.
2. USE LETTER QUALITY TYPE, NOT "DOT MATRIX" TYPE.

IDENTIFICATION DATA

A. Reporting A.I.D. Unit:

Mission or AID/W Office USAID/PERU

(ES# _____)

B. Was Evaluation Scheduled in Current FY Annual Evaluation Plan?

Yes ☐ Slipped ☐ Ad Hoc ☒

Evaluation Plan Submission Date: FY ____ Q ____

C. Evaluation Timing

Interim ☒ Final ☐ Ex Post ☐ Other ☐

D. Activity or Activities Evaluated (List the following information for project(s) or program(s) evaluated; if not applicable, list title and date of the evaluation report.)

Project No.	Project /Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
527-0244	Upper Huallaga Area Development Project	81	12/88	23.4	23.4

ACTIONS

E. Action Decisions Approved By Mission or AID/W Office Director

Action(s) Required	Name of Officer Responsible for Action	Date Action to be Completed
1. Incorporate internal evaluation into annual operational plan.	John Wall	3rd.qtr FY87
2. Begin validation of research results at farm level and improve farmer/researcher communication.	John Wall	1st.qtr FY88
3. Develop plan for systematizing extension services.	John Wall	2nd.qtr FY88
4. Implement studies: credit study, to update basis for and reprogramming of credit, agricultural and agro-industrial and labor market study.	John Wall	1st.qtr FY88

(Attach extra sheet if necessary)

APPROVALS

F. Date Of Mission Or AID/W Office Review Of Evaluation: (Month) (Day) (Year)

G. Approvals of Evaluation Summary And Action Decisions:

	Project/Program Officer	Representative of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
Name (Typed)	John Wall		Luis E. Arreaga	Donor M. Lion
Signature	JW		[signature]	[signature]
Date	5/3/88		[illegible]	6/7/88

ABSTRACT

H. Evaluation Abstract (Do not exceed the space provided)

The project objective is to help the Government of Peru increase and diversify legitimate agricultural production in the Peruvian high jungle of the Upper Huallaga as an altenative to coca leave production. The project is being implemented by the Upper Huallaga Special Project Office (PEAH) in coordination with central government, municipal, community and private entities which operate in the area. This interim evaluation was conducted by a team of local experts contracted by a Peruvian consulting firm to carry out the scope of work developed jointly by USAID/Peru and the GOP. The team reviewed project documents, including analyses and reports produced by technical assistance personnel, visited the Upper Huallaga area and conducted interviews with project personnel and beneficiaries. The purpose of the evaluation was to clarify uncertainties about the impact of changing conditions on initial project design and to identify the weaknesses and strengths in implementation progress to date.

The major findings and conclusions are:

* A comprehensive socio-economic development program is a vital part of the strategy to control coca cultivation and the drug trade.
* The interdiction and eradication actions to date have not changed the underlying economic advantage of coca production over legitimate agricultural production.
* PEAH should assume a primary role as the implementing agency for a considerable proportion of project activities, with other government entities acting in a supervisory or normative role.
* The planning and evaluation functions of PEAH must be improved for more efficient and effective operation.
* A follow-on development program in the Upper Huallaga area (post 1988) should be formulated on the basis of a revised design and strategy.

The evaluation team observed the following "lessons":

* If the enormous economic advantage of coca production is not reduced agriculturalists who worked eradicated coca plots will not respond to agricultural development services but will migrate to other areas to continue the cultivation and sale of coca.
* The delivery of effective agricultural development services to the local population requires a relatively stable socio-political environment free of the threat of violence.
* GOP agencies which have been assigned specific development tasks must be supported in their operations by clear direction from the national level and provided with institutional support and adequate resources.

COSTS

I. Evaluation Costs

1. Evaluation Team Name	Affiliation	Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. $)	Source of Funds

2. Mission/Office Professional Staff Person-Days (Estimate) _____

3. Borrower/Grantee Professional Staff Person-Days (Estimate) _____

A.I.D. EVALUATION SUMMARY - PART II

SUMMARY

J. Summary of Evaluation Findings, Conclusions and Recommendations (Try not to exceed the three (3) pages provided)
Address the following items:

- Purpose of evaluation and methodology used
- Purpose of activity(ies) evaluated
- Findings and conclusions (relate to questions)
- Principal recommendations
- Lessons learned

Mission or Office:	Date This Summary Prepared:	Title And Date Of Full Evaluation Report:
USAID/PERU	5/20/88	Final Report on the Evaluation of AID Project No. 527-0244: Development of the Alto Huallaga Area, January 1987

1. Purpose of the Project Evaluated

The Upper Huallaga Area Development Project (No. 527-0244) was authorized on September 8, 1981 and obligated on September 15, 1981. The project was originally financed with $18 million of A.I.D. funds ($15 million, Loan; and $3 million, Grant) and $8.4 million of counterpart, and subsequently amended to increase Grant funding by $5.4 million. The goal and purpose of the project is to increase and diversify agricultural production in the Peruvian high jungle by strengthening public sector agricultural support services and testing agricultural production packages in the Upper Huallaga region. This regional development project is being carried out as an element of a broader USG strategy to eliminate the flow of narcotics to the United States through a coordinated program of interdiction, eradication, development and public awareness.

2. Purpose of the Evaluation and Methodology Used

A contract was signed with a local firm (Econsult) to obtain the services of a team of 11 consultants for an interim progress evaluation of the Upper Huallaga Area Development Project. The evaluation team reviewed key documentation (studies and reports), inspected the principal project sites, and interviewed project personnel and beneficiaries. However, they were unable to conduct a sample survey of local agriculturalists due to unstable security conditions in the area at the time. The information obtained was assessed in light of the consultants own experience to draw conclussions and formulate recommendations.

3. Findings and Conclusions

The Scope of Work requirements were organized into four principal sections; firstly, an analysis and discussion of the type of framework and environmental conditions affecting project implementation, including the impact of interdiction and eradication efforts and the security situation on implementation progress; secondly, current status of implementation in relation to the objectives and targets of the project, within the context of each of the nine project components; thirdly, identification and analysis of the implementation problems experienced by the project; and, lastly, recommendation for improving project implementation.

The evaluation report addressed the overall project design and general environmental conditions of the project as well as each of the components as sub parts of the project. The evaluation team's conclusions were:

a. That the concurrent interdiction and eradication efforts of the International Narcotics Matters (INM)/GOP-funded Rural Police Force (UMOPAR) and the INM/GOP-funded Coca Eradication Agency (CORAH) have not yet had an appreciable effect on the enormous economic advantage of coca production and trafficking.

b. That those farmers whose coca plantings have been eradicated have largely chosen to abandon their plots and move to other sites to continue producing coca.

c. That, for this reason, while the PEAH has succeeded in maintaining the availability of vital agricultural services in the region in spite of increased coca production and deteriorating security situation, productivity and land area cultivated in legitimate crops have largely remained stagnant.

The key findings and conclusions affecting the various project components are:

a. The implementation agencies have proved unable or unwilling to take on the tasks assigned them in the project design and PEAH, as the coordinating mechanism, has been unable to improve their performance.

b. The agricultural research institutions are carrying out experiments, but neither the planning of these experiments nor the results have used the existing knowledge base which was built up during the 40 years prior to Project start up.

c. An agricultural extension service has been reestablished in the area but an unfavorable economic incentive structure for legitimate crops and the lack of a well planned extension methodology have severely limited the impact of this service.

d. The quality of teaching at the local agrarian university has been improved as a result of the contributions of faculty participants in Project sponsored long-term training.

e. Project financed agricultural credit has not resulted in an expansion of legitimate agriculture, but, in fact, has substituted for other sources of credit.

f. In spite of project financed improvements in land surveying and titling, an effective method of dealing with the custom of high mobility and informality in agricultural settlements has not been developed to assure up to date land tenancy reporting.

g. A great deal of agricultural statistics and information has been generated for the Project area but strict statistical methods have not always been adhered to.

h. The road maintenance carried out by the Project has permitted continuous use of the area road network.

i. The formalization of an expanded community development activity within the project will positively impact on the image of the Project in the area and permit improved communication between Project personnel and the local population.

4. Principal Recommendations

USAID accepts the majority of recommendations and is taking steps to reformulate them as practical actions with a defined structure and, once completed, to implement them. Some of the principal recommendations are summarized below:

a. Review and organize pre-existing agricultural research results to avoid duplication and enhance ongoing experiments.

b. Concentrate agricultural research on improving plant material for higher yields and greater resistance to disease, with final validation on actual farm land.

c. Increase use of mass media techniques of agricultural extension and the training of extension agents as Technology Transfer advocated.

d. Due to unfavorable investment climate, examine mechanisms to reduce risk, such as an investment guarantee fund.

e. Establish an operational unit, with the Ministry of Transport and the local municipalities and administered by PEAH, which would define road maintenance responsibilities and spin off personnel and equipment from PEAH.

f. Devise an increased role for PEAH in the implementation of project activities while the public institutions take on a supervisory an normative role.

g. Design and carry out several studies:
agricultural credit; and
labor market characteristics.

5. Lessons Learned

The conclusion of the evaluation team was that conditions have changed so dramatically in the project area since 1981 that many assumptions, and the project design decisions stemming from them, have proved invalid. In a broad USG anti-narcotics strategy context the assumption that coca eradication would function smoothly and that affected farmers would voluntarily request project assistance has not taken place. In fact, interdiction and eradication efforts have faced significant community resistance increasing social and political extremism within the local population. At the same time leaving largely untouched the growing drug industry and the overwhelming economic incentives it provides local residents violence. This implementation environment has prevented the project from realizing progress toward its broad objectives in spite of achieving many output targets. This general conclusion has policy and project design implications which will be further explored in the intensive review for the follow-on development program in the Upper Huallaga area:

a. Mechanisms should be analyzed and developed for politically sensitive projects to assure adequate support from relevant government ministries at the national level or, alternatively, to concentrate responsibility for implementation within a small, cohesive unit.

b. The likelihood of negative social and political consequences from concurrent interdiction and eradication efforts should be analyzed and incorporated in project design for increased implementation flexibility.

c. Because of the unavoidable disruption of community and family life in an area affected by anti-narcotics actions, the project must develop the means to maintain effective, two-way communication with beneficiaries.

ATTACHMENTS

K. Attachments (List attachments submitted with this Evaluation Summary; always attach copy of full evaluation report, even if one was submitted earlier; attach studies, surveys, etc., from "on-going" evaluation, if relevant to the evaluation report.)

COMMENTS

L. Comments By Mission, AID/W Office and Borrower/Grantee On Full Report

The evaluation is useful as an indicator of Peruvian (the evaluation team was composed entirely of Peruvians) reactions to and suggestions about the anti-narcotics strategy, generally, and the development program, specifically. However, the evaluation report as an action document is very weak. Frequent discussions were held with the team about evaluation methodologies and the need to make clear decisions about the analytic processes being used to determine conclusions and recommendations. Unfortunately, the team had no training in accepted evaluation techniques and the results of the evaluation clearly reflect the use of an unstructured analytic methodology consisting of random observations and impressions interpreted against knowledge base obtained during years of education and experience. The resultant conclusions and recommendations are consequently unsupported and unsupportable. However, in large measure the conclusions and recommendations, while not analytically convincing or expressed as concrete actions, are believed to be fundamentally accurate by project personnel. USAID and the Government of Peru will use the evaluation report as a resource during the design of the follow-on Upper Hualaga development program.

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FINAL REPORT ON THE EVALUATION OF AID PROJECT No.527-0244-
DEVELOPMENT OF THE ALTO HUALLAGA AREA

ECONSULT S.A.
Lima - Peru
January 1987

FINAL REPORT ON THE EVALUATION OF AID PROJECT No.527-0244-
DEVELOPMENT OF THE ALTO HUALLAGA AREA

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EVALUATION TEAM

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DR. ALBERTO LEON VIACROZE	Organization, Administration
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MR. ESTUARDO CAVA CASTILLO (ENGINEER)	Agricultural Extension/Credit
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LIST OF ABBREVIATIONS

AID	Agency for International Development
BANCOOP	National Cooperative Bank
BAP	Agrarian Bank of Peru
CECOAH	Central Cooperatives of the Alto Huallaga
CENCIRA	National Center for Research and Training for Agrarian Reform
CESPAC	Center for Production and Audiovisual Services for the Peasantry, Min. of Agriculture.
CIPA	Center for Agricultural Research and Promotion
COOPOP	Popular Cooperation
CORAH	Special Project for the Control and Reduction of Coca Crops in the Alto Huallaga, Min. of Agriculture
CORDEHUANUCO	Departmental Development Corporation of Huanuco
CORDESAN	Departmental Development Corporation of San Martin
DIGEMA	General Direction of the Environment, Ministry of Health
DISAR	Direction of Rural Sanitation, DIGEMA
DGRAAR	General Direction of Agrarian Reform and Rural Settlement, Ministry of Agriculture
DGFF	General Direction of Forests and Fauna, Ministry of Agriculture
ECASA	Public Rice Commercialization Enterprise
EEA	Experimental Agricultural Station
ELECTROPERU	Public Electricity Enterprise of Peru
EMDEPALMA	Public Oil Palm Development Enterprise
ENCI	National Commercialization of Supplies Enterprise
FDN	Foundation for National Development
INADE	National Development Institute

INAF	National Institute for the Extension of the Agricultural Frontier, Min. of Agriculture.
INANDEP	Andean Institute for Studies in Population and Development
INDA	Institute for the Promotion of Self-Development
INDDA	National Institute for Agroindustrial Development, Min. of Agriculture
INIPA	National Institute for Agricultural Research and Promotion, Min. of Agriculture
MTC	Ministry of Transport and Communications
OGIN	General Engineering Office, Min. of Agriculture
ONERN	National Office for the Evaluation of Natural Resources
OSE-MA	Sector Office for Statistics, Min. of Agriculture
OGCR	Gneral Office for Rural Survey, Min. of Agriculture
PIP	Peruvian Investigative Police
PBC	Basic Cocaine Paste
PCTMTC	Tingo Maria-Tocache-Campanilla Colonization Project
PEAH	Special Project for the Development of the Alto Huallaga Area
PERS	Special Project for the Rehabilitation and Development of the Ucayali, Chontayacu and Purus Basins
SAN	National Aerial Photography Service
SENHAMI	National Meteorological and Hydrological Service
UNAS	National Agrarian University of the Jungle
UMOPAR	Mobile Rural Patrol Unit, Peruvian Civil Guard
TAPESA	Peruvian Tobacco Company

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EXECUTIVE BRIEF AND SUMMARY

1. This report evaluates AID Project No.527-0244, Development of the Alto Huallaga Area, for the period from its commencement in December 1981 till June 30th 1986.

   This evaluation was carried out by a team of eleven specialists in each of the areas of activity of the Project, between June 27th and October 27th 1986.

   The methodology utilized involved the analysis of the hypotheses, objectives and goals of the Project, and the comparison of the activities carried out and goals met with those envisaged at the planning stage.

   The work of the evaluation team was carried out mainly in the project zone, and included the air reconnaissance of the territory.

2. The Alto Huallaga area is an important part of the Selva Alta (high altitude tropical forest) of Peru, situated along the Huallaga river in the Departments of Huanuco and San Martin. This zone has been subject to a colonization process dating back to the 1940's, and between 1966 and 1973 a Colonization Project financed by the IDB was carried out in the area.

   In the late sixties the zone experienced a tremendous boom in the cultivation of coca leaves and a decline in agriculture and livestock rearing, which coincided with diminished provision of State and connected services to the agrarian sector in the region. The coca boom and the proliferation of narcotics trafficking effected profound changes in the conditions of development of the Alto Huallaga, which became the principal zone in the country for the production of basic cocaine paste and a center of supply and commerce for the drug trade.

3. PEAH is part of a set of projects which have been undertaken by the Peruvian government for the development of the Selva Alta, along the length of the Marginal Highway. These projects initiated in the latter part of the 70's represent an investment of 506.6 million dollars, and will benefit 125,000 families and encourage the development of 1'600,000 hectares of land which is suitable for agriculture and livestock rearing. PEAH possesses special characteristics which distinguish it from the other projects, and which relate to the existence of extensive and increasing areas dedicated to the cultivation of coca and the consequent socio-economic problems, to which has been added in recent years the terrorist violence produced by Sendero Luminoso (Shining Path).

CONCEPTION OF THE PROJECT

4. PEAH constitutes part of a pilot strategy designed to control the expansion of coca cultivation and the drug trade in the Alto Huallaga. This strategy includes three major components: a massive program of eradication of coca

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crops by Project CORAH; a regional development project for which PEAH is responsible and whose objective is to diversify and increase production in licit agriculture in substitution for coca crops; and a program for the control of the commercialization of coca leaves and of the drug trade, by UMOPAR.

5. The activities of the PEAH and CORAH projects, while carried out separately, are concurrent. Apart from the objective of diversifying and increasing licit agricultural production, the actions of PEAH should have minimized the negative social, economic and political effects of the erradication program. In addition, the success of PEAH depended in large part on the erradication of coca placing agriculturalists in such a position as to have to develop licit crops, for which purpose PEAH would provide support by means of its activities or components.

6. Several hypotheses or conceptual presuppositions which were assumed at the beginning of the project proved not to be valid due to factors which for the most part were outside the control of the Executive Direction of PEAH:

   a) While it is true that the erradication of coca in June 1986 had been carried out in a total of 10,231 hectares, this amount was not significant in reducing the influence of the crop. Coca plantations, far from being reduced, have increased and spread to new areas of the Alto Huallaga, further from the routes of communication. From 12,000 hectares estimated in 1981, NAU estimates in 1986 a total of 60,000 hectares.

   b) The agriculturalists located in the flat parts of the valley whose crops were erradicated, who it was assumed would stay on their plots and intensify land use with licit crops, have in fact in many cases moved to other areas in order to start new coca crops, although without totally abandoning their former plots. In these latter however there has been no increase in licit agricultural production.

   c) It was assumed that agriculturalists located in marginal zones (hillsides and forest areas) who are monocrop coca producers with precarious land tenure would in large part migrate from the zone as a consequence of the erradication process, and that some of them would be absorbed by the demand for labor created by the increase in licit agriculture. These suppositions have not been confirmed in reality. These erradicated agriculturalists too have moved to other zones of the Alto Huallaga in order to start up new coca crops.

   d) The reaction of agriculturalists to erradication has been highly violent and appears to be articulated in some cases to acts of subversive violence and in others to the influence of the drug trade. In the planning stage of the project it was assumed that while the reaction to erradication would be one of rejection, this situation would be short-lived if parallel actions of investment and technical cooperation were carried out as soon as possible.

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AMBIT OF THE PROJECT

7. The ambit contemplated for the execution of Project Paper is the valley of the Huallaga river between Puente Cayumba to the south and Puerto Pizana to the north, including flat lands and those of moderate gradient suitable for agriculture. Zones apt for forestry and protected zones of steeper slopes were excluded within the conception of the project, and it is in these latter areas that the majority of coca crops and the precarious agriculturalists mentioned above are located (6.c).

   Upon the commencement of the project this area was increased to include from Puerto Pizana northwards to Campanilla. The evaluation team judges this extension to have been erroneous since it opened up a front of action and created a series of expectations among the population which could not be met by the project for lack of the necessary financial resources.

8. Due to the extent of the ambit of PEAH, and the problems generated by the situation of violence, during the course of the project certain zones were selected out for priority attention for reasons of special interest or due to the possibilities of developing activities in accordance with Project objectives: for example the La Morada zone due to the interest shown by agriculturalists in the development of licit agriculture and in particular rice. In other cases, certain zones such as Cuchara and Pucate had to be abandoned since in spite of the fact that they were zones favorable for the development of licit agriculture they became dangerous due to terrorist or drug-related violence, as we shall mention below. During 1986 the priority zone of La Morada has also became notoriously unsafe after the attempt made upon PEAH's Road Maintenance machinery. As a consequence of this the activities of PEAH only cover some zones of its total jurisdiction, especially those close to the Marginal Highway.

COMPONENTS AND FINANCIAL RESOURCES

9. With the aim of diversifying and increasing agricultural production in the Alto Huallaga and in order to reinforce the services supporting agriculture provided by the public sector in the region, the project includes the following activities which should be carried out through Cooperation Agreements in conjunction with the respective official entities:

   a) Applied agricultural research, to be carried out by INIPA with the participation of UNAS.

   b) Agricultural extension, to be carried out by INIPA with the participation of UNAS.

   c) Training, by means of improvements to UNAS.

   d) Agricultural credit, through BAP and BANCOOP.

   e) Productive services, to be provided by the Ministry of Agriculture, ENCI

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and ECASA.

f) Information on resources, to be provided by the Ministry of Agriculture.

g) Road Maintenance, to be carried out by the MTC.

h) Drinking water and Environmental Sanitation, through the Ministry of Health.

This last component has been replaced by the Community Development component as a result of Amendment No. 5 to the Project Agreement signed on June 27th 1986.

In order to supervise and coordinate the activities concerned the functioning of a Project Office is contemplated, based in Aucayacu, under the jurisdiction of the Presidency of the Council of Ministers.

10. The financial resources initially assigned to the Project were of 26.5 million dollars, for a Project duration of five years from September 15th 1981. This amount was increased by Amendment No. 5 to 34,458 million dollars, and the Project duration was extended to September 15th 1988, introducing at the same time modifications in the assignments to each component as may be seen from the following Table:

RESOURCES ASSIGNED TO EACH COMPONENT
(in thousands of US dollars)

COMPONENT	INITIAL BUDGET	BUDGET AMENDMENT No.5
Investigation	4'410	4'842.6
Extension	4'117	5'596.8
Training	2'104	1'955.3
- L.T. Specialist	400	400.0
Credit	5'000	3'956.2
Services to Production	1'276	948.7
Resource Information	656	708.1
Road Maintenance	5'000	7'975.0
Community Dev. (1)	500	4'189.0
Project Office	1'000	2'240.0
Evaluation	50	195.6
Inflation and Contingencies	1'987	1'450.6
	26'500	34'458.0

(1) Previously: Drinking Water And Environmental Sanitation.

The axis of the action of the Project is constituted by the activities of Investigation, Extension and Training with the support of the Agricultural Credit and Road Maintenance components. The sum assigned to these five components represents 79.3% of the total volume of project resources, and the remaining 20.7% corresponds to the Project Office and minor components in addition to funds for evaluation, inflation and contingencies.

During the years of operation of the Project up till 1985 the budget has suffered small modifications consisting of transfers from the inflation and contingency account in order to reinforce the financing of the Project Office and the Information on Resources and Drinking Water and Environmental Sanitation components.

11. Amendment No.5 maintains the Project's emphasis on agricultural development but establishes important modifications in the conception and financing of some components and in the mode of execution. The principal modification is the introduction of a new component termed Community Development which replaces Drinking Water and Environmental Sanitation, whose budget was the least important in the Project. The new component, due to the amount of resources assigned and its duration (2 years) constitutes the most important set of investments since the commencement of PEAH. 83% of its budget is assigned to works in the field of drinking water, environmental sanitation, health and community services, and the remainder is assigned to education and prevention of drug abuse. The Project Office will assume the role of direct execution in the majority of community development activities as well as in road maintenance, whose goals and budget have been increased.

ASPECTS RELATED TO THE EXECUTION OF THE PROJECT

As mentioned in point 4 above, PEAH in its conception is closely related to the expansion of coca cultivation in the Alto Huallaga and the diverse socio-economic problems which result from this. During its execution the Project has been affected by the situation which exists in the zone with respect to coca cultivation and the drug trade, and by the violence and social tension from different sources which have been on the increase in the Alto Huallaga. For this reason the evaluation report on PEAH contains a detailed analysis of these problems and their implications for the Project.

THE COCA ECONOMY AND ITS REGIONAL SIGNIFICANCE

12. The surface area under coca cultivation in the Alto Huallaga has been on the increase during the past years, in spite of the efforts of the Peruvian government, which through the CORAH Project erradicated 10,231 hectares between April 1983 and June 1986.

Estimates from diverse sources indicate an increase in area under coca from 12,000 hectares in 1981 to 60,000 hectares in 1986, as follows:

PEAH Project Paper (1981)	12,000 hectares
Agreement Project CORAH (1981)	17,000 hectares
Agreement Project CORAH (1984)	24,000 hectares
Agreement Project CORAH (1985)	26,000 hectares
CORDESAM (1986)*	30,000 hectares
NAU (1986)	60,000 hectares

(*) Only for the Province of Tocache.

For the purposes of the estimates regarding the coca economy the figure of 60,000 hectares under cultivation is employed, being the most recent and from a reliable source.

13. The value of the income generated by the sale of dried coca leaves has been estimated at 270 million dollars per year, which would constitute the minimum limit of income received by the 'cocaleros' (coca agriculturalists). For the purposes of this calculation the average production of dry leaf per hectare per year has been estimated conservatively at 1,500 kilograms, though yields in fact vary and may be as high as 2,400 kilograms depending on the type of soil and amount of agricultural inputs used.

    The price per kilogram of dry leaf used for this calculation is US$3, but it should be noted that fluctuations in price by zone and over time were observed. In the zones of Aucayacu and Tingo Maria prices are less stable due to the fact that they are more rapidly affected by control operations since these are locations where UMOPAR and other police institutions are based, producing an excess supply which reduces the price of the leaf. In Uchiza on the other hand the fluctuations are less.

14. The total volume of income generated by the sale of basic cocaine paste has been estimated on the basis of a price of US$700 per kilogram at the level of the initial intermediary. This value subsequently increases during the process of bulk collection, storage and embarcation, though we presume that this increase does not in general enter the regional economic circuit. The transformation factor from dry leaf to basic cocaine paste employed is 0.01, which would give a total amount of income obtained by the rural areas of the region of 630 million dollars per year (90,000 tons of dry leaf x 0.01 x US$700).

15. Licit agricultural production in the Alto Huallaga in 1985 was of the order of 4.4 million Intis calculated at constant prices from 1979, which represents 331.1 million Intis in 1985, or 19.5 million dollars at an exchange rate of I/.17.00 per dollar. This means that licit agricultural production amounted to the equivalent of 7.2% of the total income generated by the sale of dry coca leaf (270 million dollars) and 3.1% of the total rural income from basic cocaine paste (630 million dollars).

    Furthermore, the Alto Huallaga has a gross rural product generated from basic cocaine paste which represents 27% of the Gross National Agricultural Product which was US$2,272 million in 1985. By the same token, if we estimate that the Alto Huallaga produces 75% of the basic cocaine paste manufactured in the country, at a national level this would generate a rural annual income of 840

million dollars, equivalent to 36.9% of the Gross National Agricultural Product.

16. Licit agricultural production in the Alto Huallaga in 1985 was obtained from a surface area of 32,265 hectares, giving an average income of US$604.37 per hectare (US$19.5 million/32,265 hectares) which represents 13.4% of the US$4,500 per hectare obtained by those who devote themselves to illegal cultivation (US$270 million/60,000 hectares).

THE SPREAD OF THE COCA ECONOMY AND THE SHORTAGE OF LABOR

17. The cost of contracting labor represented between 43% and 51% of the production costs of manioc, yellow maize and rice in 1983. Paralleling this, the high profitability of coca cultivation produced a considerable increase in the daily wages paid by coca agriculturalists. In 1985 these daily rates ranged from 100 to 150 Intis, plus food, while the daily wage paid by cultivators of licit products ranged from 30 to 50 Intis with one or two meals per day. The lesser profitability of licit crops makes it impossible to pay higher wages which would compete with those paid for working in coca cultivation.

    The situation described above generates a shortage of labor for licit crops and also a drain on the workforce of associative enterprises and holdings with only legal crops.

    Examples of these problems may be observed in the Palmas del Espino company, which recruits labor through contractors in Cajamarca, Huancayo, Huancavelica and other areas, paying 75 Intis per day plus living accommodation, but which nonetheless is faced after some days or weeks with frequent desertions by workers attracted to coca production activities. A similar though relatively more stable situation occurs in the EMDEPALMA company. In this case however there exist a large number of stable employees who maintain their own coca plantations outside the limits of EMDEPALMA but persist in their relation with the company in order to cover certain basic needs in health and educational services which the company provides.

    Agriculturalists who grow rice also suffer the effects of scarcity of labor, as has occurred during 1986 in the case of pioneer cultivators of rice under irrigation in the Pucayacu area. Although better conditions due to the use of family labor somewhat reduce the problem of instability and desertion of daily laborers, this is not sufficient to solve the problem.

18. The shortage of labor in the Alto Huallaga has been made more acute too by the earlier breaking up of the family structure motivated by the coca economy. The high profitability of coca attracts young men to abandon the family plot at an earlier age in order to establish their own plantations.

    The shortage of labor constitutes a real "bottleneck" for the increase of

surfaces under licit cultivation. It is estimated that if coca were to be totally erradicated the problem of labor shortage would diminish but would not disappear since part of the daily wage labor force would possibly migrate to other coca producing zones.

With relation to the problem of labor shortage it is reccomended that a study should be carried out of the dynamics of the labor market in the Alto Huallaga, that the use of mutual aid or ayni should be promoted through the mass media, and also that the use of traditional methods of labor substitution such as the use of oxen or draught animals should be promoted.

VIOLENCE AND SOCIAL TENSION

19. The most important problem the evaluation team found was the notable increase in violence and social tension in the Alto Huallaga. Violence as well as becoming more accentuated and generalized also seems to be oriented consistently more towards State entities and not only police institutions.

Some recent events show the seriousness of the present situation:

- On October 12th a convoy which was escorting the Senator for Huanuco, Ing. Gerardo Bailon, was attacked and several soldiers were wounded.

- On september 15th the Army captured 12 members of the Sendero Luminoso (Shining Path) movement in the locality of Gozen, in a zone which is known to be an old stronghold of the movement.

- The Mayor of the Province of Tocache resigned as a result of threats received and of the murder of the Sub-Prefect of Tocache.

- The Mayors of Pumahuasi, Naranjillo and Aucayacu have been assassinated.

- In July this year a work brigade of CORAH was attacked and 6 workers were killed.

- In Uchiza an armed group of 110 men was formed in August 1986, known as "Ronderos de la Paz" ("peace patrol") which patrols the town and highway and "administers justice". This group is not related to Sendero Luminoso and would seem rather on one occasion to have obliged a group of 40 terrorists to leave Uchiza.

Up to the present it would seem that we may distinguish four sources which in varying degrees are generating violence and social tension:

a) Coca producers
b) Drug traders
c) The terrorism of Sendero Luminoso
d) The erradication of coca crops.

20. It is probable that a considerable sector of the coca agriculturalists possess

some form of weapon which though rudimentary may be employed against strangers, constituting a factor creating tension.

The coca producers, acting on their own initiative or induced by third parties, have participated in producing disturbances and blocking highways. Furthermore in the attacks upon CORAH there also seems to have been a degree of participation of coca agriculturalists affected by coca erradication activities.

21. Drug traffickers have carried out a great number of acts of violence against members of the police forces and civilians. These last include the so-called "settling of scores" between bands competing for control over coca and basic cocaine paste trading. Drug traffickers also propitiate confrontations with CORAH, inciting the rural population to these. The activities of drug traffickers have also caused the appearance and development of common crime.

22. Sendero Luminoso has carried out active penetration of various areas of the Alto Huallaga since its appearance in the zone a little more than three years ago. Everything would seem to indicate that this subversive terrorist group, following a temporary retreat in the face of the actions of the Armed Forces, is once more consolidating positions and advancing from the south to the north of the Alto Huallaga.

An extremely important aspect of the actions of Sendero Luminoso is that it openly induces coca growers to defend their crops.

Furthermore, the presence of this political group affects the activities of political parties, mediatizing and conditioning them. The assassinations of civilian authorities (Mayors, Sub-Prefects, Local Governors) and the attempts made against representative state institutions evidently are aimed not only to reduce the presence of the representatives of public authority but also to reduce the activities of different political groups.

The events which have occurred in the Alto Huallaga show that acts of violence perpetrated by Sendero Luminoso are distinct from those originated by drug traffickers. The ideological precision of written propaganda messages, the nature of the demands made, the collection of forced payments, and the destruction of voters' credentials all denote this difference, even more so since these are accompanied by a process of ideological infiltration which is becoming more and more evident among the younger strata of the population.

23. The coercive methods employed by CORAH, under the protection of UMOPAR, for the erradication of coca, constitute a factor which generates reactions of resistance and even counteraction by the affected population. This is especially relevant since CORAH orients erradicated agriculturalists towards PEAH in order that they may receive technical assistance, credit and services which for diverse reasons this project is unable to provide, increasing the agriculturalists' resentment.

The areas in which coca has been erradicated are located mainly on slopes and/or protected lands where PEAH cannot operate due to the lack of resources necessary for this purpose or due to the violence and insecurity which are the

rule in these areas.

In the opinion of the evaluation team, while the PEAH-CORAH relation has not in fact functioned, its final effects have been definitively negative and adverse for PEAH. A considerable sector of the rural population does not distinguish clearly between CORAH, PEAH and UMOPAR, and associates them with one another creating a negative image for the Development Project, an image which exists not only among coca agriculturalists but also among other sectors of the population who are indirectly articulated with the economic benefits made possible by drug trafficking.

24. Violence in its diverse forms has negatively affected PEAH and all its components. An example of this is the accentuated retreat in the extension activities of agencies such as La Morada, Pucayacu, Pueblo Nuevo and Rio Uchiza, where different sectors have ceased to be attended or the volume of activities reduced due to the threats of Sendero Luminoso against extension and development workers. The rural survey and land title works were practically paralyzed after a brigade of four verifiers was attacked and three of its members killed, presumably by coca agriculturalists who associated them with the CORAH Project. The work of maintenance of community highways has been paralyzed due to the destruction by Sendero Luminoso of the machinery while it was being operated in La Morada. Maintenance of the Marginal Highway also had to be paralyzed momentarily due to the violence produced by the coca agriculturists' "strike" in Tocache and the danger of terrorist action by Sendero Luminoso.

Finally, the working environment in PEAH's base in the Experimental Station at Tulumayo and in the Zonal Headquarters and Extension Agencies has been affected by the attacks perpetrated and/or by the danger of this occurring, which evidently affects negatively the development of activities and the performance of personnel.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

25. The evaluation of the Project has allowed us to perceive problems which affect the execution of PEAH and which are related to the conceptual presuppositions of Project Paper and to the Project environment, as has been described in 4-6 and 12-24 above. We should add too general aspects related to the strategy and mode of execution which were insufficient for the attainment of the objectives programmed. These problems are of such magnitude that it is considered necessary to structure a new project based on an up-to-date analysis of the existing situation and on the design of a new strategy which should incorporate the experience acquired during the functioning of PEAH. The studies, structuring of a new project and the negotiations for financing should be carried out during the two years extension period given for PEAH, in order not to paralyze actions upon the cessation of the present Project.

26. The studies necessary for the structuring of a new project should be oriented towards the integral development of the region, should involve agricultural and agroforestry production as well as protection of the ecological

environment and include a component designed to strengthen or create the market for licit products in the zone.

The institutional organization of the project should be structured in terms of Work Projects and Functional Components. The former are vertical by nature and refer for example to agriculturalists linked to certain productive activities. The Functional Components include the basic and activating factors of the productive process and social aspects of the beneficiary population. The Work Projects should be integral and medium or long term, constituting multidisciplinary and inter-component actions.

By the same token it is recommended that representatives of organizations formed in the population should participate in the stages of planning, execution and evaluation of each Work Project, and that a Technical Direction should be installed for the new project.

27. It is impossible to conceive of a development project in the Alto Huallaga without considering the problems generated by subversion and terrorism, by drug trafficking and by the expansion of coca cultivation. The pilot strategy to counteract coca has not been able to be applied in sufficient measure in order to meet the objectives envisaged, and has been affected by the violence generated in the zone. The resources assigned turned out to be disproportionately small in the face of the magnitude of the problems confronted and in particular compared to the volume of money mobilized by the drug trade.

    It is recommended that a strategy be applied which includes simultaneous actions in the fight against paramilitary groups linked to Sendero and those linked to the drug trade, as well as in the control of the illegal trade in narcotics.

    An effective counteraction of drug trafficking is a fundamental part of the strategy, and the first action should be to eliminate the despatching of large quantities of basic cocaine paste especially by air. This would constitute a disincentive to coca cultivation and generate favorable conditions for eventual agreement with coca producers for erradication and substitution.

28. The formation, organization and mobilization which should be developed under normal circumstances by political parties in order to strengthen them and strengthen the democratic system only occurs with partial regularity in the city of Tingo Maria. In the other areas of the Project, the presence of Sendero Luminoso does not permit the free exercise of democratic life due to the terror which is imposed upon the population.

    A campaign should be initiated on radio and television which should be developed and transmitted from other areas of the country, whose objective would be to publicize and strengthen democratic thought, and which would counterarrest the ideological and subversive infiltration of Sendero Luminoso.

29. For the continuation of activites during the next two years, the logical framework of PEAH should be revised and redesigned in order to enable it to constitute the principal instrument for the programming, follow-up and

evaluation of activities. The operative plans of each component should be structured and elaborated in such a fashion as to constitute parts of a global plan.

We were able to observe that PEAH did not establish an adequate planning process which would include an ordered and clear vision of the problem, hypothesis, objectives, activities and goals of each of its components, in order for these to concur in the achievement of the Project objectives.

Furthermore, the experience acquired regarding the functioning of the executive entities leads us to recommend that PEAH should assume the direct execution of a considerable proportion of the activities programmed, and that the corresponding public entities should in these cases perform supervisory and normative functions.

The above should not imply however the weakening of the entities which have been strengthened, but rather the rationalization of their functioning in order for them to continue to operate more efficiently in the permanent activities which correspond to each.

30. A problem of a general nature which was observed in the evaluation of the different components of PEAH is the low level of remunerations of the Project personnel and especially the personnel employed by the executive entities, above all if we take into account the high cost of living in the zone. Also considerable differences were observed between the wages of permanent and contract staff who occupy similar positions and have similar responsibilities, the only difference being their contractual condition. These factors negatively affect the development of activities and the stability of personnel, even more so in a zone with the special characteristics of the Alto Huallaga.

EVALUATION OF THE COMPONENTS

For each of the components and sub-components of the Project individualized evaluation reports have been prepared which contain a critical analysis of the conception of the component, its objectives, activities, goals, actions executed and problems in their execution, as well as conclusions and recommendations. In the final report of the evaluation we present for each component and sub-component the objectives, activities and goals and a set of conclusions and reccommendations regarding the execution of the activities and the corrective measures which should be taken for the continuation of PEAH's actions. In the following summary we present the most salient aspects of these conclusions and recommendations.

PROJECT OFFICE COMPONENT

31. According to the conception of PEAH the Project Office should supervise and coordinate the execution of activities by each of the corresponding public authorities. Also it should act as financial intermediary between AID and the Public Treasury, and the executive entities.

    The Project Office has assumed the direct execution of some activities of some components and as a consequence of Amendment No.5 to the Project Agreement its direct action in Community Development was increased. This has generated a considerable growth particularly in its administrative structure giving the impression of an over-dimensioned institution and one which is centralized in Aucayacu where 81% of the employees of PEAH are located.

    It is recommended that the entry of new administrative personnel be limited to the replacement of vacant posts judged to be indispensable. It is also recommended that some of the vacancies which occur should be filled by personnel qualified in the social sciences and forestry, to occupy advisory and first line posts, since PEAH does not possess this type of specialist among its personnel.

32. In order to ensure the better operative functioning of the Project Office it is considered necessary to adopt measures designed to strengthen the coordination within PEAH between the Executive Direction and the Line and Zonal Directions. Similarly, between the Project Direction and other entities whose jurisdiction and activities may overlap with those of PEAH, such as CORDESAN, in order to avoid the duplication of efforts and financing for the same activities and works.

    Finally, for the execution of the activities contemplated for the next two years, it is recommended that the Line Directions - at present Coordinations - be restructured to create divisions responsible for Agricultural Development, Community Development, Highway Maintenance, Engineering and Works and Special Actions.

RESEARCH COMPONENT

33. The general operative objective is to attain agricultural and livestock technologies which will constitute alternative sources of socio-economic income appropriate to the reality of the population within the ambit of the Alto Huallaga, by means of productive systems superior to the traditional ones which exist in the zone. The general institutional objective is to improve the installed capacity for agricultural and livestock research in the Alto Huallaga in order for it to constitute an effective contribution as a basic element in the productive processes of the crops and livestock species of major importance in this region.

34. One of the first findings of the evaluation is that use is not being made, possibly due to lack of knowledge, of the abundant technological information

which exists for the Alto Huallaga zone and which has been developed by the EEA in Tingo Maria and Tulumayo over the past decades. We may cite for example the case of coffee cultivation, traditional in the zone, for which technology is available which permits an assured yield of 60 quintals per hectare per year on slopes with acid soils. The lack of knowledge of or failure to take into account pre-existing research leads to repetitive efforts rather than continuity in agricultural and livestock research. It is necessary to broaden and intensify efforts to collect and systematize technological knowledge already existing for the region of the Alto Huallaga.

35. The evaluation of this component shows that the institutional strengthening of INIPA in the zone has had significant consequences for research. However, a series of deficiencies and problems of execution are apparent which are related principally to the following points:

- Lack of a clear definition of the objectives of experiments.
- Lack of reliable statistical information as a basis for experiments and for socio-economic analysis of the results.
- Little linkage and interaction in the work of researchers.

35. It is recommended that research should be refocused, establishing the following priorities in the assignment of resources for experiments:

1st. Protection of crops and stock.
2nd. The search for increased efficiency.
3rd. Attention to creativity.

Rather than developing costly programs in search of technological innovations emphasis should be placed on research aimed at confirmation or validation and employing agriculturalists' own lands. Validation research should be concentrated on productive systems for ex-coca producing areas using the experience accumulated regarding the use of acid soils with problems of aluminum toxicity.

Other recommendations relate to the carrying out of studies analyzing the productive processes of the principal crops and livestock species; the reformulation of operative research plans for the experimental substations of La Divisoria and Tocache and the inclusion of research actions in the area of forestry and agroforestry. Similarly, support for the research team by the provision of a specialist in statistics and experimental design, and the integration into the Operative Plans of those recommendations which result from the technical assistance given to the Research Component.

EXTENSION COMPONENT

37. The objective of this component is to increase the rate of adoption of new technologies developed through agricultural research, by means of the broadening and improvement of the Extension Service in the area affected by the Project. The execution of this component is the responsibility of INIPA with the participation of UNAS in personnel training and through its Pilot Centers.

38. With the contribution of PEAH the broadening of the limited extension service previously existing in the Alto Huallaga was achieved, and 9 agencies and 40 sectors were initiated and supplied with technical personnel and equipment. Nevertheless, the violence generated in the zone caused a retreat in these activities, with some agencies and sectors having to be closed, and work having to be restricted to zones closest to population centers and principal highways.. Furthermore, 70% of the personnel originally contracted has resigned, and the new personnel though they possess enthusiasm for their work lack experience in tropical crops and suffer too from lack of specialist advice in diverse areas of their work. Also, personnel do not receive motivation in the form of adequate salaries or further professional training.

39. Initially a training and visiting methodology was employed, which was being tried out in different regions of the country, but this was later ruled out due to the problems in its application under the conditions of the rural environment. Subsequently a return was made to traditional methodology.

    The evaluation found that there are operative defects, especially as regards methodology. The agencies do not possess up-to-date surveys or diagnoses of their working zones and the coordination between research and extension continues to be weak.

    It should be noted that the majority of agriculturalists with whom this component is to be carried out are migrants from the Andean region with a high rate of illiteracy and who are extremely dispersed and lack communication with one another. In addition they possess different cultural, linguistic and technological patterns and are dominated or terrorized by the drug trade and/or political subversives.

40. At the time of the evaluation we found a diminishing yield per unit for the majority of food crops, with the exception of rice, where improved technology is being adopted and this is producing considerable increased yield in crops under irrigation. It is fair to state that the lack of impact of this component in terms of increased productivity, as well as the deficiencies mentioned above, are due mainly to the socio-economic problems derived from the coca economy, the drug trade and social violence, and also to the absence of adequate levels of other factors of the productive process, some of which are outside PEAH's control, such as for example prices and market.

41. For the reasons mentioned above, it is recommended that the extension service operation be restructured, inserting it within a broader and more integral concept of agricultural and livestock development, as has been outlined in section 26 above.

    Within the methodological framework continuous training of agents for change should be contemplated; also the use of audiovisual educational systems and mass media especially radio; a preferentially group-oriented concept of the subject of change; and also the intensification of extension-credit and extension-research links - in the latter case by means of group work in plots for confirmation or validation of results.

SOCIAL PROMOTION SUB-COMPONENT

42. The specific objectives of this sub-component are derived from one of the general objectives of Extension which states "to achieve the improvement of living standards among rural families by means of educational processes in nutrition, health, housing etc.".

    The specific objectives of social promotion are:

    a. Educational, which seek to improve knowledge, attitudes, skills and productive abilities in children of school age and women, basically peasant mothers.

    b. Social, which seek to change living conditions of the family and the collectivity; and

    c. Economic, which seek to generate additional sources of complementary income, improving nutrition and encouraging the rational use of regional resources.

    In order to carry out these aims of Social Promotion the organization of Juvenile Agricultural Clubs and Rural Women's Clubs was programmed. These were to be directed by Social Promoters.

43. The evaluation indicates that the Social Promotion actions of CIPA have been in general fairly positive, in spite of the problems they have had to confront. We consider that a qualitative change in attitude has been produced in the recipient population.

    The Social Promotion staff carry out their work in an excellent fashion within their limited possibilities, and require at the least greater support, recognition, motivation and evidently also training. They constitute an excellent channel of communication with the peasant population and have been, together with the Agents and Sector personnel in Extension, those most vulnerable to terrorist actions. There exist members of the personnel who have been threatened and in some cases psychologically and physically mistreated.

44. We observed an excessive degree of economic support by state entities which may lead to an exaggerated dependence on the State and thus to paternalism. It is recommended that the capacity for self financing of the Women's Clubs and Juvenile Agricultural Clubs should be encouraged, for which purpose it is also necessary that there be closer articulation between these two.

    Within the general objective of encouraging licit cultivation, the work of the social promoters and the extension workers should flow together towards the peasant family in terms of advice and assistance regarding the principal family crops, though not to the exclusion of work on plots or farm projects, where participation should be on a group basis.

    We recommend a greater degree of coordination between PEAH and INIPA, on the basis of the elaboration of Operative Plans, in order to avoid the phenomenon

observed in some cases during the evaluation, which was the superimposition or duplication of activities of Social Promotion.

TRAINING COMPONENT

45. The objective of this component is to strengthen the capacity of UNAS in the training of professionals who will serve, with adequate levels of knowledge, in the Alto Huallaga and other zones of the jungle region of Peru. In order to achieve this, it includes the improvement of professional standards among faculty as well as of infrastructure, laboratories, library and equipment. Within this component the evaluation also considered the training of INIPA research and extension personnel, and the technical assistance provided by IRI.

46. The training of faculty members of the UNAS at Masters and Doctoral level has been carried out, with the programmed number of scholarships being awarded. However, as a result of bureaucratic restrictions at the level of the central organization of INIPA, the training of a number of professionals with considerable promise in the research and extension fields has been blocked.

The quality of teaching within UNAS at the level of higher education has been affected favorably by PEAH's contributions. However the equipment acquired for UNAS and EAA Tulumayo has not yet been made operational and support for the UNAS library has been discontinued so far this year. It is necessary to complete the installation and operationalization of the services of soil analysis, foliar analysis and others, and establish their presence in regional agriculture.

47. The participation of UNAS in support of research and extension activities, in accordance with the INIPA-UNAS agreements, is only being partially realized, and we observed lack of coordination and in some cases duplication of actions.

The quality of the training events organized by UNAS with the financial support of PEAH has been satisfactory within the existing limitations of the Alto Huallaga region. Agriculturalists' participation in these events has been numerically relatively small.

It is recommended that INIPA and UNAS should develop training events related to appropriate methods for the transfer of technology to agriculturalists, as well as to the production of improved seed.

It is recommended, in order to take advantage of installed capacity and of the human potential of the student body, that PEAH promote coordination between INIPA and UNAS for the elaboration of a program of agricultural research to be executed by students of UNAS and which could serve to satisfy the requirements for the presentation of their graduation thesis.

48. The reports presented by IRI external technical consultants have not been taken into account in the elaboration of Operative Research Plans, and it is unfortunate that these reports have not had the desired impact. We would

recommend that the technical assistance reports be presented more rapidly in the Spanish language and that their contents should be more widely publicized.

If the contracting of external consultants is to be continued, it would be advisable to seek the assessment of experts from International Tropical Centers, who possess greater relevant experience and represent a lesser cost. Technical assistance should also be oriented towards common specific objectives in order to integrate efforts and prevent the dispersion and isolation of productive ideas.

AGRICULTURAL CREDIT COMPONENT

49. The objective of this Component of PEAH is to extend and increase credit mechanisms and real annual placement levels in order to compensate for the loss of liquidity caused by coca erradication, in order to mechanize agricultural exploitation and to expand the agricultural frontier.
The placing of credit was to be channelled through BAP and BANCOOP, however credits placed corresponded almost in their entirety to the former. The program through BANCOOP was paralyzed in its first year due to the institutional crisis of this entity and the new PEAH-BANCOOP Agreement signed in 1985 has only recently begun to function.

50. Agricultural credit has not fulfilled its role in activating the productive process of licit crops in the Alto Huallaga.

Though credit placements and commitments in 1986 with PEAH funds amounted to the equivalent of US$3'317,505 (Letter of Execution No.56), this has not produced an increase in surfaces under cultivation since there has been no overall increased demand for credit. The resources provided by PEAH have in part served to replace BAP's own funds, as may be seen from the Table on page 81 of this document. Similarly, the total number of loans granted by BAP between 1980 and 1985 has practically not varied with the input of PEAH funds, but has remained stable at around 1,200 loans per year.

51. Capitalization credits using PEAH funds were not in demand until the end of 1984, due mainly to the fact that they were index-linked, making them unattractive to agriculturalists. The modification of the indexing of these loans was approved by AID only on June 15 1984.

80% of the maintenance credits granted by BAP were for maize and rice crops.

52. It should be noted that the legal dispositions regarding drugs prohibit the giving of technical assistance, credit or other aid to agriculturalists who grow coca, except in cases of substitution of this crop. For this reason, the possibilities of action of entities who are sources of credit are subject to the previous erradication of coca and the consequent demand by agriculturists affected by this, as well as demand by those who do not produce this crop. The situation produced by this set of problems has been described in the initial parts of this summary.

There exist typical secondary "bottlenecks" which affect the demand for credit, such as: lack of knowledge of procedures among agriculturalists; low amounts loaned; delay in the actual payment of money to borrowers; short terms for repayment and excessive number of trips to the BAP's offices (an average of 7) in order to negotiate the loans.

53. For the continuation of credit operations with the remainder of the PEAH funding and the amounts recovered from borrowers, it is necessary to adopt measures designed to resolve these "bottlenecks". We make the following recommendations:

a) PEAH's resources should be oriented towards areas not traditionally attended by BAP.
b) Priority should be given to medium and long term loans for agroindustry, as well as to loans for the commercialization of supplies and products.
c) The use of supervised credit should be favoured.
d) The possibility should be studied of extending credit to colonists who are apparently not coca growers and who have a low level of income.
e) A greater degree of coordination should be established between BAP and extension agents, in order to broaden loan placements and grant group or joint credits.
f) The training of INIPA extension agents in credit systems and procedures, with the active participation of BAP and UNAS technicians, should be promoted and organized.

SERVICES TO PRODUCTION COMPONENT

Within this component the following sub-components are included:

Land Titles and Land Registry;
Services for Purchase-Sale of Supplies and Products; and
Agroindustrial Promotion.

LAND TITLING AND LAND REGISTRATION

54. The objective of this sub-component is to correct the precarious system of private property in land, by regularizing the legal documentation of property and registering the changes in land titles in the Public Registry. For this latter purpose the establishment of 2 Sub-Departmental Offices of the Public Registries was programmed, in Tingo Maria and Tocache.

55. The execution of activities necessary for the regularization of rural land property has been affected by the lack of recent and adequately scaled aerial photography covering the surface under agricultural use. Only this year did Project CORAH obtain 1:10,000 aerial photographs covering the Alto Huallaga which will be of great utility for PEAH's work.
One factor not foreseen and which has affected work in the field, impeding the culmination of this work in the granting of land titles, has been the

generalized violence and manifest hostility of agriculturalists as a result of the erradication of coca crops. In spite of this, important results have been achieved in prior activities of an indispensable nature, such as the obtaining of basic cartography covering 391,000 hectares by aerial photographic techniques, the survey of all the agricultural units between Tingo Maria and Tocache and the reversion to the state of 2,431 plots which were not being used by the persons to whom they had been adjudicated, in order to readjudicate them to the persons who are using them.

The titling of plots has on the other hand advanced little. Lands have only been adjudicated to 494 agriculturalists, compared with a goal of 4,710 beneficiaries. The principal problem encountered has been the presence of coca crops which constitutes a legal impediment to adjudication. In addition, the above-mentioned hostilities and a general lack of interest among the agriculturalists of the Alto Huallaga in the regularization of tenure, are other factors possibly influenced by the coca problem.

56. Of the two registry offices which were envisaged, one was established in Aucayacu in 1983, but due to the lack of ad-hoc personnel it only commenced functioning at the end of 1985, staffed by a Registry Secretary. This office is providing important services and facilitating the inscription of land titles and other acts subject to registration in the Province of Tocache, procedures which formerly had to be carried out in Moyobamba.

57. In view of the existing situation in the field, a priority action should be the regularization of the inscription in the Aucayacu Registry Office of lands belonging to the State and those adjudicated. In addition, as far as possible land titles should be preferentially granted to ex-coca growers.

SERVICES FOR PURCHASE-SALE OF SUPPLIES AND PRODUCTS

58. The most important activities of this sub-component relate to improvement of the capacity for grain storage and handling by means of the enlargement of warehouses, the installation of dryers and the improvement of the technical capacity of ENCI and ECASA.

The principal problem for the execution of the activities and investments which were programmed has been the delay in the signing of Agreements with ENCI and ECASA, which was only completed in June and October 1985 respectively. At the time of the evaluation, part of the equipment required by this sub-component had been acquired and was in storage in Tocache, and the remainder was still in the process of acquisition.

Though local personnel of ENCI and ECASA have received technical training, the administrative and operational functioning of these agencies has not improved, especially as regards timely payment to producers, due to administrative and financial problems.

It is recommended that the possibility be studied of an amendment to the Project Agreement which would permit the annual provision of loan funds for

working capital to ENCI and ECASA which would allow them to acquire the harvests of rice and maize with immediate payment, constituting a genuine incentive to producers.

59. Other activities included within this sub-component are improvement in the supply of fertilizers and seeds, and the production of crushed dolomite rock for agricultural use. The advances in these areas of work have been very limited. The planned center for the sale of supplies in Tocache has not been established, nor has the program for the production of certified rice seed. With regard to dolomite rock, promotion of its use and distribution have been of little relevance. PEAH should promote an integral program with the participation of INIPA, UNAS and BAP, including research, demonstration, extension and promotion of the use of dolomite.

AGROINDUSTRIAL PROMOTION SUB-COMPONENT

60. The objective of this sub-component is to promote and support the development of agroindustry and product processing activities in the Alto Huallaga zone. In order to execute these activities according to plan, PEAH included in its structure a Direction of Commercialization and Agroindustrial Promotion, staffed by two technicians.

61. In general terms the activities carried out have been related to the objectives and actions envisaged in Project Paper, though results were not achieved in the promotion of agroindustries. Investment opportunities were identified by means of the elaboration of profiles and pre-projects. Some events were held for the distribution of available information and the identification of possible investors, but the work carried out lacked continuity and reorientation.

The increase in production costs and the deterioration in security for investments which result from terrorism and drug trafficking constitute a relatively disadvantageous configuration for the Alto Huallaga which is a disincentive to interest among possible investors. There are already important agroindustries established in the zone for the processing of African Palm oil, tea, blond tobacco, cacao derivates and other small enterprises. These enterprises are confronting the disadvantages and problems of the environment and PEAH should structure for them a support program through its various components.

In addition the possibility should be studied of establishing with AID resources a guarantee fund for new agroindustrial investors in the Alto Huallaga. Finally, INADE should intervene to ensure the carrying out of the extension of the hydroelectric power transmission line from Tingo Maria to Aucayacu, which would satisfy a necessary condition for industrial promotion in the region.

SYSTEM OF STATISTICAL INFORMATION COMPONENT

62. The execution of the activities within this component should have provided the bases for the evaluation of Project impact. In addition, this component should provide a continous flow of statistical information regarding agricultural and livestock.production to serve as the basis for the planning and implementation of agricultural and livestock development, for future investment planning and for the delineation of a regional policy.

    The evaluation found deficiencies which arise from the conception of this component and from the stipulations of the Agreement signed with OSE for its execution. As a consequence of these the component was limited in its functioning to data collection and tabulation and was not given responsibility for carrying out the necessary statistical analyses to obtain and update the diagnosis of productive processes and living standards of the agriculturalist.

63. The execution of this component has generated data and statistical tables in greater volume than that anticipated in terms of the personnel, resources and tasks assigned. Nevertheless the statistics generated are crude, with no information regarding ranges of reliability nor statistical analyses of interrelations. The results obtained are not suffiently complete to permit the evaluation of the impact of PEAH. The data bases generated lack basic information for the analysis of the development process over time and space, for example the age of perennial crops is not given nor its relation to ecological life zones. The estimation method did not employ a sampling frame by area, and this among other factors gives different estimates for each year of the total area under study.

64. The system of statistical information should be restructured and activities should not be carried out by OSE but by PEAH, including those which OSE requires for national agricultural and livestock statistics. This restructuring should include the Data Bases, survey design, sampling method, experimental design, estimation and analysis methods, and the design and dissemination of bulletins directed with priority towards service to the agriculturalist, as well as to other components. It is particularly important that estimates be carried out on the basis of a sampling frame by area.

    It is recommended that PEAH should employ a qualified specialist in Statistics and that the technical personnel responsible for the execution of this component should receive training.

HIGHWAY MAINTENANCE COMPONENT

65. This component includes the maintenance of the Marginal Highway of the Jungle between Tingo Maria and Puerto Pizana and of 290 kilometers of secondary roads, the improvement of the installed capacity of the MTC and the improvement and equipment of the Huayranga Maintenance Center (Tocache).

66. The execution of this component has been in general positive since it has

maintained the Marginal Highway and some secondary roads open to traffic and thus avoided the isolation of important areas of the Alto Huallaga from the rest of the national territory.

Institutional problems within the MTC, which are outside the control of the Project, have not permitted the attainment of the strengthening of the Regional Office of MTC for highway maintenance. For this reason PEAH was obliged to assume firstly the maintenance of the secondary roads and then in 1986 that of the Marginal Highway. The Office created by PEAH in order to execute this component performs the functions assigned to it under emergency conditions, but it is rudimentary and lacks equipment and technical and administrative implementation.

67. A global program of actions should be effected for the whole of the Project ambit with well-defined activities and goals including the rehabilitation of highways, routine maintenance and emergency actions. For this purpose the highway inventory at present in execution should be employed, and this inventory should be a continuous activity.

This global programming will certainly produce greater need for resources since the physical goals will be greater. The definition of the necessary investment for the integral maintenance of road transportability should be a priority task of the component, taking into account the maintenance equipment destroyed this year and the increases in goals and resources established by Amendment No.5 to the Project Agreement.

68. It is recommended that the institutional strategy for the maintenance of the road network be changed. In the case of the Marginal Highway, it is suggested that PEAH in close collaboration with the MTC establish an Operative Unit termed the Highway Office of the Alto Huallaga, and which should be duly provided with personnel, workshops, laboratories and financial resources. During a first stage (1987-88) this office should remain under direct administration by PEAH and after this period be transferred to the MTC and become its sole Operative Unit in the Alto Huallaga, substituting in this territorial area the Departmental Offices of Huanuco and San Martin.

In the case of secondary highways, for the medium and long term a suitable option would be the administration of maintenance by the Provincial Councils or by the Departmental Corporations, or preferably by both together in a duly coordinated action. In this respect, the possibility should be studied of PEAH initiating temporarily a program of organization of Highway Maintenance Units of the Provincial Councils of Tingo Maria and Tocache, financed by CORDEHUANUCO and CORDESAN respectively. These units would be administered directly by PEAH until such time as they would pass to the control of the councils, who would be in the future the entities responsible for carrying out these communal works.

DRINKING WATER AND ENVIRONMENTAL SANITATION COMPONENT

69. The objective of this component is to improve the sanitary conditions of

certain rural communities of the Alto Huallaga in order to diminish the incidence of gastrointestinal diseases.

The goals established include the construction of ten gravity drinking water supply systems, 70 deep well systems, 40 superficial well systems and the installation of 130 latrines.

70. During the execution of this component 21 drinking water projects were elaborated, of which 19 were prepared by DISAR and 2 by PEAH. In addition, DISAR carried out 9 field studies which will serve for the elaboration of the respective projects.

The construction of the ten gravity drinking water systems was assumed directly by PEAH. Six of these have been completed, and 4 are under construction. These will benefit aproximately 850 families with a population of 5,100 persons. The other activities of this component will not be completed this year to judge by progress at the date of the evaluation.

In general, PEAH did not possess the human resources required by this component, and the training of professional and technical personnel and laborers has been practically nonexistent. In this respect, it is recommended that PEAH organize a program of permanent training by means of courses of short duration, talks, seminars, etc. which could be carried out with the collaboration of the National Engineering University, the Public Health School of the Ministry of Health, SENCICO, etc.

71. One very important aspect which has not been adequately considered is promotion at the level of beneficiary communities of their participation in the studies, execution of works, operation and maintenance of drinking water systems and other sanitary projects. It is recommended that an aggressive and broad campaign of sanitary education and community development be initiated.

72. It is necessary to obtain the financial coefficients of the drinking water systems in order to determine whether these are self financing or whether their functioning originates deficits. In addition, the impact of works carried out on health standards in the beneficiary populations should be measured in accordance with established indicators.

COMMUNITY DEVELOPMENT COMPONENT

73. This is a new component of the project which replaces the former Drinking Water and Environmental Sanitation Component, and which attempts to integrate and increase activities relating to environmental sanitation and improvement in the quality of water supplies, primary health care services, productive projects for self consumption, educational and recreational services, and community organization and training.

74. In general terms, the constitution of specific community development component is considered to have been a good judgement since it gives a more social character to the plans and activities of PEAH, thereby improving its image and

facilitating its work. Furthermore, it resolves certain demands and needs at a regional level concerning basic services and education. Similarly, it broadens the field of action of the project to include urban space, giving a more integral character to certain ecological aspects, for example sanitation in rural-urban populations. Finally, perhaps the most positive aspect is that it encourages the organization of the population in support of the activities of local government in order to resolve problems of health, environmental sanitation and education.

75. Given the need to increase production and productivity of licit crops, and to intensify soil use under these crops, it is recommended that the budget devoted to support for communal works such as irrigation, drainage, warehouses or collection centers, etc. be increased.

    Also with relation to problems in the field of production, we suggest a coordinated action between the community development personnel of PEAH and the Social Promotion Personnel of INIPA in order to promote mutual aid days among legal agriculturalists. As regards school plots and integral fields it is considered that these should not only include new crops but should also serve for the dissemination of technological packages for the principal existing crops in the region, thereby increasing the technological knowledge of all members of the family.

76. Greater coordination is required between the work of INIPA's Social Promotion Division and PEAH's Community Development Division in order to eliminate superimpositions, duplications and possible conflicts. With relation to school plots, where both institutions operate, it is suggested that the role of INIPA should be to give assessment in technical aspects and in particular the relations with the children, given their ample experience in these fields. The role of PEAH should be to give assessment in more general social and anthropological aspects. In addition, INIPA could work in plantations in rural areas and PEAH in those in urban areas.

77. Community Development cannot be separated from a problem which is of central importance in the Alto Huallaga area and which is that of the management of the environment, especially of forestry lands and/or protected zones. By means of the integral fields and communal workdays, for example, reforestation may be encouraged. Likewise, agrosilvicultural systems should be promoted.

INTRODUCTION

This document is the final report on the evaluation of AID Project No. 527-0244, Development of the Alto Huallaga Area, carried out between June 27th and October 27th 1986, in accordance with the terms of reference set down by AID and subsequent coordinations, and in accordance with the technical proposal presented by ECONSULT S.A. in response to the public call for tenders for the evaluation.

The working methodology employed consisted of the analysis of the hypotheses, objectives and goals of the Project and their concordance with the existing set of problems. Also, the comparison of activities carried out and goals achieved both in quantitative and qualitative terms with those envisaged at the planning stage of the Project; analysis and verifications, and the formulation of conclusions and recommendations.

The work of evaluating hypotheses, objectives and goals was carried out by means of a review of the documents generated during the planning of the Project, such as Project Paper, the Agreements and Operative Plans. The evaluation of activities carried out and goals attained was by means of the analysis of Records, Reports, previous Evaluations and other documents; as well as by means of interviewing functionaries and technicians of PEAH and of the executive entities, leaders of rural and urban organizations and members of the beneficiary population. In addition, verification visits were made to agriculturalists' plots, experimental fields, demonstration fields, nurseries, seed plots, installations, constructions, roads, institutional headquarters, etc.

The work of the evaluation team was carried out principally within the Project zone, and to this end missions were undertaken on several occasions, including the air reconnaissance of both banks of the Huallaga river along the entire area between Tingo Maria and Campanilla.

The limiting factor as far as fieldwork was concerned was the social tension and insecurity which exist in the zone, and which are particularly serious in some important areas of the Project such as Monzon, Cuchara, Pucate, La Morada, Paraiso, Uchiza and Tocache. Thus there were certain difficulties in readily obtaining the necessary information, such being the case for example of statistical data and the specific localization of environmental sanitation works.

In order to permit a detailed analysis of specific components, we present together with this report the working documents which correspond to the evaluation of each of the Project Components. These contain the detailed information which support the conclusions and recommendations.

This final report contains chapters on the evaluation of the conception of the Project and on the execution of each of its components. In addition, chapters are included on achievements with relation to goals, and general recommendations for continuing development actions in the zone.

We should like to express the gratitude of the evaluation team to AID functionaries Mr. John Wall and Mr. Frank Dall, for their permanent helpfulness and their collaboration in resolving our queries and in providing information which facilitated the work of the evaluation team. Also we express our thanks to functionaries of INADE and of the executive entities for their collaboration. Our special thanks to Mr. Percy Lindo (engineer), Mr. Melanio Alayo (CPC), Mr. Manuel Sandoval (engineer), the Executive Director, Associate Director and Technical Director respectively of PEAH, for the facilities provided by the Project for the carrying out of our work, and to the functionaries and personnel of PEAH, who made every effort to attend as far as possible our requests for information.

1. BACKGROUND INFORMATION ON THE ALTO HUALLAGA

1. The Alto Huallaga area is an important part of the Selva Alta (high altitude tropical forest) of Peru, situated along the River Huallaga between Puente Cayumba to the south in the Department of Huanuco and Campanilla to the north in the Department of San Martin (Figure 1), where the state has made several different investments in order to promote development. In the 1940's with the construction of the Huanuco-Pucallpa highway, the colonization of zones alongside the highway and the Huallaga river and its tributaries was initiated, and the experimental agricultural station in Tingo Maria was established, as well as health and educational services, the adjudication of lands, etc. During this period agricultural and livestock development in the zone was initiated, especially that of annual and permanent crops such as maize, plantain, coffee, tea, and cacao. In parallel form coca plantations were established, especially by middle agriculturalists, whose production was destined to supply leaf for chewing in the Andean region.

2. In September 1966 the Peruvian Government subscribed with BID an agreement for the execution of the Tingo Maria-Tocache-Campanilla Colonization Project. This Project basically consisted of the construction of a stretch of the Marginal Highway of the Jungle along the Huallaga river between Tingo Maria and Campanilla, the construction of neighbourhood or secondary highways, the repartition and adjudication of lands in the River Huallaga Valley and the provision of infrastructure and services of technical and credit assistance to agriculturalists.

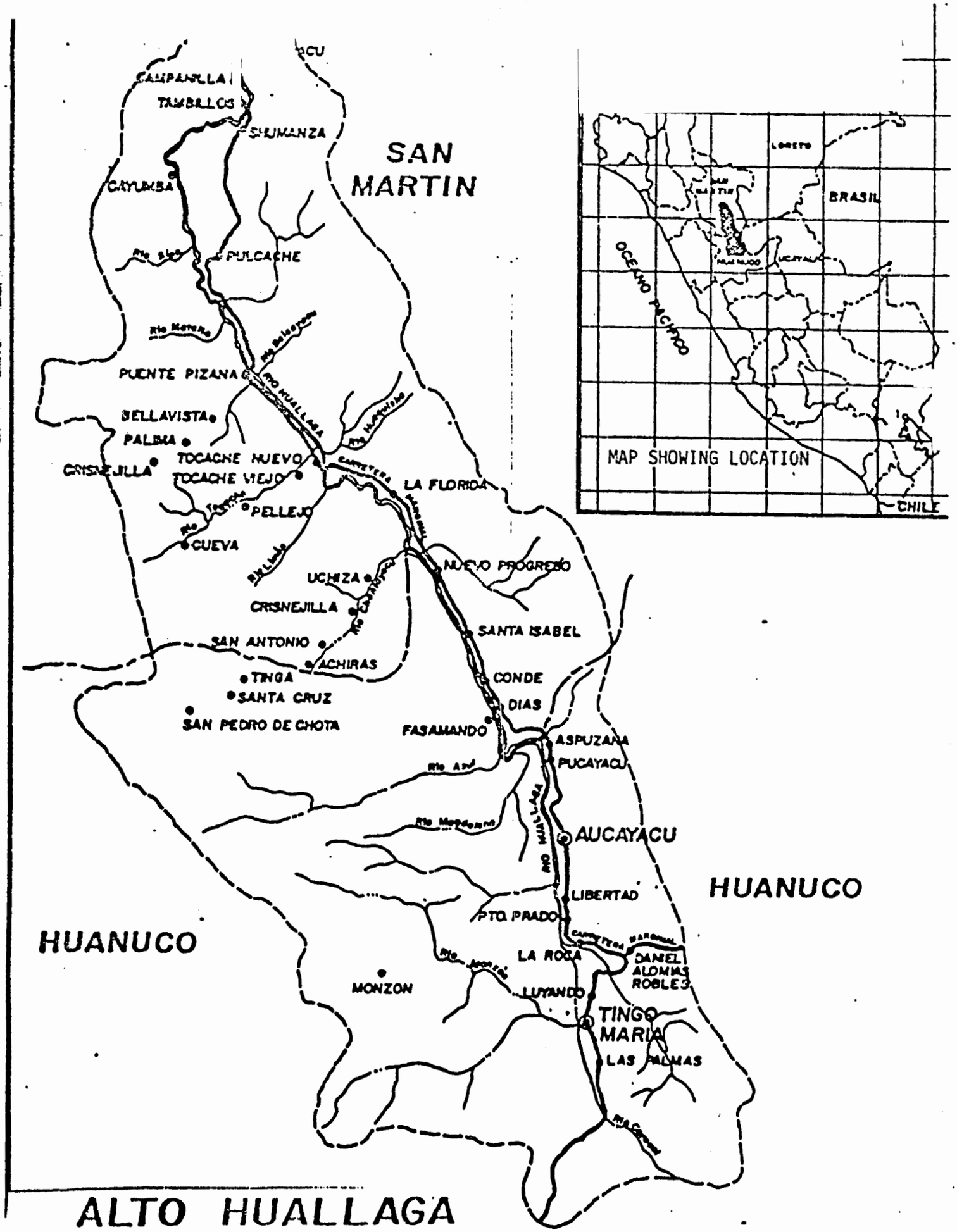
   During the execution of this Project between 1966 and 1973, colonists settled in the flat parts of the valley and neighbouring moderate slopes. Important areas apt for agriculture and livestock were developed under annual crops, pasture and permanent crops. Among these last one of the most important is the Oil Palm which the Project introduced into this country in its industrial plantations, and which was later developed by the State-owned company EMDEPALMA S.A.

3. The colonization of flat lands and those of moderate slope was followed by a progressive occupation and deforestation of hillsides by peasants who migrated from the Andean region, especially from the Department of Huanuco. This spontaneous settlement affected forest and protected areas and among other crops the cultivation of coca predominated.

4. In the second half of the 1970's an explosive boom in coca cultivation occurred, stimulated by increased demand, and paralleling this there was a progressive decline in agriculture and cattle raising in the zone. One exception is the case of the Oil Palm, a crop which attracted private investment for the establishment of new plantations. Coinciding with this period of the coca boom there occurred too a decline in the operative capacity of state organisms linked to agricultural development in the region, especially of the Ministry of Agriculture, as a consequence of the priority given by the State to the Agrarian Reform process in the coastal and Andean regions. One exception is the National Agrarian University of

the Jungle (UNAS, Universidad Nacional Agraria de la Selva), which was established employing the infrastructure of the Experimental Agricultural Station of Tingo Maria, and which began to develop technical assistance activities for agriculturalists by means of its Pilot Centers.

5. The boom in coca cultivation (from less than 3,000 hectares in 1973 to 12,000 hectares in 1980) and the proliferation of drug trafficking, effected profound changes in the socio-economic conditions of the Alto Huallaga zone, which became the principal zone in the country for the production of coca leaf destined for the elaboration of basic cocaine paste, and a center of supply and commerce for the drug trade.



ALTO HUALLAGA

SPECIAL PROJECT

FIGURE 1 : MAP OF PERU SHOWING LOCATION O

PEAH

2. PEAH AND THE DEVELOPMENT OF THE SELVA ALTA OF PERU

PEAH forms part of a set of Projects which the Peruvian Government has initiated for the development of the Selva Alta along the length of the Marginal Highway of the Jungle (Figure 2). These projects are characterized by the inclusion of activities of a multisectorial nature, though the relative importance of each of these differs from project to project.

The objectives of these projects may be summarized as follows:

a) Increased productivity and by means of this the increase in agricultural production.

b) The planned occupation of territory and the articulation of the region by means of the Marginal Highway.

c) The rational exploitation of natural resources and the maintenance of the ecological equilibrium.

d) The improvement in living standards of the population.

PEAH has special characteristics which distinguish it substantially from the other Projects under execution in the Selva Alta of Peru, and which are related to the basic problem constituted by the existence of extensive and increasing areas under coca cultivation and the socio-economic problems which stem from this, including those related to the drug trade and those generated in recent years by terrorist violence.

From the basic data presented in Table 1, we may observe that the ambit of PEAH represents 23% of the total area covered by the Special Projects, and 13% of the area given priority due to its agricultural, livestock and forestry potential.

With relation to the financing of the Special Projects, from the figures presented in Table 2, we may note that PEAH is the Project which has the lowest total financing, in spite of the importance and seriousness of the socio-economic situation which characterizes the Alto Huallaga zone and which motivated the execution of this Project.

This situation of disadvantage is maintained even if we exclude from financial totals the amounts destined for construction and/or maintenance of roads and irrigation works.

As described in the Chapter on Background, the Alto Huallaga zone has been the scene of a colonization process which dates back to the 1940's, and constitutes a zone whose lands are physically occupied but not fully utilized. As part of this process we should emphasize the importance of the creation and functioning in the 1940's of the Experimental Agricultural Station of Tingo Maria, with technical and economic support from the Government of the United States of America, and which became the most important center for tropical agricultural investigation in the country, disseminating technology to other

zones of the Ceja de Selva (Andean-Jungle border) of Peru.

PEAH is closely articulated with the Central Huallaga - Bajo Mayo and Alto Mayo Projects in the Department of San Martin. The Marginal Highway of the Jungle in the stretch which runs along the Alto Huallaga ambit constitutes a vital part of the route for the mobilization of the production originated within the ambit of these projects to the market in Lima.

FIGURE 2 : MAP OF PERU SHOWING LOCATION OF NINE SPECIAL PROJECTS IN THE JUNGLE

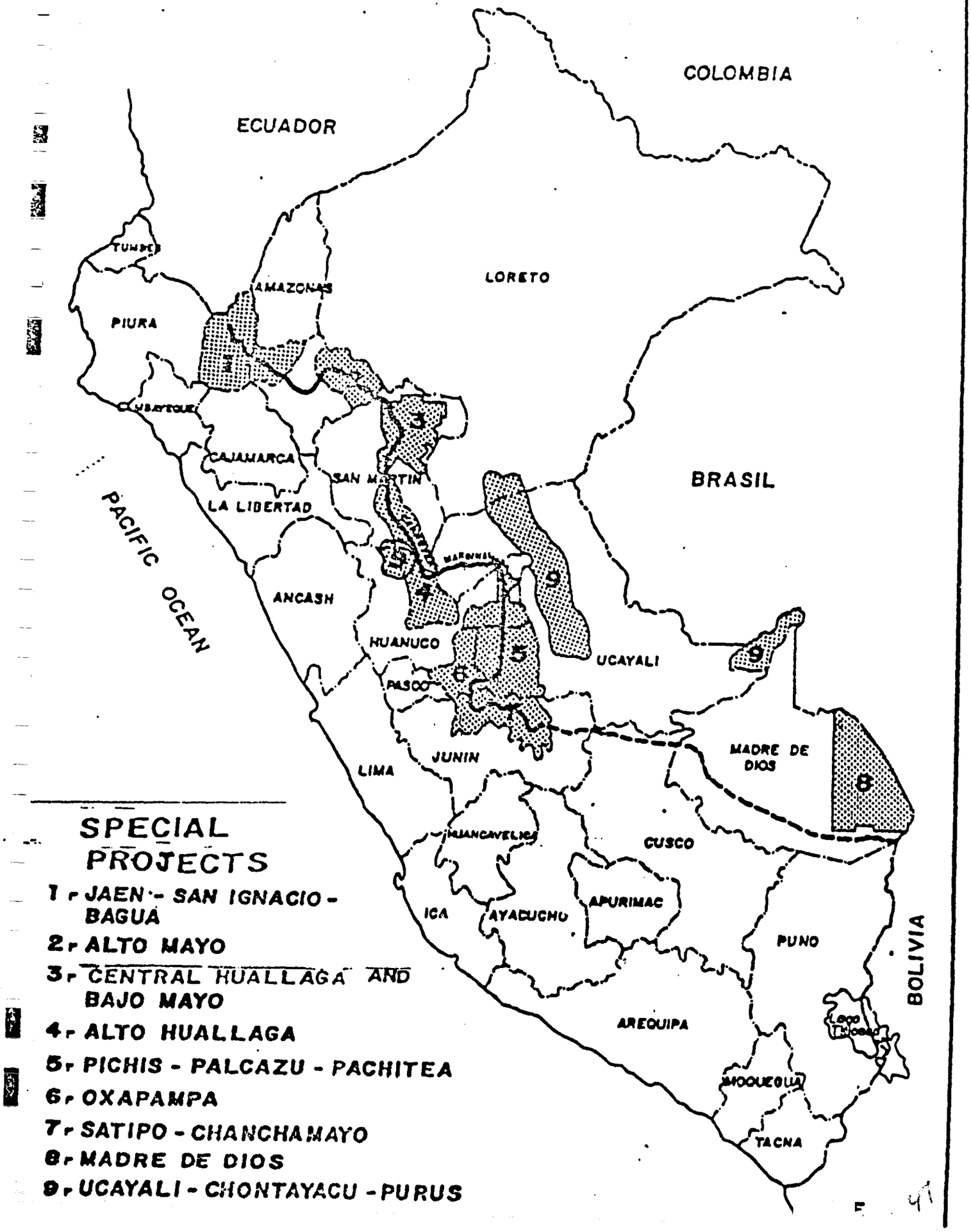


TABLE 1 : BASIC DATA FOR SPECIAL PROJECTS IN THE JUNGLE

PROJECT	SURFACE (hectares)	PRIORITY AREA (hectares)	FAMILIES BENEFITTING
1.Central Huallaga and Bajo Mayo	865,000	280,000	24,000
2.Alto Mayo	770,000	120,000	12,000
3.Pichis-Palcazu-Pachitea	1,775,000	350,000	10,000
4.Oxapampa	455,000	30,000	6,000
5.Satipo-Chanchamayo	730,000	140,000	15,000
6.Alto Huallaga	2,050,000	210,000	12,000
7.Jaen-San Ignacio-Bagua	1,620,000	350,000	35,000
8.Ucayali-Chontayacu-Purus (1)	----	----	10,000
9.Madre de Dios	450,000	120,000	1,000
TOTAL	8,715,000	1,600,000	125,000

(1) This is a Rehabilitation of Services Project, not an Agricultural Development Projec

SOURCE: INADE. Summary of Special Projects in the Jungle. Updated

TABLE 2 : FINANCING OF SPECIAL PROJECTS IN THE JUNGLE
(millions US$)

	NATIONAL COUNTER-PART	EXTERNAL LOAN	DONATION	TOTAL (1)	FINANCING ENTITY	PERIOD OF EXECUTION
1. Central Huallaga and Bajo Mayo	27.5	19.0	-	46.5 (18.3)	AID	1979-85
- Irrigation Sisa and Gera Hidroelectric Plant	13.6	21.1	-	34.7	SPAIN	1984-86
2. Alto Mayo	31.6	49.0	-	80.6 (59.9)	WORLD BANK	1983-87
3. Alto Huallaga	11.0	15.0	8.4	34.4 (26.4)	AID	1982-88
4. Development of the Central Jungle						
- Pichis	40.7	46.0	-	86.7 (32.8)	BID	1983-87
- Palcazu	8.0	18.0	4.0	30.0 (25.9)	AID	1983-87
- Satipo-Chanchamayo	27.5	40.0	-	67.5 (45.1)	WORLD BANK	1984-88
- Oxapampa	6.7	6.2	0.8	13.7 (4.2)	KFW	1985-87
- Pachitea-Von Humboldt	-	-	1.5	1.5	BELGIC-SWITZER.	1984-86
5. Jaen-San Ignacio-Bagua	52.2	42.8	-	95.0 (39.8)	BID	1984-88
6. Madre de Dios	-	-	-	-	-	-
7. Ucayali-Chontayacu-Purus	4.8	11.2	-	16.0	BID	1983-85
T O T A L	223.6	268.3	14.7	506.6		

SOURCE: INADE. Summary of Special Projects in the Jungle. Updated

(1) In brackets total amount excluding of investments in highways and irrigation works.

3. THE CONCEPTION OF THE PROJECT

3.1. THE HYPOTHESES OR CONCEPTUAL PRESUPPOSITIONS OF PROJECT PAPER

The basic problem which motivated the carrying out of the studies by the Foundation for National Development (FDN, Fundacion para el Desarrollo Nacional) and the Project Agreement between the Governments of Peru and of the United States of America for the execution of PEAH, is the expansion of coca cultivation in the Alto Huallaga, and the consequent problems produced by drug trafficking at an international level. Between 1973 and 1986 the increase in this crop from 2,228 to 60,000 hectares approximately, as well as the reduction in legal crops, expresses a profound change in the regional agricultural physiognomy (CENCIRA 1973, FDN 1981, Bedoya 1985). The impact of international demand and of drug trafficking in particular provoked extremely drastic modifications in the economic orientation of colonists. These radical changes also affected the social and political life of the peasant population, generating new regional power structures and unleashing an almost unmanageable wave of violence.

In order to tackle the central problem of the spread of coca cultivation, Project Paper proposes in general terms a double strategy. On the one hand, it proposes the initiation of a massive process of coca erradication, under the direction of CORAH; and on the other hand the execution of a regional development plan whose objective is to diversify and increase legal agricultural production in the zone, under the direction of PEAH.

Nonetheless, in the opinion of the evaluation team, this second general objective would appear to be complementary to the first, as may be appreciated from Project Paper. We found, specifically, that while this objective of PEAH is treated in some sections of Project Paper (Summary and Recommendations) as an independent one existing prior to a third objective which specifies the minimization of the negative social economic and political effects of an erradication program, in reality both objectives were interrelated and even in some sections of the above mentioned document explicitly articulated.

Thus we find that for example on Page 39 of Project Paper it is stated that an important element which justifies the PEAH program is the elimination of coca planting in the region. Further on, on Page 56, it is explicitly stated that although the development of the Project would be separately carried out from the erradication program, both should constitute concurrent elements. In addition, it is indicated that AID's efforts to promote the development of the region should form part of a global strategy for the entire Selva Alta, one of whose principal purposes is to minimize the negative social effects of the erradication of coca. In this sense, erradication and regional development constitute two sides of the same coin. In other words, we are dealing here with a conception of economic development which envisages PEAH in terms of its functions as a complement to the erradication process and thus does not

formulate proposals for the constitution of alternatives for integral economic development. Such integral development initiatives would support not only the legal agriculturalists who have been subject to erradication but also those who never grew coca.

This conception may be discerned clearly, for example, in the priorities which should be observed in the placement of agricultural credits according to Project Paper. The first place in the credit budget is given to credits designed to compensate for the negative effects of coca erradication. These account for 50% of this loan package, while 10% was assigned to the expansion of legal crops in abandoned areas and 40% to the purchase of machinery.

It should also be mentioned that the success of PEAH was predicated in large part on the notion that the erradication process carried out by CORAH would oblige producers to turn to legal agriculture, but under reduced conditions. These producers, in this context, would necessarily have to accept the technical and financial aid offered by PEAH. According to CORAH's official reports, erradication up till June 1986 was carried out in around 10,231 hectares, a figure which may appear large but nevertheless is insignificant in terms of reducing the influence of coca cultivation. In other words, the presupposition that erradication would eliminate at least the majority of illegal coca crops was not confirmed in reality. Furthermore, as we shall explain, the erradication process produced a spatial dispersion of coca growing but not its elimination. Even more serious is the fact that coca over the past four years has increased. In addition, we should point out that "between 1981 and 1984 the importation of cocaine to the United States increased by approximately 50%" (El Dialogo Interamericano. Informe 1986 p.47).

In our opinion, the survey carried out by the Foundation for National Development (FDN) which constituted the basis for the suppositions of Project Paper, was directed to middle and small agriculturalists located within the ambit of execution of the project and who have access both to better quality soils and to lands located on moderate slopes. According to the above-mentioned study, these agriculturalists cultivated both legal commercial and subsistence crops and 35% of them were coca producers. The work to be carried out with these producers according to Project Paper would attempt to encourage the planting of new crops or the extension of hectares under cultivation in approximately 80% of the area, but in the remaining 20% of the area this was not possible since this corresponded to degraded soils on hillsides. In this respect, it was assumed that the agriculturalists would stay on their plots after the erradication process, and evidently they would ask for credit and technical assistance almost immediately. Another assumption was that their reaction, while they would reject and question erradication, would not be prolonged, if short term actions of investment and technical assistance were implemented. This would in turn permit, amongst other effects, the generation of an economic impact of sufficient magnitude as to absorb the labour power made redundant by the effects of erradication.

Unfortunately, neither of these assumptions has been translated into

TABLE 3 : EVOLUTION OF INTENSITY OF SOIL USE IN THE ALTO HUALLAGA REGION (1981 and 1984)

ZONES	INTENSITY OF SOIL USE	
	1981 (1)	1984 (2)
AUCAYACU	0.43	0.47
TINGO MARIA	0.55	0.57
UCHIZA	0.40	0.45
TOCACHE	0.39	0.43
REGIONAL	0.43	0.47

1. DATA BASED ON FIGURES PROVIDED BY FOUNDATION FOR NATIONAL DEVELOPMENT
2. DATOS ELABORADOS EN BASE A COMPENDIO ESTADISTICO DE 1984 (OFICINA SECTORIAL DE ESTADISTICA DEL MINISTERIO DE AGRICULTURA)

$$\text{INTENSITY OF SOIL USE} = \frac{\text{PERMANENT + ANNUAL CROPS}}{\text{PERMANENT + ANNUAL CROPS + FALLOW AREAS}}$$

reality. Everything would seem to indicate that a significant sector of the erradicated agriculturalists migrated to zones further from the Marginal Highway outside the ambit of PEAH, or moved to the right or left bank of the Alto Huallaga, in order to continue growing coca though without separating themselves entirely from their previous holdings. At the same time, their reaction to the erradication process was violent in the extreme, articulated in some cases to the action of Sendero Luminoso and in other cases to the influence of the drug trade, finding its expression even in political terms. Consequently, on partially abandoning their holdings located within the ambit of action programmed for PEAH, they maintained a reduced part of their cultivated plots and the remainder became fallow. Thus the use of soils at a regional level has not been radically modified, there being only a slight increase in the index of intensivity up to 1984, as we may see in Table 3. In other regions of the Selva Alta such as Satipo-Chanchamayo, where there is much less incidence of coca, the intensity of soil use is considerably greater.

Another sector of coca producers is constituted by monocrop coca growers with precarious land tenure and who were located in marginal zones, a sector which is clearly identified by Project Paper. Theoretically the majority of these should have migrated out of the zone once the erradication process began. Another minority sector would remain on their plots, of which only 15% on average of the total area could be rescued and substituted, while the remaining area consisted of forest or protected soils and even degraded soils which are extremely difficult to rehabilitate. Once more, this supposition was not confirmed due to the high degree of mobility and the practice of migratory agriculture. The agriculturalists once erradicated, moved to other regions of the Alto Huallaga, preferably located in even more marginal zones of this river basin, in order to establish new coca plots rather than turning to wage labor.

3.2. AMBIT, COMPONENTS AND FINANCIAL RESOURCES

3.2.1. AMBIT

Project Paper establishes the Project ambit as the River Huallaga valley between Puente Cayumba and Puerto Pizana, including both the flat lands and the neighbouring slopes of moderate gradient suitable for agriculture. The area thus delimited includes those parts of the valley with the most potential for the development of licit crops, both annual and permanent, and is under the control of agriculturalists who settled there during the process of colonization of the region. Almost all the licit agricultural and livestock activities of the Alto Huallaga region are concentrated in this area.

As specified in Project Paper in the chapter on the rationality and strategy of the Project, in the conception of the Agricultural and Livestock Development Program for the Alto Huallaga, steep

slopes which are mainly forestry and protected lands were excluded. These lands are occupied by precarious colonists who cultivate almost exclusively coca. This exclusion, apart from the reasons relating to the limitations on potential use of these lands, was due to the illegal connotation attached to the peasants who were settled there, both in terms of their precarious tenure and especially because of the predominance of coca crops in their holdings. Furthermore it was presumed that with the execution of the erradication program they would migrate out of the Alto Huallaga zone or be absorbed by the increased licit agriculture in the flat parts of the valley. As pointed out in 3.1. this supposition was not confirmed.

The exclusion of these areas is of great importance in evaluating the conception of the Project and of the components and activities programmed and the beneficiary population contemplated.

For example, the non-inclusion of a Forestry Component or the lack of attention to activities relating to forestry in the Project, clearly relates to the priority given to areas where lands suitable for agriculture or livestock rearing predominate. In addition, the beneficiaries of PEAH were supposed to be the non-coca and ex-coca agriculturalists of the valley. Nevertheless there is an evident contradiction here. The Project CORAH contract establishes that PEAH is responsible for providing immediate aid to ex-coca producers for crop substitution. However these producers are located mainly in forest areas which Project Paper excludes from the Project ambit.

The legal dispositions creating the Project and the Executive Direction responsible for its execution extended the territory considered within Project Paper as far as Campanilla to the north. In addition - possibly in order to facilitate delimitation - the Project territory was redefined in terms of political demarcations, including districts of the Provinces of Leoncio Prado and Maranon in the Department of Huanuco and the district of Mariscal Caceres (now belonging to the Province of Tocache) in the Department of San Martin (Figure 1). The evaluation team was not able to clarify the reasons for this extension, but according to the opinion of several persons interviewed the area between Puerto Pizana and Campanilla was included in order to prevent its remaining as an island between the Central Huallaga and Alto Huallaga Projects.

The extension of the Project to Campanilla had several implications for its execution, since additional financial resources were not assigned for the activities of Components in this zone. This is especially serious as regards the maintenance of the Marginal Highway which precisely in this stretch is in very bad condition and very poorly maintained.

In the opinion of the evaluation team the above mentioned

extension was innapropriate and counter-productive, since it opened up a working front and a series of expectations among the population which could not be adequately met by PEAH.

Although in Project Paper and in the Project Agreement priorities among work areas are not established, the studies undertaken by the Foundation for National Development divided the project ambit into zones, the first priority being given to Aucayacu. During the execution of the Project some areas have acquired priority and others have been abandoned, according to special interest which has arisen in the execution of certain activities of Project Components or due to the appearance of problematic contingencies.

An example of the former is the priority given to the La Morada area due to the interest shown by agriculturalists in the development of licit crops especially rice. An example of the latter is the abandonment of areas such as Pucate and Cuchara which, in spite of the fact that they possess great potential for the developmenmt of licit agricultural and livestock production, became unsafe due to the presence of terrorist elements. During 1986 the priority zone of La Morada became notoriously unsafe after the last attack on PEAH highway maintenance machinery.

Finally, an aspect which relates to the Project ambit and to the priority assigned to given areas is the superimposition of jurisdictions or ambits of action of institutions responsible for local or regional development. This is the case of the Departmental Development Corporations of Huanuco and San Martin and of the Special Rehabilitation Project of the Chontayacu, Ucayali and Purus river valleys (PERS). The Corporations assign financial resources and execute - directly or through the intermediary of PEAH or other institutions - investments in studies and works related to agricultural and livestock development, highways, health, education, etc. which in many cases are of the same type and are superimposed upon those executed by PEAH. PERS on the other hand manages resources for works in sanitation, health, education and electric power in the Uchiza area. It was only in 1985 that agreement was reached for these activities to be carried out by PEAH.

Given the extent of the ambit of PEAH and the reduced financial resources which it possesses, it is necessary to design criteria for giving priority to certain areas in accordance with Project objectives. The groups or strata of the beneficiary population should be perfectly clearly defined and likewise the corresponding priority zones or ambits within the Alto Huallaga region. This delimitation and determination of priorities should be carried out as part of the new strategy of action of the Project in the immediate future.

3.2.2. COMPONENTS AND FINANCIAL RESOURCES

As is apparent from the content of Project Paper and the Project Agreement, the aim of PEAH is to increase and diversify agricultural production in the Alto Huallaga, and to this end it is proposed to reinforce the services supporting agriculture which are provided by the public sector and to develop and test diverse agricultural technologies in the region.

It is considered that this may be achieved by means of the execution of the following activities:

a) Implementation of an applied research program in order to determine the agronomical, economic and socio-cultural feasibility of diverse agricultural technologies.

b) Increase and improvement in existing extension services.

c) Improvement in the capacity of the National Agrarian University of the Jungle (UNAS) for the training of agricultural scientists.

d) The granting of credits in the short and medium term.

e) The reinforcement of the supply of services for agricultural production.

f) The development and interpretation of information on resources.

g) Improvement in highway maintenance.

h) Supply of drinking water systems and sanitation to selected communities in the Project area.

According to this conception of the Project, the axis of action is constituted by the Research, Extension and Training activities, accounting for 41.6% of the initial budget. These principal components are supported by two (2) additional components which follow them in terms of budget importance: Agricultural Credit and Highway Maintenance, accounting for 37.7% of the budget, and by other minor components which total the remaining 20.7%, including the amounts for Evaluation, Inflation and Contingencies as specified in detail in Table 4.

The initial financing for a span of execution of 5 years for the Project was subject to minor modifications up to 1985 which did not alter the general conception and orientation of the Project. These consisted of transfers of funds from the Inflation and Contingency account in order to reinforce especially the Project Office, Development and Interpretation of Information on Resources and Drinking Water and Environmental Sanitation Components.

TABLE 4 : PERCENTAGE PARTICIPATION OF COMPONENTS IN TOTAL PROJECT FINANCING

COMPONENT	% INITIAL BUDGET	% BUDGET TO 27.06.86
RESEARCH	16.64	14.05
EXTENSION	15.54	16.24
TRAINING	7.94	5.68
IEC-Long-Term Specialist	1.50	1.16
CREDIT	18.87	11.48
SERVICES TO PRODUCTION	4.82	2.75
DEVELOPMENT AND INTERPRETATION OF INFORMATION ON RESOURCES	2.47	2.05
HIGHWAY MAINTENANCE	18.87	23.15
DRINKING WATER AND SANITATION	1.88	12.16
PROJECT OFFICE	3.78	6.50
EVALUATION, INFLATION AND CONTINGENCIES	7.69	4.78
	100.00	100.00

With the modifications introduced in the Project Budget in 1986 by Letters of Execution Nos. 55 and 56, and especially by Amendment No. 5 of June 27th 1986 to the Project Agreement, a substantive change was produced in the relative importance of the activities or components, and a new project duration was established of two (2) more years until September 1988, as may be seen from Tables 4 and 5.

From the analysis of these Tables which present the initial and modified budget as of June 1986, as well as of the Project Agreement and of Project Paper, we may draw the following conclusions:

a) The Project continues to emphasize agricultural development, especially by means of extension, a component whose financing has been substantially increased and in percentage terms is greater than in the initial budget.

   The other two (2) principal components, Research and Training, have become relatively less important. In this respect we should underline the fact that the activities and investments considered under Training have already been carried out, for which reason the budget for this component has not been increased.

b) The budgets for the Services to Agricultural Production and Development and Interpretation of Information on Resources Components have been slightly modified in terms of the amounts considered, but maintain the same conception and types of activities initially programmed.

   Under the heading of Services to Production, the principal investments correspond to infrastructure and equipment for the storage and drying of grains. The initial focus of the component is maintained, and aspects related to the commercialization of licit products and the stimulation of a dynamic market for these have not been taken into account.

c) The financing for Agricultural Credit has been reduced by a million dollars due to the lack of demand for credit and presumably because the Banco Agrario (Agrarian Bank) has other credit lines open to place loans at the same rates as those offered with AID funds. In the face of other factors which are affecting licit agricultural production, credit has not fulfilled its role as an activating agent in the productive process. In this context the variation in the financial budget of this component does not affect nor modify the global conception of the project.

d) The Highway Maintenance component, of vital importance for the mobilization of supplies and products and a basic element in the productive process, has been reinforced, increasing its

percentage participation in the Project budget from 18.87% to 23,15%.

This reinforcement is designed to extend the goals of secondary road maintenance by 150 kilometers, and not to satisfy additional financial requirements for the initial goals of 207 kilometers of Marginal Highway and 290 kilometers of secondary roads.

An additional aspect which should be underlined is the fact that the execution of additional highway maintenance activities is to be carried out directly by PEAH in addition to the activities it has already undertaken in this field.

e) The most important change with relation to the Project Conception and Components is the introduction of a new Component: Community Development, which replaces the Drinking Water and Environmental Sanitation Component whose budget was the least important of the Project.

As a result of Amendment No. 5 the new Component becomes the fourth most important in percentage participation, but in terms of its two (2) years execution period it is the most important set of investments since the commencement of PEAH.

The activities which are financed under this new component are varied in nature, and 83% of the total amount is assigned to works in drinking water, environmental sanitation, health and services to the community. The remainder corresponds to a type of activity totally new in the context of the Project: Education and Prevention of Drug Abuse.

3.3. PEAH, CORAH AND UMOPAR.

These three institutions were created for the purposes of the application of legal dispositions regarding the erradication and substitution of coca crops and the control of drug trafficking, as part of a pilot strategy to be applied in the Alto Huallaga region.

3.3.1. THE PROJECT FOR THE CONTROL AND REDUCTION OF COCA CULTIVATION IN THE ALTO HUALLAGA (CORAH)

Under an Agreement signed September 28th 1981, the Embassy of the United States of America and the Ministries of the Interior and Agriculture of Peru, agree to participate in a cooperative project for the repression of the production, distribution and use of illicit drugs and/or to adopt actions and commit resources to support this effort.

Through this Agreement it was sought to assist in the formation of

TABLE 5 : FINANCING: SOURCES AND APPLICATION OF FUNDS
(thousands of US$)

COMPONENTS	INITIAL BUDGET				BUDGET AT 06.27.86			
	LOAN	DONATION	PERUVIAN GOVRNMNT	TOTAL	LOAN	DONATION (*)	PERUVIAN GOVRNMNT	TOTAL (*)
RESEARCH	1464	970	1976	4410	1365	1501.6	1976	4842.6
EXTENSION	1581	465	2071	4117	1950	1183.8	2463	5596.8
TRAINING	853	608	643	2104	900	412.3	643	1955.3
IEC-Long-Term Specialist	---	400	---	400 --		400.0	---	400.0
AGRIC. CREDIT	4800	200	---	5000	3800	156.2	---	3956.2
SERVICES TO AGRICULTURAL PRODUCTION	1088	14	174	1276	618	156.7	174	948.7
DEVELOPMENT AND INTERPRETATION OF INFORMATION ON RESOURCES	164	98	394	656	250	64.2	394	708.2
HIGHWAY MAINTENANCE	3000	---	2000	5000	3500	1344.0	3131	7975.0
DRINKING WATER AND SANITATION	250	---	250	500	650	2479.0	1060	4189.0
PROJECT OFFICE	800	---	200	1000	1550	340.0	350	2240.0
EVALUATION	---	50	---	50	---	195.6	---	195.6
INFLATION AND CONTINGENCIES	1000	195	792	1987	417	166.6	867	1450.6
TOTAL	15000	3000	8500	26500	15000	8400	11058	34458

(*) Amounts by Component and total in round figures

an organization for the control and reduction of coca cultivation, to provide funds for a project of voluntary substitution of this crop, and supply the necessary equipment for a program of coca erradication and control.

It is established too that this organization will coordinate its activities with the Empresa Nacional de la Coca (National Coca Enterprise, ENACO) and with the Unidad Movil de Patrullaje Rural (Mobile Rural Patrol Unit, UMOPAR) of the Civil Guard. For the application of this and by means of the Decreto Supremo (Decree Law) No.043-82-AG the executive organism of the "Control and Reduction of Coca Cultivation in the Alto Huallaga" (CORAH) Project was created. Decree Law No.075-82-AG grants to this Project the level of a Special Project of the Public Agricultural Sector.

Within this framework a strategy was established which began with a program of voluntary erradication, which has a definite concluding date. Upon the conclusion of this program it should be followed by one of compulsory erradication in order to eliminate all coca plantations not registered in ENACO. The priority areas for erradication were to be determined by the Organizacion de Control de la Coca (Coca Control Organization).

Annually, in September, successive Agreements have been signed under Project No.313601-0104, which describe the existing situation and the advances in erradication, with estimates of the total surface of coca crops for future erradication. The form of erradication is also stipulated, as well as the annual goals and the amounts of resources assigned.

CORAH began the erradication of coca crops in the Alto Huallaga in April 1983, and eliminated to June 1986 a total surface area of 10,231.93 hectares, as indicated as follows:

YEAR	SURFACE ERRADICATED IN HECTARES
1983	703.25
1984	3,134.42
1985	4,827.83
1986 (to June 30)	1,566.43
TOTAL	10,231.93

Source: Reports by the Direction of Operations of CORAH.

The program of erradication carried out by CORAH, while it has covered an appreciable total area erradicated, has not been able to attain its objective of eliminating the totality of illicit

crops, and proved to be insignificant in this respect. This situation is expressed in the Agreements signed annually for the execution of the Project, where 17,000, 24,000 and 26,000 hectares are given as the surface areas still to be erradicated for the years 1981, 1984 and 1985 respectively.

The situation described above is due to the fact that while CORAH erradicated coca crops, especially on the right bank of the Huallaga river, new crops were being established in areas further away from communication routes, principally on the left bank. Furthermore, the evaluation team judge that the form in which erradication has been implemented has led to a violent reaction in the population and within this context to a subsequent expansion in subversive violence. On the other hand, and from a different perspective, it should be noted that the limited area erradicated has impeded the execution of the working plans of Agricultural Extension and Social Promotion.

3.2.2. THE MOBILE RURAL PATROL UNIT (UMOPAR)

UMOPAR, which constitutes the 64th Command of the Civil Guard of Peru, is a specialized unit which was created as part of the strategy for the control of the expansion of coca cultivation and of drug trafficking in the Alto Huallaga. Amongst its functions are to support the Coca Erradication Program, providing security to CORAH for the execution of its activities. In addition, it should control the commercialization of coca leaf and drug trafficking. UMOPAR has its headquarters in the city of Tingo Maria and detachments in Aucayacu and other locations according to necessity. Its actions however cover the whole of the jungle region of Peru.

The drug trafficking control activities which are the responsibility of UMOPAR have great importance as part of the strategy for the erradication and substitution of coca crops since they affect the system of transformation and commercialization of coca leaves and of basic cocaine paste, lowering prices and discouraging production.

The intensification of this control in the entire ambit of the Alto Huallaga and with a strategy and means which would permit permanent efficiency would have substantial effects in facilitating the program of erradication and substitution of coca crops.

Finally, it is not out of place to mention that certain members of UMOPAR on various occasions have displayed incorrect conduct within the Aucayacu installations of PEAH, provoking the protests of the respective Directions. This conclusion is drawn from different sources of verbal information received by the evaluation team.

3.3.3. RELATIONS BETWEEN PEAH, CORAH AND UMOPAR

The relations between the three (3) projects derive from the conception of the pilot strategy adopted to deal with the problem of the spread of coca crops and of drug trafficking in the Alto Huallaga zone. As has already been mentioned CORAH should erradicate illegal coca crops, while PEAH should increase and diversify licit agricultural production in the most favorable lands. PEAH should thus complement efforts by the United States and Peru to erradicate coca crops, by providing agriculturalists with the means for the generation of additional income and employment, as indicated in the PEAH Project Agreement.

The relations between the two projects are specified from the first CORAH Agreement signed in September 1982, and are extended in the subsequent Agreements emphasizing especially the coordination which should exist between their activities.

In Agreement No.3 signed in September 1983 the relation is made more explicit, indicating that PEAH is responsible for "providing immediate aid to ex-coca producers for the substitution of crops". It is also stated that although each project functions separately "their activities should be related and coordinated in order to diminish the socio-economic burden of the Alto Huallaga population and their resistance to erradication".

The implications of the activities of CORAH and PEAH viewed from the perspective of coca erradication and substitution have been analysed in the Chapter on Hypotheses and Conceptual Presuppositions of Project Paper. Further, in dealing with the theme of violence and tension in the Alto Huallaga in the next chapter, we complement the review of these implications of the actions of CORAH and PEAH.

One aspect which deserves special analysis is that which refers to the existing balance between the magnitude of the actions executed by UMOPAR, by the PIP (Peruvian Investigative Police) and other police entities and those carried out by CORAH. In the opinion of the evaluation team positive results cannot be obtained from an erradication process which is not accompanied by a real and extensive control of drug trafficking. Amongst other points, it is notable that while in some zones coca plantations are erradicated, in others the free development of drug trafficking activities may be observed. In the zone of Tocache, the entry of small aircraft is easily observed during morning hours, even in the EMDEPALMA airport, and in the city itself there are no PIP personnel present, in spite of the notable presence of foreigners. This imbalance in the vigorous activities against agriculturalists and in much lesser degree against groups of drug traders is not only incoherent but also inefficacious. Evidently UMOPAR cannot be blamed for the ineffectiveness of the process of repression of the drug trade. This is also due in part to the insufficient resources

assigned for the application of a an anti-subversive and anti-narcotics strategy.

Finally, it should be stressed that as long as the commercialization process is not totally controlled, intermediaries will maintain demand indefinitely and stimulate agriculturalists to produce more coca.

TABLE 6 : SIZE OF HOLDING AND HECTARES UNDER COCA ERRADICATED
(from September 1984 to April 1986)

SIZE OF HOLDING (hectares)	AREA ERRADICATED			TOTAL
	FROM 0.1 TO 1.0 HECTARES ERRADICATED	FROM 1.01 TO 2.0 HECTARES ERRADICATED	2.01 OR MORE HECTARES ERRADICATED	
LESS THAN 5 HECTARES	165 (62.0)	72 (27.0)	28 (11.0)	265 (100.0)
FROM 5 TO LESS THAN 10 HECTARES	117 (38.0)	130 (42.0)	61 (20.0)	308 (100.0)
FROM 10 TO LESS THAN 20 HECTARES	128 (32.0)	148 (38.0)	119 (30.0)	395 (100.0)
FROM 20 TO LESS THAN 30 HECTARES	22 (34.0)	25 (38.0)	18 (28.0)	65 (100.0)
FROM 30 OR MORE HECTARES	13 (18.0)	25 (33.0)	37 (49.0)	75 (100.0)
	445 (40.0)	400 (36.0)	263 (24.0)	1108 (100.0)

NOTE: Average hectares erradicated per holding = 1.49 hectares

SOURCE: Drawn up by ECONSULT based on census of erradicated producers, September 1984 to April 1986

4. ASPECTS RELATED TO THE EXECUTION OF THE PROJECT

4.1. THE COCA ECONOMY AND ITS REGIONAL SIGNIFICANCE

4.1.1. NUMBER OF HECTARES UNDER COCA

The purpose of the present section is to estimate the volume of monetary income generated by coca cultivation and its proportional regional weight compared to the income provided by licit crops, and similarly with relation to the gross national agricultural product.

According to the information provided by AID on November 12th 1986 there exist in the Alto Huallaga between 60,000 and 70,000 hectares of coca, a figure obtained by NAU on the basis of aerial photographs taken in March 1986. In our opinion this number of hectares has probably not varied greatly since July 1985, for the purpose of comparing this production with licit agricultural production in the next section.

We present below different estimates of the hectarage under coca within the ambit of PEAH:

PEAH Project Paper (1981).....12,000 hectares.
CORAH Agreement (1981).....17,000 hectares.
CORAH Agreement (1984).....24,000 hectares
CORAH Agreement (1985).....26,000 hectares.
CORDESAM Investment
Program (1986) *.....30,000 hectares.

(*) Corresponds only to the Province of Tocache.

With regard to the size of coca plantations, the information provided by CORAH on erradicated crops, together with our tabulations, give an average of 1.49 hectares of coca per plot (Table 6). This figure relates to the existing situation on the right bank of the Huallaga river and in the southern part of PEAH's ambit. This average is higher in the zones of Uchiza and Tocache and especially in that of Monzon.

4.1.2. INCOME GENERATED BY THE SALE OF DRY LEAF

As regards the monetary value produced, this may be determined on the basis of the sale prices of dry coca leaf and of basic cocaine paste. With respect to the value of the dry leaf, we observed that this fluctuates considerably over time and by zone; as we may see from the following Table:

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TABLE 7

PRICES TO PRODUCER OF DRY COCA LEAF AND BASIC COCAINE PASTE IN PEAH
(US$ PER KG.) (1)

DATE	DRY LEAF (KG.)		BASIC COCAINE PASTE (KG.)	
	Aucayacu/ T. Maria	Uchiza	Uchiza	Sion
25.07.86	2.50	--	--	--
10.08.86	1.30	--	--	--
21.08.86	--	3.00	705	720
02.07.86	3.00	4.00	940	--

(1): I/.17.00 per US$, according to the existing exchange rate in the zone, calculated on the basis of price per measure of 11.5 kilograms.

Source: Interviews by the Evaluation Team of ECONSULT S.A.

From Table 7 we note that the zones of Aucayacu and Tingo Maria are characterized by less stable prices, due to the fact that the headquarters of UMOPAR and other police institutions are concentrated in Tingo Maria. When control and confiscation operations are carried out, these regions are the most rapidly affected, leading to a temporary surplus supply reducing the price of the leaf. A different situation occurs in Uchiza where, while changes in the price of the dry leaf do occur, they are not as strongly marked as in the above-mentioned zones. For the purposes of our projections we chose to work with more conservative figures and thus we opted for the sum of US$3.00 per kilogram.

With respect to physical production our estimate, also conservative, indicates an average yield of 1,500 kilograms of dry leaf per hectare per year. Nonetheless, we also observed great variability since the maximum yield in San Martin may be as high as 2,400 kilograms of dry leaf per hectare per year, depending on the type of soils and the amount of inputs, fertilizers, herbicides, etc. used. It should be mentioned too that this latter annual average at the maximum prices of 1985 (US$7.00) would give an annual income of 16,800 dollars per hectare. Nevertheless as we have indicated we prefer to work with conservative values, in this case, 1,500 kilograms per hectare. This figure projected for a total hectareage of 60,000 hectares and at the average price of

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the dry leaf gives a total value of US$270 million.

This sum represents in reality the minimum limit of total income which agriculturalists receive for the sale of dry leaf.

4.1.3. VOLUME OF INCOME GENERATED BY BASIC COCAINE PASTE

With regard to the total volume of income generated by the sale of basic cocaine paste, figures are logically higher. The price of the paste is relatively stable in comparison to that of dry leaf and the minimum amount according to Table 7 is US$700.00 per kilogram of basic paste at the level of the initial intermediary. This price is evidently later elevated during the process of bulk collection, storage and embarkation of the basic cocaine paste; nevertheless this latter increase in income does not have considerable regional impact, given that we assume that these resources largely do not enter the regional economic circuit. Nonetheless, employing the price corresponding to the income received by the primary producer we may conclude that the income obtained by the rural areas of the region is of the order of a total of of 630 million dollars.

{90,000t of dry leaf x 0.01 (transformation of 1kg of leaf into basic cocaine paste) x US$700.00 = US$630'000.000.00}

We should point out that according to the observations of the evaluation team the volumes of basic cocaine paste extracted from the rural environment are largely the result of the collection of a large number of small scale productions, each producer delivering in general between 1.0 and 3.0 kilograms of paste.

4.1.4. REGIONAL AND NATIONAL ECONOMIC SIGNIFICANCE

a) Licit agricultural production in the Alto Huallaga in 1985 was of the order of 4.4 million Intis, calculated at the value of Intis constant as of 1979. This quantity in turn represents a figure of I/.331.1 million in 1985, which is equivalent to 19.5 million dollars at the exchange rate of I/.17.00 (Table 8). This figure implies that the total licit agricultural production of the zone was only 3.1% of the total rural income of the zone from basic cocaine paste (630 million dollars) and 7.2% of the total income generated by the sale of dry leaf (270 million dollars).

b) If we consider that the Gross National Agricultural Product in 1985 was US$2,272 million, the Alto Huallaga region generates a gross rural product from the elaboration of basic cocaine paste which corresponds to 27.7% of the above-mentioned national product. Furthermore, it is estimated that the Alto Huallaga produces 75% of the basic cocaine paste elaborated in the

entire country, so that at a national level a rural income would be generated of 840 million dollars, equivalent to 36.9% of the Gross National Agricultural Product.

TABLE 8

EVALUATION OF LICIT AGRICULTURAL AND LIVESTOCK PRODUCTION 1984 AND 1985, ALTO HUALLAGA
period January to December each year (thousands of Intis constant as of 1979)

PRODUCT	PRODUCTION (METRIC TONS)		VALUE (THOUSANDS OF INTIS)	
	1984	1985	1984	1985
TOTAL AGRI. AND LIVESTOCK			4569.73	4936.97
AGRICULTURAL			4103.05	4380.99
Rice	6285	8711	317.56	440.27
Cacao	1254	1265	613.79	619.18
Coffee	1322	1814	423.23	580.75
Beans	331	288	28.41	24.72
Yellow Maize	9026	8769	318.30	309.74
Plantain	33794	34889	426.38	440.19
Manioc	20925	22888	409.68	448.11
Tea	1105	1105	57.56	57.56
Oil Palm	50268	48699	1508.04	1460.97
LIVESTOCK			466.68	555.98
Meats:				
Poultry			188.71	231.42
Beef			179.34	221.18
Pork			12.63	11.20
Eggs			75.59	80.94
Milk			10.41	11.24

Source: Agricultural Bulletin 1985 - PEAH-OSE Agreement

c) In terms of opportunity costs to the coca grower, we found that this type of agriculturalist receives an annual income of 4,500 dollars per hectare (US$270 million/60,000 hectares). According to the Statistical Bulletin for the year 1985 (OSE-Ministry of Agriculture) in the Alto Huallaga region the value of legal agricultural production amounting to US$19.5 million was obtained from the harvest of 32,265 hectares under licit crops. From these figures we deduce an average annual per hectare income of US$604.37, a sum which represents 7.44 times less than that obtained by those who devote themselves to illegal agriculture (US$4,500).

This enormous discrepancy provides a first estimate of the cost of legality or alternatively of the initial subsidy required to maintain the present level of income among erradicated agriculturalists.

$$\frac{\text{US\$270 million}}{\text{60,000 hectares}} = \text{US\$4,500.00}$$

This quantity is 7.44 times higher than that obtained by those who devote themselves entirely to legal agriculture:

$$\frac{\text{US\$19.5 million}}{\text{32,265 hectares}} = \text{US\$604.37}$$

The difference between the two cases could provide the basis for a future subsidy to erradicated agriculturalists.

d) Finally, if we establish a comparison between the figure obtained in the rural area of the Alto Huallaga from the elaboration of basic cocaine paste - 630 million dollars - with the annual quantity programmed to be invested by PEAH (5.3 million) we see that the annual investment has been of a sum equivalent to 0.84% of the illicit rural product. Evidently such a relatively reduced volume of money destined to generate regional development based on licit crops, cannot produce the desired effect in the face of such a high figure deriving from coca cultivation and the elaboration of basic cocaine paste.

Finally, and by way of a recommendation, the evaluation team considers that it is necessary to carry out a study of the regional impact of the coca economy in the Alto Huallaga. This study is indispensable due to the present lack of sufficient information regarding this impact. Likewise, we cannot make reasonably accurate projections regarding the effects of the erradication process if we do not possess such an analysis.

4.2. THE SPREAD OF THE COCA ECONOMY AND THE PROBLEM OF LABOR SHORTAGE

Within the structure of agricultural production costs in the Alto Huallaga, the average cost of contracting labor for major crops such as rice, yellow maize and manioc is proportionately the highest expenditure. In 1983 the cost of labor was of the order of 51%, 45% and 43% of total production costs respectively for each of these crops. In a parallel fashion the high profitability of coca cultivation produced a large increase in the daily rate paid by settler agriculturalists who grow this perennial crop. Thus for example in 1985 a coca grower paid his workers between 100,000 and 150,000 soles daily, as well as three meals a day. At the same time those who grew legal crops such as those mentioned above paid a third of this rate, that is to say between 30,000 and 50,000 soles daily, plus one or two meals.

In 1986, these differences are maintained, this being a clear symptom of the continuing influence of coca-based activities. Evidently the lesser relative profitability of legal agricultural products makes better wages impossible. The phenomenon of labor shortage or of the drain of daily laborers is thus inevitable, both within plots where only legal crops are grown and within cooperative associations - Agrarian Productive Cooperative "Jardines de Te el Porvenir" (tea growing cooperative) - and private or state enterprises such as Palma del Espino or EMDEPALMA respectively.

While during the 50's and 60's the regional labor shortage was a result both of the diffusion of the peasant economy and of the competition produced by tea and coffee plantations some of which paid daily wages considerably higher than the average, in the 70's this process was a consequence of the spread of the coca economy. Naturally the fact of being an agricultural frontier zone makes this problem even more acute: colonists always prefer to work on their own holdings rather than enrol as laborers.

The examples provided by the Palma del Espino and EMDEPALMA companies constitute eloquent demonstrations of this phenomenon. The former is a private company with 4,000 hectares under cultivation with oil palm, of which 2,000 hectares enter into production in October 1986. Nevetheless the labor deficit is a permanent worry for the administrators of this company. "Palma del Espino" regularly brings contract labor from Huancavelica, Cajamarca, Huancayo, etc. Furthermore, the company provides advances and food on the journey. The wage paid is 75 intis plus living quarters. Nevertheless, after a few days or weeks the wage laborers discover the daily rates paid by coca growers and choose to leave the company in search of higher wages.

In fact "Palma del Espino" is involuntarily encouraging the migration of workers who enrol as labor for the coca growers and eventually themeselves become independent growers. A similar situation occurs with EMDEPALMA. In this company which has been operating for 18 years and has 5,280 hectares under cultivation with oil palm, the optimum number of

workers is 1,100 - one laborer per five (5) hectares; apart from the wage of 65 intis daily a number of additional services such as health, subsidized food, education for children, the opportunity to buy housing, etc. contribute to a greater relative stability in comparison with Palma del Espino.

Another aspect which should be stressed is the fact that a significant sector of workers possess coca plantations outside EMDEPALMA's limits. In a sense this is a particular economic strategy by these workers, who use EMDEPALMA to cover certain basic needs such as education and health, but whose principal source of income is their coca plots. Nevertheless the problem of labor desertion also occurs here, for example a considerable number of workers who were contracted from Tayabamba in the Province of Pataz in the Department of La Libertad deserted to the coca growers a few days after arriving at EMDEPALMA's plantation.

Another typical case is that of rice growers. In the Aucayacu zone some prosperous agriculturalists contract labor from Huanuco for the rice harvest. Nevertheless, sudden desertions are daily occurences. In 1986, for example, the President of the Committee of Rice Growers (Comite de Productores de Arroz) of the Province of Leoncio Prado lost his production in 15 of 60 hectares under rice, due to problems of labor deficit. In some cases the better treatment of laborers by certain agriculturalists probably aids in the resolution of this chronic problem. Nonetheless this phenomenon has acquired such profound characteristics in its development that it would be illusory to seek its solution only in terms of better human relations.

An additional factor which makes the labor shortage more acute in the region is the early breaking up of family structure which results from the diffusion of the coca economy. Traditionally, male children abandoned the parental plot in the Alto Huallaga region around the age of 24 or 25 years. However due to the high profitability of the new crop, they now abandon the parental plot at the age of 15 or 16 years in order to start new coca plots, making the labor shortage already described even more serious. In addition, it is undeniable that one effect of terrorism has been to act as a disincentive to the entry of new daily laborers into the zone.

Additionally, in the verbal interviews with INIPA extension workers and social promoters, as well as with diverse agriculturalists, we confirmed that the labor shortage is one of the most critical effects of the spread of the coca economy in the region, and constitutes an authentic "bottle neck" for the promotion of the extension of areas under legal commercial crops.

Furthermore, those agriculturalists who originally were unwilling to enter into illicit activities, finally opted for these in the face of the pressure from increased production costs. In some cases these colonists even developed as a subsistence strategy the practice of meeting the productive costs of legal crops with the economic benefits of the coca leaf harvest.

Evidently in the hypothetical instance of erradication of coca in the Alto Huallaga, the problem would probably diminish but not disappear, given that wage laborers would migrate to new regions to which coca would be transferred. For example, in the Alto Mayo, the phenomenon of labor shortage is a product of the continual migration of day laborers to the Alto Huallaga.

In the face of the magnitude of this problem three important recommendations should be taken into consideration:

In the first place, it is absolutely necessary to carry out in the shortest possible term a study of the dynamics of labor markets in the Alto Huallaga. It is surprising that in a country where unemployment is so acute, a phenomenon such as that described above should exist. In part, this is due to the influence of terrorism which impedes further labor migration. Nevertheless it is necessary to study this aspect in depth. This investigation should be directed towards practical ends, amorgst others the search for possible solutions - albeit partial ones - to this problem. In addition it should describe the current interregional flows of labor and thus provide elements for analysis in order to formulate corrective measures. Furthermore it is necessary to discover the present weight of non-remunerated family labor compared to wage labor, as an effect of the development of coca growing. This latter aspect was not adequately studied in the Report of the Foundation for National Development. Finally, it is necessary to study the impact which erradication would have on the present levels of regional employment and unemployment.

A second recommendation which could begin to be executed immediately is the diffusion through mass media of the practice of mutual aid or ayni.

Specifically, in the Alto Huallaga there exists a widespread modality termed Choba-Choba, which groups together 5 or 6 agriculturalists, who associate with one another in order to work "reciprocally" and thus partially solve labor problems in periods of heaviest demand for labor.

In the Alto Huallaga such "societies" or work systems are little developed. This is due in part to the increase of wage labor and the high profitability of coca, which makes different modalities of non-remunerated mutual aid relatively uneconomical.

In the region of Aucayacu some extension workers have made comparatively successful attempts to promote reciprocal labor or other forms of collaboration which aim to solve the labor problem. The possibilities for greater diffusion of this to other zones are fairly high. Some success in this respect may be obtained by more intensive work both through extension workers and through social promoters in youth clubs and women's clubs. It should be remembered that the majority of colonist agriculturalists are migrants from Andean zones where the practice of ayni is a traditional modality of labor.

A third and final recommendation refers to the need to promote, in

greater measure, a more intensive use of traditional methods of labor substitution - for example the intensive cultivation of rice, the use of oxen or draught animals, as well as the use of modern harvesting and other machinery. Finally, the promotion of associative forms of labor or of alternative labor saving technology may be assigned as a task to INIPA technicians or PEAH Community Development workers. What is important in either case is to provide security and facilities to the agriculturalist in order for the successful and complete cultivation and harvesting of his legal crops. If this is not achieved, the labor deficit factor will continue to be an element encouraging a greater number of agriculturalists to opt for illegality and sow coca.

4.3. VIOLENCE AND SOCIAL TENSION

The general situation of security and public order is variable in the territory of PEAH. Between Monzon, Tingo Maria and Tocache where more than 80% of the agricultural potential of the zone is found, there are serious limitations on guarantees for free transit and the development of public and private activities, especially in rural areas.

4.3.1. TERRORISM AND SENDERO LUMINOSO SUBVERSION

The effects of subversive violence may be appreciated from the following:

- The Province of Huamalies, district of Monzon, is at present in a state of emergency, under the command of a politico-military organism with army detachments located in strategic positions.

  The Tingo Maria Extension Agency withdrew its sector workers from Monzon, Cachicoto and Palo de Acero. The UNAS closed its Pilot Center. PEAH, in the latter half of last August, started work on the maintenance of the Tingo Maria-Monzon Highway, with a strong military presence protecting this operation.

- Detachments of the Republican Guard protect the Naranjillo Cacao Processing Plant in Tingo Maria, the Jardines de Te Cooperative in La Divisoria, the Tulumayo Experimental Agricultural Station, the public company EMDEPALMA in Tocache and the Punto Arenas bridge over the Huallaga near Campanilla.

  A detachment of UMOPAR protects PEAH's headquarters in Aucayacu, and there is a detachment of the army installed in the Municipality of Aucayacu.

  The "Palma del Espino" company in Uchiza has a private security system staffed by specialized armed personnel. This company, which has already been attacked once by terrorists, has 4,000

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hectares of established oil palms and 1,000 hectares more being sown. On September 30th the company inaugurated a palm fruit and seed processing plant for the production of oil commencing in 1986.

- The Pucayacu Extension Agency was closed, and the staff of the Pueblo Nuevo Extension Agency was withdrawn to the Tulumayo Experimental Station. The technical staff of the Zonal Offices of PEAH in La Morada and Uchiza withdrew to the Project headquarters in Aucayacu. In the first days of August 1986, the protection of an army section was needed in order to transfer the charred remains of PEAH highway maintenance machinery from La Morada.

- The localities of Naranjillo, Pumahuasi, Hermilio Valdizan, Aucayacu and Nuevo Progreso - all district capitals and with populations which range from 2 to 12 thousand inhabitants - lack Municipal Councils and political authorities. The Mayor of the Province of Tocache resigned from his post last July due to threats received and because of the assassination of the Sub-Prefect of the Province. The Mayors of Pumahuasi, Aucayacu and Naranjillo were assassinated; in Aucayacu two mayors were assassinated.

- The capture of the GOMEZ ARIAS DAVILA national college, located 200 meters from UMOPAR's headquarters in Tingo Maria, by subversive elements for two hours in 1986.

- The immense quantity of slogans written along the length of the Marginal Highway, especially in the district of Crespo y Castillo (Annex No.2 to the working document corresponding to the Evaluation of the Office Component of the Project).

- The party of government, in the circumscription of the Province of Juanjui, and in order to prevent further Sendero Luminoso development which is spreading northwards along the valley, plans to install party offices in all the small population centers of the district of Campanilla. The evaluation team participated in the installation of a new district structure, with an interesting ideological talk, together with an auditorium of local people.

- In the city of Uchiza, the populace organized and put into action a group of 110 men organized as a "Peace Patrol" (Ronderos de la Paz). This had been operating for three weeks as of last August 21st.

  They administer justice and patrol the town and the highway at night. They consist of 7 to 8 groups which are headquartered in different places and communicate with one another 24 hours a day by means of radio sets. They put an end to a phase of local violence, with the approbation of the population.

The people of Uchiza rejected the protection of Sendero Luminoso and rather employed arms and grenades in order to oblige a group of 40 subversives to leave the town. The subversive group had camped in the Plaza de Armas after arriving from El Paraiso one night in August.

The first confrontation between Sendero Luminoso and a local populace in the Alto Huallaga thus occurred in Uchiza. We observed that among leaders of the local population there are persons who are well versed in the ideology of the party of government, which seems to have constituted a fundamental factor for the taking of this decision.

- The majority of neighborhood roads are blocked by barriers during the day and chains at night, as is the case of Pueblo Nuevo, Puerto Nuevo and Mohena.

- The itinerant columns of Sendero Luminoso in the rural area which were pursued and counteracted by the army during the latter months of 1984 and all of 1985 in the Province of Leoncio Prado, would seem to have evolved and become permanent nuclei throughout the rural area.

  Their proselytization and recruiting actions presuppose the establishment of an entire structure composed principally of coca agriculturalists. The impression which we gained from our interviews is that there are, for example, thousands of Sendero Luminoso followers in the district of Crespo y Castillo. Terrorist nuclei or columns are considered to exist in rural areas of Puente Durand, Cayumba, Las Palmas, Afilador, Supte-Marona-Huayhuante, Divisoria, El Porvenir, Alto Pendencia, Peru Oriental, Fundo Rico, Maronilla-Gozen; all of these on the right bank of the Huallaga. Likewise, in Venenillo, Mohena, San Martin de Pucate, Magdalena, La Morada, Yanajanka and Paraiso, on the left bank of the Huallaga.

  Last September 15th the army captured twelve (12) Sendero Luminoso terrorists in the locality of Gozen.

- It is the general impression of our interviewees that the agriculturalists of the region have learned to live with Sendero Luminoso; they accept political positions under pressure; they cultivate communal plots such as the two (2) hectares of food crops in Mohena; they accept the adjudication of lands as in Venenillo, San Martin de Pucate and Nuevo Progreso; they accept the administration of justice throughout almost the entire rural area; they reject official projects for the installation of latrines as occurred in Nuevo Progreso in July; they participate in sessions of physical training and training to use arms; they submit to the payment of contributions in cash or in kind, as is the case of the existing disposition in the La Marginal Cooperative in the Uchiza river reservoir; they submit to the

sale, at special prices, of beef cattle to subversive groups as in the case of a cattle raiser in Mohena, etc.

4.3.2. DRUG TRAFFICKING AND ITS CONSEQUENCES FOR COMMON CRIME

Drug trafficking also contributes to the creation of an environment of violence in the zone, as may be appreciated from the following observations:

- The system of maintenance and harvesting of coca plantations is effected usually by armed agriculturalists and employs workers with daily rates much higher than those paid in other agricultural activities. It is estimated that there are 60,000 hectares of coca plantations in the Alto Huallaga, with more than 75,000 persons, including family members, involved in their cultivation.

- In the relation between the agriculturalists and the purchasers of coca leaf, who are persons who operate outside the law, the former are under pressure from the latter and in many cases the transaction is obligatory. ENACO purchases a minimal proportion of coca leaf production in comparison with that which enters the illegal circuit.

- There exists a clandestine system of processing of leaf to basic cocaine paste, involving the advancing of money for this process, followed by the collection, forming of bulk supplies and bulk trading of the paste and its despatching to destinations outside the zone. All of these activities are carried out by persons who operate outside the law, and are subject to the continual settling of accounts.

4.3.3. COMPULSORY ACTIONS FOR THE ERRADICATION OF ILLEGAL COCA PLANTATIONS AND REPRESSIVE ACTIONS FOR THE ELIMINATION OF NARCOTICS TRAFFICKING

- The procedure adopted by CORAH, described in Annex No.4 of the working document corresponding to the evaluation of the Project Office Component, for the erradication of 10,231 hectares of coca plantations, affected thousands of agriculturalists who harvested this crop four (4) or five (5) times a year. The natural desire for revenge among these agriculturalists directed against official State organisms, and the need to defer as far as possible the action of CORAH, seem to have facilitated the rapid establishment of Sendero Luminoso in the rural area.

- UMOPAR in its repressive procedure sometimes affects innocent persons. Operation Condor III undertaken between November 1985 and July 1986 reported the confiscation of more than 50 metric tons of basic cocaine paste and hundreds of tons of dry leaf, with a large number of persons arrested and legal proceedings instituted for drug trafficking.

The following factors were found by the evaluation team to be the principal ones involved in this set of problems.

4.3.4. GENERAL CHARACTERISTICS AND FACTORS WHICH PRODUCE THE PROBLEM

The most important finding of the evalaution team relates to the notable increase in violence and social tension in the Alto Huallaga region, compared with that recorded for previous periods.

While it is true that during 1984 and 1985 some occurrences of this nature took place, such as for example the attack on the Civil Guard post in Aucayacu, everything would seem to indicate that this violence is on the increase and is becoming more generalized in the region. Recent events also show that this violence tends to be directed more and more against State entities and not only against police institutions.

This is reflected in the last attack which occurred in La Morada and which had as its objective the destruction of part of the machinery of PEAH. This subversive attack constitutes a clear indicator of the need to devote careful attention to this problem.

Within this context, up to the present there would appear to be four distinct sources which, in different magnitude, are producing the situation of violence and social tension.

In the first place, undeniably an important sector of agriculturalists and coca producers have acquired some kind of weapon, which though in general rudimentary may be used against strangers. This in any case constitutes a factor creating tension. Agriculturalists induced by third parties or on their own initiative have carried out group actions such as disturbances and road blocks. We should also point out that CORAH has been an important target for these disturbances and attacks, which would suggest the direct intervention and participation of coca producers in these incidents.

Secondly, we must consider violence which derives from the direct action of the drug trade and its agents, whose weaponry is the most sophisticated and modern in the region.

Drug traders have executed a large number of acts of violence,

such as the assassination of civil guards attached to UMOPAR and of members of the civilian population, as well as those which are the product of the "settling of accounts" mentioned earlier between different bands who compete for control over the commercialization of coca leaf and basic cocaine paste. Furthermore, these bands have sought confrontation with CORAH, provoking and inciting the rural population to such conflicts.

In addition, it should be noted that the mere presence of drug-related activity has produced as an immediate consequence the appearance and development of common crime which further aggravates the breaking up of moral, social and family values originally produced by drug trafficking.

Thirdly, we cannot leave aside the fact of the existence of violence of subversive or terrorist political origin, which is linked to the presence of Sendero Luminoso or as it calls itself the Peruvian Communist Party in the zone. This group has been carrying out continuous penetration in diverse areas of the region, and today would appear to be consolidating positions and expanding towards the south and the north of the Alto Huallaga. In an interview by the Nuevo Diario de Marka newspaper attributed to the maximal leader of Sendero, Abimael Guzman, the region of the Alto Huallaga is indicated as one of the principal zones in the country for the realization of the paramilitary operations of this group.

Part of the apparent initial success of this group is due to the fact that it not only constitutes a political organization with a paramilitary structure but also openly proclaims and induces the defense of coca plantations by agriculturalists. This presence and this attitude would seem in turn to be affecting the activities of other political organizations, whose real significance in the zone is thereby mediatized. It would seem too that the assassination of civil authorities (mayors, subprefects, local governors...) and the attempts upon representative state institutions have been carried out with the purpose not only of diminishing or reducing the regional presence of authorities who represent public administration, but also in order to prejudice the day to day activities of diverse political groups. The attempt recently made against the Deputy for the Department of Huanuco, Gerardo Bailon, on Sunday October 12th, is one example which shows the extreme seriousness of the expansion of Sendero in the region.

These events show that there exists terrorist activity which is sui generis and distinct from that of drug traffickers, and that it is not acceptable to identify or confuse the origin of these acts of violence with others which are provoked exclusively for criminal ends and purposes.

The ideological precision of the written slogans found all along the Marginal Highway, the nature of the demands made, the exacting

of forced payments and the destruction of Voters' Credentials, denote a terrorist attitude which is distinguishable from that of the drug trade. This is even more clear given that it is accompanied by ideological infiltration which is becoming more and more noticeable among the younger strata of the population.

A fourth factor, which produces an increase in the social tension borne by the zone, is undoubtedly constituted by the program executed by CORAH and UMOPAR as part of the Erradication Plan for coca crops.

Is is undeniable, in this respect, that the coercive method employed by CORAH with the logistic support of UMOPAR constitutes a factor which subsequently produces reactions of resistance and even counteraction by the affected population, independently of the merits or demerits of the plan as such. This acquires greater relevance when we take into account the fact that CORAH orients the "erradicated" colonists towards seeking technical and credit assistance from PEAH. Nevertheless for a series of reasons this institution cannot meet their demands. In general, the erradicated colonists are located in hillside zones where PEAH does not operate due to lack of resources or due to the existing conditions of violence. This in turn increases the resentment of the agriculturalists not only against CORAH but also against PEAH. In the opinion of the evaluation team, in spite of the fact that in reality the PEAH-CORAH relation has not functioned, the final effect of this relationship for the former institution has been definitively adverse and negative.

This situation coupled to the fact that CORAH receives logistic support from UMOPAR, have caused an important sector of the rural population to fail to distinguish clearly between these three distinct entities; and this fact is taken advantage of by the drug trade and by subversives in order to detract from and distort the achievements of PEAH.

In general terms the manifestly negative image of the Project to which we refer is the result of a series of circumstances and specific processes, which have led to a significant though not easily quantifiable sector of the rural population possessing a distorted and non-constructive opinion of the Project. Nonetheless, this problem should also be analysed in terms of the conception of PEAH and its relation to the process of erradication executed by CORAH. While it is true that PEAH was designed to improve the conditions of regional legal agricultural production, the emphasis in Project Paper on the need to attend in priority form erradicated agriculturalists must logically constitute a risk inherent in the institutional life of the Project. Among diverse circles of the urban and rural population of the Alto Huallaga there is clear awareness of the PEAH-CORAH relationship. The violent and erradicationist image of CORAH has evidently affected PEAH's image not only among coca growers , but also among other

economic sectors indirectly articulated with the economic benefits made possible by the drug trade.

4.3.5. IMPLICATIONS OF VIOLENCE WITH RELATION TO PEAH

The negative effects which violence in its diverse variants has had on the functioning of PEAH, constitute an aspect which must be carefully analyzed. The origin of the problems currently facing the Project in this regard may be traced to the lack of correspondence between the explicit and implicit presuppositions and general objectives contained in Project Paper at the time of its writing in 1981, and subsequent events in the region in the following years. Undoubtedly the extraordinary development of coca, at an even faster pace than in previous years; the increase in terrorist or other types of violence; high rates of mobility, especially of "erradicated" coca growing peasants; the violent reaction of coca growers to the actions of CORAH; terrorist attacks on infrastructure and installations of state institutions, etc., all constitute aspects which were not foreseen in the original Project documents. Thus the Special Project has had to bear the burden of a series of political and social events as well as of particular economic phenomena for which it was not specifically conceived and was thus ill prepared to face.

For the reasons outlined above, it is impbrtant to evaluate the set of problems originated by the situation of violence and its relation to PEAH, both in terms of its role as a state or governmental institution and in terms of its character as a regional development program. It should be stressed that almost all the components have been directly or indirectly affected by the activities of paramilitary groups. Both on the basis of the Evaluation Report on Progress by Components: Period 1982-June 1985 elaborated by PEAH, and on that of the findings in the field of each member of the evaluation team, we may assert categorically that there is not a single component which is free from this problem.

If for example we effect an analysis of the present spatial coverage of the Extension and Social Promotion Component executed by INIPA, we find that there has been an accentuated retreat in the work of several extension agencies such as La Morada, Pucayacu, Pueblo Nueveo and Rio Uchiza. In these agencies certain sectors have ceased to be attended or the volume of activities considerably reduced, due to the explicit threats of Sendero Luminoso against extension workers and social promoters. This terrorist group usually demands information about PEAH, exacts contributions and even physically and psychologically mistreats the technical staff. This sector of workers is that which has been most directly damaged by the actions and attacks perpetrated by Sendero.

Within PEAH itself, we may observe the development of a psychological defense mechanism of readjustment to the situation of regional violence, amongst the functionaries and employees resident in the Project installations. Up until the date of the terrorist attacks on PEAH headquarters, many entire families lived in Aucayacu, but after these events it was logical that family disintegration and profound changes in the attitude of the staff should occur. Nevertheless, many PEAH personnel members, as a consequence of their natural desire to retain their employment, do not openly express their fears but rather attempt, consciously or unconsciously, to avoid entering into conversation on this point or to accord it little apparent importance. However, we would insist that there undeniably exists a real feeling of insecurity, fear and uncertainty among the group of employees. Any strange noise or shot fired into the air by members of UMOPAR is a cause for concern. What is more, several professionals who occupy important posts within the organization have communicated to us their desire to resign or in any case consider their work as temporary. This evidently prejudices the efficiency and the future plans of PEAH, since it implies the loss of accumulated knowledge and experience.

Finally, we should mention that in spite of the fact that the decision to execute actions directly as in the case of the Community development Component was a positive one, we do not consider that this in any sense neutralizes the actions of Sendero Luminoso or alters drastically the image of PEAH in the more marginal zones where the majority of agriculturalists are located.

5. GENERAL CONCLUSIONS AND RECOMMENDATIONS

The evaluation of the project revealed the existence of problems which affect the execution of PEAH in its totality and are related to the conceptual presuppositions of Project Paper, to the environment within which the Project operates and to general aspects of strategy and modality of execution. These problems of a general nature are of such magnitude that they indicate the advisability of structuring a new project based on an up-to-date analysis of the situation, and involving the design of a new strategy which would draw on the experience accumulated over the years for which PEAH has operated.

The execution of the studies and formulation of a new Project should not imply the paralysis of the current activities of PEAH, but should be carried out in a parallel fashion during the period for which the Project was extended by Amendment No. 5. This should permit the culmination of negotiations for financing in order to avoid the paralysis of activities directed towards resolving the complex problems of the zone, which given their magnitude do not lend themselves to short-term solutions.

As is explained below, apart from the general recommendations which refer to the Project in its totality, it was considered necessary to formulate recommendations of a specific nature for each Component in order to improve the execution of the Components during the next two years, in accordance with Project objectives.

5.1. CONCLUSIONS

CONCEPTUAL PRESUPPOSITIONS OF THE PROJECT

In Project Paper a series of presuppositions formulated which were proved to be definitively invalid due to the influence of diverse factors for the most part beyond the control of the Executive Direction of the Project.

1. The colonists on flat lands as well as those occupying steep slopes showed a high rate of mobility as a reaction to the erradication process, moving to other zones of the Alto Huallaga. In addition, these agriculturalists did not request credit and technical assistance to the degree which had been anticipated. Their persistence in the cultivation of coca in other regions further from the Project ambit, maintained their productive strategy which is to subsidize the production costs of legal crops with coca profits.

2. As a corollary of this, there was no significant increase in hectares under cultivation nor in the productivity of the principal legal regional crops located in flat areas. In Project Paper it was emphasized that the actions of the diverse components should be concentrated in flat areas, since this was where the most rapid growth

in regional production was to be obtained. Nevertheless, the rationality of the agriculturalists was to under-utilize the plots with better soils and intensify production on coca plots on hillsides, both for reasons of security and for ecological reasons.

3. With respect to erradicated agriculturalists, since PEAH's working ambit was limited to those located in flat areas, the impact of the Project could not be truly significant. According to our estimates between 70% and 80% of coca agriculturalists are settled on hills or slopes of accentuated gradient which were not attended by PEAH.

   By the same token, an aspect which should be of major importance, the Forestry Component, is not even mentioned. This is at least paradoxical in a region where lands classified as apt for forestry use constitute a considerable proportion of the total area. It is logical that, in a new Project, the emphasis should be oriented towards agroforestry systems and not limited to the development of the modality of monocrops.

4. Due to the fact that in large part the success of PEAH was predicated on an effective and massive erradication campaign by CORAH, which in reality did not occur, the implementation of Project objectives was subject to unanticipated factors producing disorder. At a certain stage the Project began to suffer the consequences of its identification with the activities of CORAH, and the aims of both institutions even began to be confused. To this was added the fact that PEAH came to be identified with UMOPAR, since this latter employed infrastructure and vehicles belonging to the Project. As a consequence of this and as far as the majority of the rural population are concerned PEAH has a negative image linked directly to the compulsory erradication process.

ENVIRONMENT

5. A factor which proved to be unmanageable and which definitely constituted a further element in the disorganization of the initial goals of the Project was the unanticipated presence and expansion of Sendero Luminoso, above all in the southern and central zones of the Alto Huallaga. This subversive group obtained considerable support among a sector of erradicated agriculturalists between 1983 and 1986. In the opinion of the evaluation team the system of forced erradication of coca crops has contributed to the relatively rapid penetration of the zone by Sendero Luminoso. Furthermore, this group has carried out important activities and attacks, terrorizing and demoralizing many extension workers, promoters and even PEAH personnel (see Section 4.3.5). Unlike the coca zone of Chapare in Bolivia, where drug trading is the factor which generates violence, in the Alto Huallaga we find superimposed upon this the additional element of terrorism which is equally serious and hard to control.

6. Terrorism and Sendero Luminoso subversion; drug trafficking and its consequences for common crime; the compulsory actions for the erradication of illegal coca plantations; and repressive actions for the elimination of the drug trade , have converted the rural area of most of the Alto Huallaga valley in a series of free zones occupied by a high proportion of armed coca agriculturalists. Likewise, urban areas at district and sub-district level have become a series of population centers without administrative or political authority. The climate of violence thus created impedes the carrying out of integral development actions.

7. The formation, organization and political mobilization which should be carried out by political parties under normal circumstances in order to reinforce their institutional presence and thus reinforce the democratic system, do not exist in a normal form. This type of activity is developed with certain regularity by the party of government and by left-wing Marxist groups only in the city of Tingo Maria.

   The presence of Sendero Luminoso in rural zones does not permit the free exercise of democratic life in the remaining areas of the Project, due to the totalitarian and authoritarian characteristics of Sendero, which create fear among the population. This situation is reflected in the lack of candidates for the recent municipal elections at a district level.

8. The expansion of coca cultivation in the Alto Huallaga has been intensified in the past few years, stimulated principally by an increase in the demand for cocaine, As of March 1986 there exist 60,000 hectares of coca crops located along 300 kilometers of the Huallaga river, above all on the left bank and in the zone of Monzon.

9. The annual total value of the production of dry coca leaf from these 60,000 hectares totals 270 million dollars. Further, the income generated by the sale of basic cocaine paste at the level of the initial intermediary is estimated at 630 million dollars per year, which corresponds to the value of 900 tons of basic cocaine paste. We should stress the magnitude of these amounts which enter into circulation in the regional economy.

10. The expansion of coca cultivation in the Alto Huallaga generates an acute labor shortage and increased labor costs, which considerably increase the costs of production of legal crops.

PROJECT STRATEGY

11. It is impossible to conceive of a Development Project for the Alto Huallaga without taking into account the problems generated by subversion and terrorism, by drug trading and by the expansion of coca

crops.

12. The pilot strategy for combatting coca in the Alto Huallaga has not been able to be applied in sufficient measure in order to attain the objectives programmed. Likewise, it has been affected by the climate of violence which has been generated within the zone. The resources which were assigned were clearly disproportionately small compared to the magnitude of the problems which were confronted and in particular to the volume of money mobilized by the drug trade.

13. The implicit presupposition that State executive entities would function efficiently in order to successfully carry out the activities for which they were responsible has not in most cases been confirmed.

14. The executive entities corresponding to the Project components at a local level possess differing degrees of implementation, hierarchical and decision-making levels, territorial ambits, administrative systems, institutional priorities and so on, which makes it extremely difficult for them to carry out coordinated and integral actions which would benefit agriculturalists.

    The reinforcement of most of the executive entities by PEAH's contributions does not guarantee the continuity of their operations at the conclusion of the Project, given that the respective sectors of Public Administration do not grant the priorities and resources which would be necessary for this purpose.

15. The activities which were contemplated within the Project did not include certain fundamental aspects which would ensure the development of the productive process. Such is the case of a assured market for licit products and the incentives which are necessary to promote licit production which is in continual competition with coca.

    Likewise, aspects of great importance such as that of forestry and the protection of the environment were not contemplated within the conception of the Project, in spite of their close linkage to the problem of coca crop expansion.

ADMINISTRATION OF THE PROJECT

16. PEAH did not establish an adequate planning process which would have involved an orderly and clear presentation of the definition of the problem, hypotheses, objectives and goals of each of the Project Components, in order that these should concur with the attainment of Project objectives. Planning was based on Annual Operative Plans, with goals which referred to activities but without examining "what contribution is to be made to the development of the agriculturalist in the region, nor in what magnitude, how and when". Given this methodology it was difficult to measure the effect of the actions of such components as Research, Extension, Credit, etc.

17. It was found that the general level of remunerations to Project personnel and especially within the executive entities is very low, taking into account the high cost of living in the zone. Furthermore, considerable differences were found between the salaries of permanent and contract staff who occupy similar posts but who possess differing contractual status.

5.2. RECOMMENDATIONS

1. The pilot strategy for combatting the expansion of coca in the Alto Huallaga should be revised and readjusted, taking into account new factors present in the zone and which include subversion, terrorism and violence, as well as the expansion of coca and the worsening of the drug trafficking problem.

2. The zone should be pacified by the application of anti-subversive strategies and strategies for combatting drug trafficking, which should be designed by specialists in both of these politico-social phenomena. The central characteristic of this pacification campaign is that it should be based on simultaneous actions combatting paramilitary Sendero groups and drug traffickers. At the same time, it should also be based on the control of the illicit trade in narcotics. In order to achieve this latter it is recommended that there be closer coordination between military and police forces.

3. We consider that the most fundamental element of such a strategy should be the efficacious combatting of drug trafficking, which in the first instance would eliminate the despatching of large volumes of drugs, principally by air. This would constitute a disincentive to coca cultivation and would facilitate the erradication of plantations as well as generating favorable conditions for eventual negotiations regarding erradication and substitution with coca agriculturalists. Faced with the process of control of the drug trade, agriculturalists would find themselves in evident conditions of inferiority when entering into such negotiations.

4. An integral campaign should be carried out through the mass media (radio and television). This campaign should be carried out and transmitted from other zones of the country, given the problem of violence. Its object would be to affirm and diffuse democratic thought and thus counteract ideological infiltration by Sendero Luminoso. In addition other instruments could be employed such as talks or seminars of short duration directed to specific persons or groups (teachers, professional persons, university students, public sector employees, municipal employees, etc.) and the production and distribution of written material. The content of this material might be based on the principles of our Political Constitution of 1979.

5. In order to obtain more realistic empirical bases for the readjustment

of the pilot strategy, it is recommended that amongst others a study be carried out of the current impact of the coca economy in the region, and in addition an in-depth analysis of labor markets, given the acute labor shortage. This latter study should also estimate the effects of erradication on the current levels of employment and unemployment in the Alto Huallaga.

6. PEAH should revise and redesign the logical framework of the Project, since this should constitute the principal planning instrument for the programming of activities, for follow-up and for evaluation. The Operative Plans of each Component should be structured and elaborated in such a manner as to constitute part of a Global Plan oriented towards the successful achievement of the Project objectives.

7. PEAH should directly assume the execution of a considerable proportion of the activities programmed, while public organisms should fulfill a supervisory and normative role. Furthermore, the evaluation team suggests that this distribution of responsibilities should be accompanied by the execution of the corrective measures indicated in the Recommendations for each of the Project Components.

8. The necessary studies should be carried out for the structuring of a new Development Project for the Alto Huallaga which should be placed within the context of the new pilot strategy and should obey the following general guidelines:

   a) The Project should orient itself towards the integral development of the region and the suitable use of its natural resources.

   b) The Project Components should be designed in order to establish conditions which would truly provide an incentive to licit productive activities on the part of the population settled in the zone.

   c) Development should include both agricultural and agroforestry production and also the management of forestry resources and the protection of the ecological environment. To this end the corresponding components or activities should be included within the conception of the Project.

   d) A component should be included which would reinforce or create the market for regional licit products, and this component should operate in the fields of collection of bulk supplies, storage, commercialization, prices, external markets, export problems, etc.

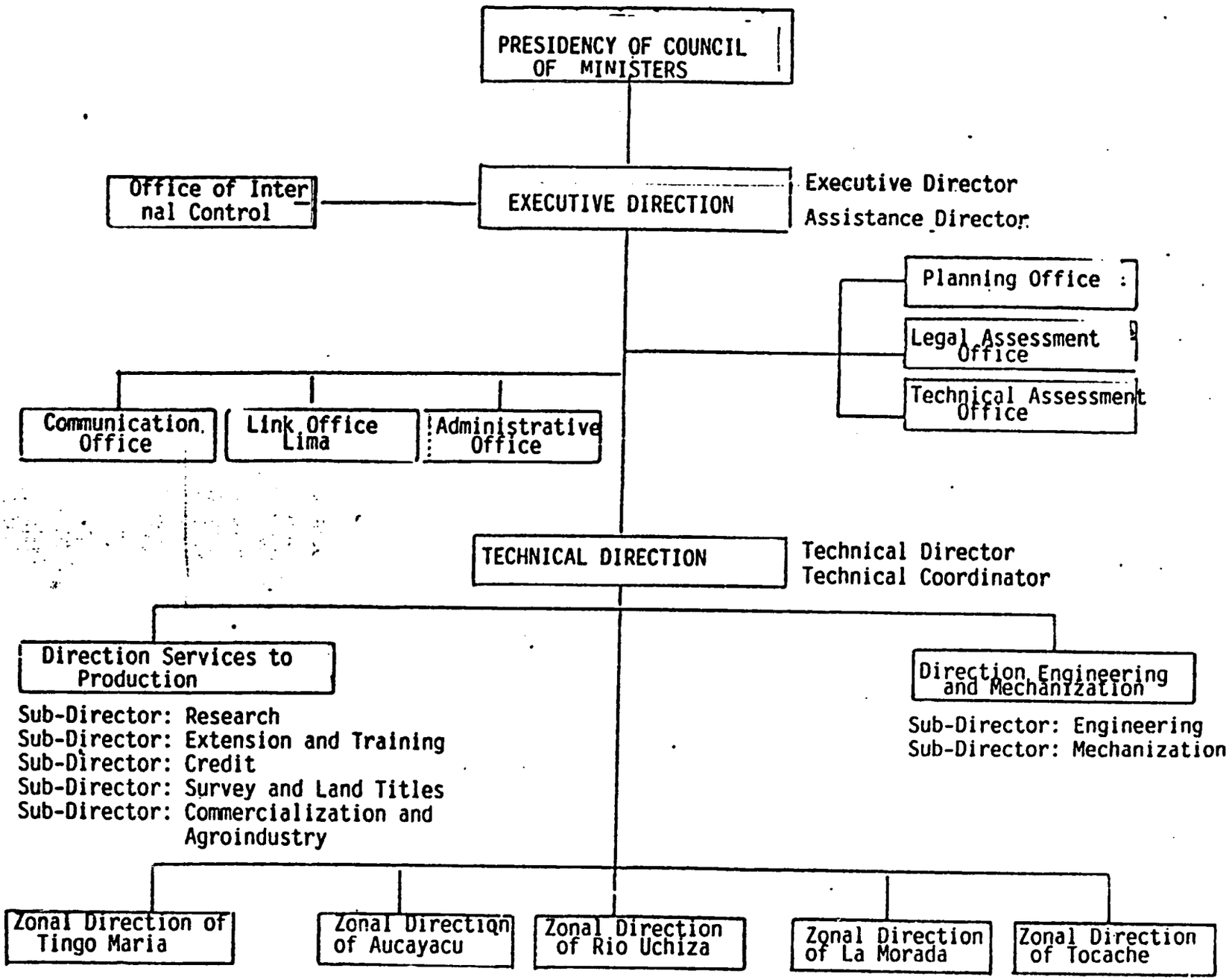
   e) The institutional organization of the Project should be restructured, dividing it into Work Projects and Functional Components. The former are of a vertical nature, and include for example groups of agriculturalists linked by a particular productive activity or activities, while the latter or Components correspond to those basic factors which activate the productive process, as well as social aspects of the beneficiary population.

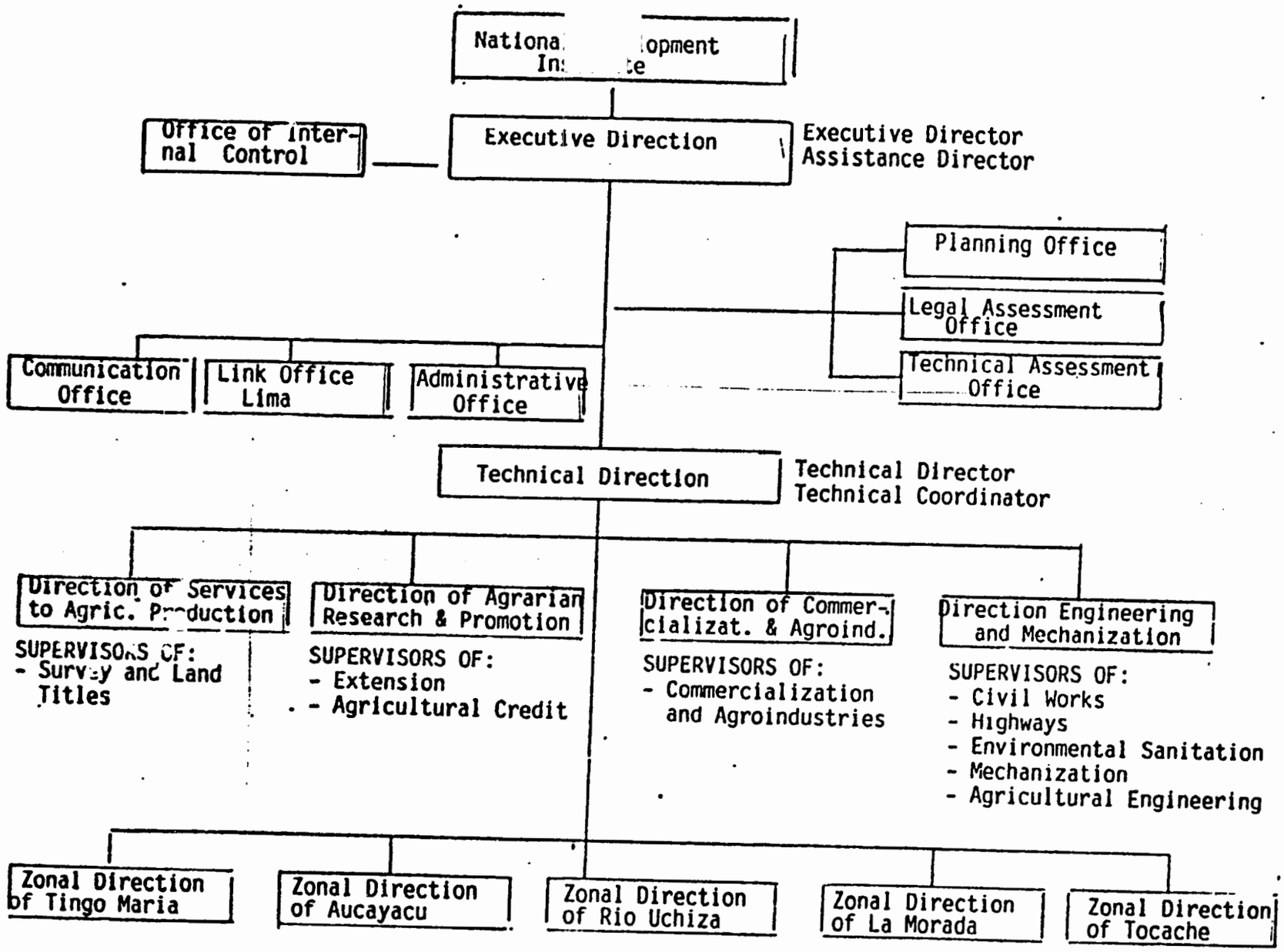
f) The Work Projects should be integral and are conceived of as medium or long term multidisciplinary and intercomponent actions.

g) Each Work Project should be characterized by the participation of representatives of organized producers from the planning to the evaluation stage.

h) A Technical Direction should be installed for the Project, which should be composed of professionals who have demonstrated their capacity in agrarian production and rural development. This body would approve the general guidelines and the plans of each Work Project.

OR IZATION FLOW DIAG N°1 : EXECUTIVE DIRECTION PEAH 1981-1983

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Technical Assessment Office
Communication Office
Link Office Lima
Administrative Office
Technical Direction
Technical Director
Technical Coordinator
Direction of Services to Agric. Production
SUPERVISORS OF:
- Survey and Land Titles
Direction of Agrarian Research & Promotion
SUPERVISORS OF:
- Extension
- Agricultural Credit
Direction of Commercializat. & Agroind.
SUPERVISORS OF:
- Commercialization and Agroindustries
Direction Engineering and Mechanization
SUPERVISORS OF:
- Civil Works
- Highways
- Environmental Sanitation
- Mechanization
- Agricultural Engineering
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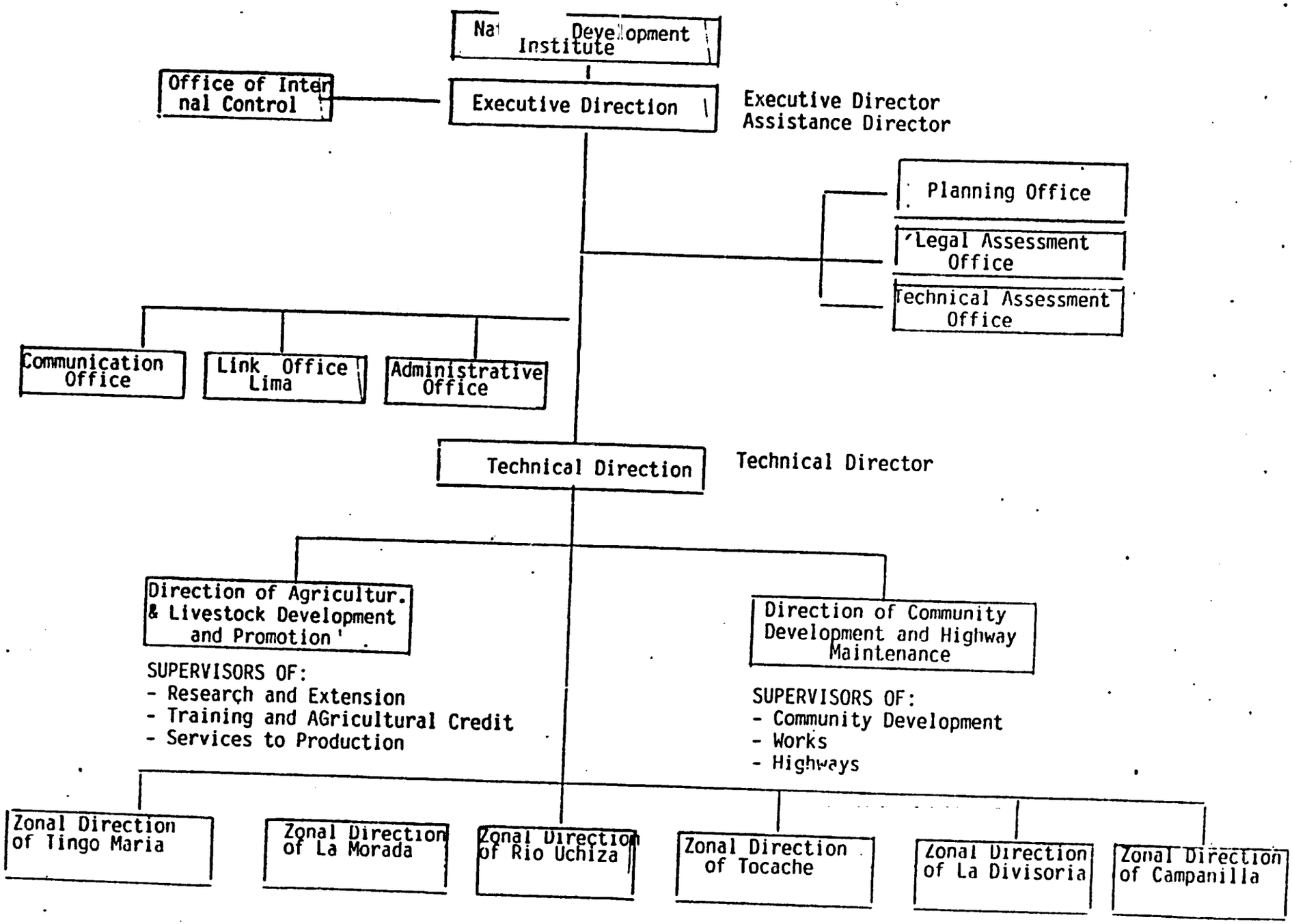
Zonal Direction of Aucayacu
Zonal Direction of Rio Uchiza
Zonal Direction of La Morada
Zonal Direction of Tocache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Administrative Office
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Technical Director
Direction of Agricultur. & Livestock Development and Promotion
SUPERVISORS OF:
- Research and Extension
- Training and AGricultural Credit
- Services to Production
Direction of Community Development and Highway Maintenance
SUPERVISORS OF:
- Community Development
- Works
- Highways
Zonal Direction of Tingo Maria
Zonal Direction of La Morada
Zonal Direction of Rio Uchiza
Zonal Direction of Tocache
Zonal Direction of La Divisoria
Zonal Direction of Campanilla

6. EVALUATION OF THE COMPONENTS

6.1. PROJECT OFFICE COMPONENT

The Project Office is the organism which directs PEAH, and is responsible for decision making as regards the execution of the activities which are envisaged in order to achieve the objectives and goals of this Special Project, as described in the following section.

The methodology employed for evaluation consisted of the analysis of documents as well as interviews with functionaries and authorities of PEAH and of each Component. In addition, in order to confirm data four visits to the Project zone were made between July and September 1986. During these visits the evaluation team interviewed agriculturalists in the valley.

6.1.1. DEFINITION OF THE COMPONENT

The Project Office or Executive Direction of PEAH is conceived of as a small organism based in Aucayacu and which should be adequately equipped and staffed by highly specialized technicians having powers of decision in order to:

- Serve as a financial intermediary between AID and the Public Treasury and the executive entities of the Project Components (Table 9).

- Supervise the public administrative authorities in the carrying out of a set of activities conducive to rural development, in an extremely difficult environment due to the ecological characteristics of the geographical ambit as well as to the socio-economic problems generated by coca growing and the drug trade.

- Within a five (5) year time span, test and develop agricultural technological packages and potentiate the public organisms operating in the agrarian sector in the Alto Huallaga. This time span was subsequently increased to seven (7) years.

TABLE 9

FUNDS ASSIGNED TO PEAH
(thousands of US$)

SOURCE	AID AGREEMENT 527-0244 9.15.81-9.15.86	AMENDMENT 5 TO AGREEMENT 9.15.81-9.15.88	TOTAL BUDGET
AID			
- LOAN	15,000	---	15,000
- DONATION	3,000	5,400	8,400
SUB-TOTAL	18,000	5,400	23,400
PERUVIAN GOVERNMENT	8,500	2,558	11,058
TOTAL	26,500	7,958	34,458

6.1.2. CONCLUSIONS

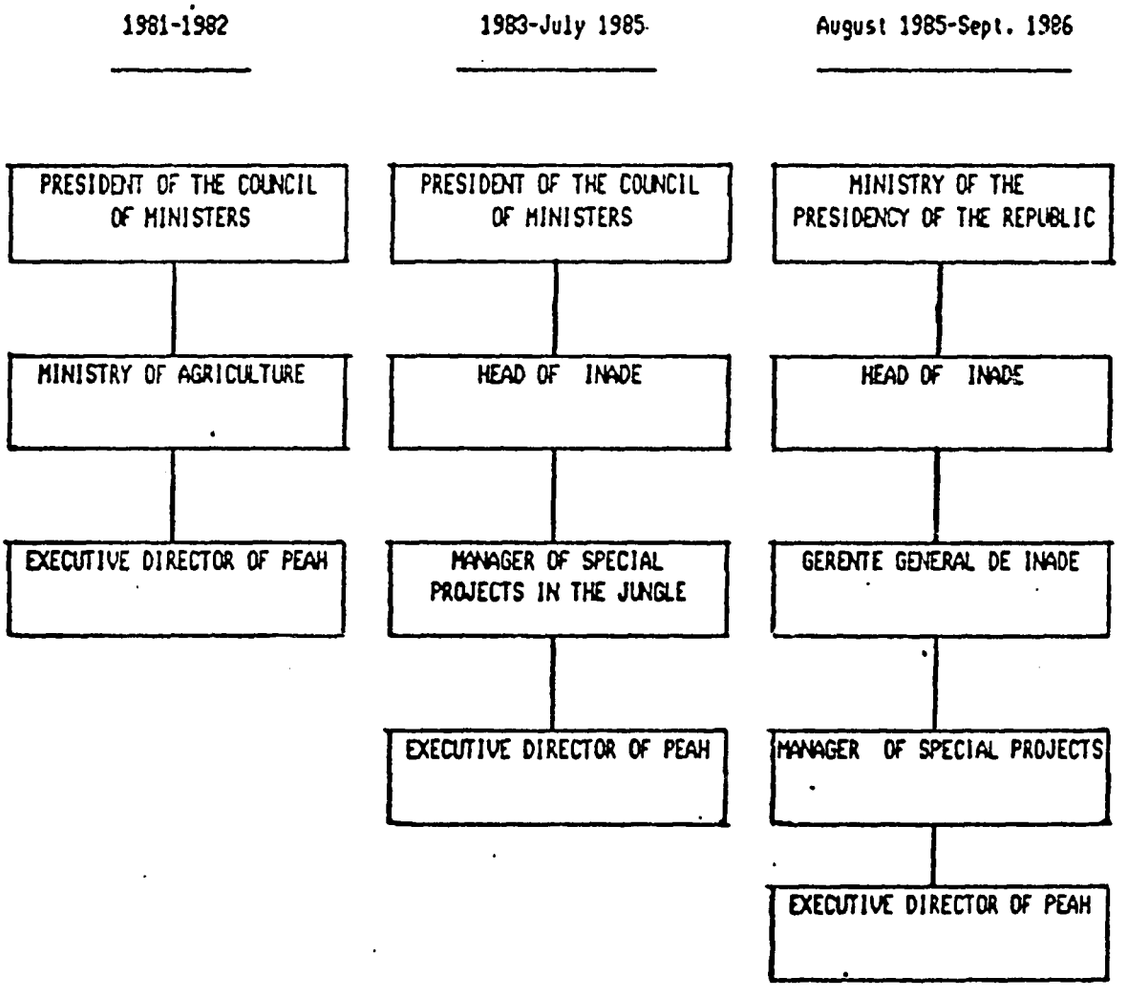
PLANNING AND ORGANIZATION

1. The process of planning and evaluation of PEAH is carried out on the basis of physical goals corresponding to each of the components. Very little use is made of the data bank which has been created by the OSE-MA component.

2. The changes which have occurred in the internal organization of PEAH (Organizational Flow Diagrams 1-3) have been limited principally to the separation or amalgamation of Line Directions, maintaining the initial conception of Zonal Offices as the basis of decentralized operations.

   There is a duplication of supervisory functions between the Line organisms and the Zonal Offices of PEAH. Furthermore, there is duplication of certain activities in the field of

TABLE 10 : POSITION OF THE EXECUTIVE DIRECTION OF PEAH IN RELATION TO THE STRUCTURE OF EXECUTIVE POWERS



social promotion, such as for instance the installation of cultivated plots in schools, between PEAH and the Extension Agencies. This situation is likely to create problems of competition, in the former case internal and in the latter institutional, which should be avoided.

3. The three (3) posts within the Executive Direction precede vertically two (2) Line Directions and six (6) Zonal Directions, which generates an excessive number of intermediaries between the direction of the Project and the executive bases.

4. With the creation of the Ministry of the Presidency and the restructuring of INADE, the hierarchical level of the Executive Director, within the administrative structure of the State, has been notably diminished, as may be seen from Table 10.

   Coordinations with the Minister of Agriculture and other Sector Heads are carried out through officially established channels. This procedure reduces the possibility of providing up-to-date information and also of obtaining rapid solutions to problems which require decisions outside the jurisdiction of the Executive Direction and the Regional Heads of each sector.

FUNCTIONING

5. The beneficiary population is virtually unaware of the nature of PEAH and the activities which it carries out, and this leads the population to fail to identify PEAH workers with the development actions which are carried out by the Project.

6. The stability of technical personnel is of great importance in a project of this nature. This stability permits administrative continuity and allows actions to be progressively adapted to the environment without internal crises.

   This policy should be maintained and extended to the personnel of the Executive Entities, offering in addition the necessary incentives in order to reduce the continual loss of human capital in experienced technical and administrative personnel which is currently the rule at all levels.

7. In the administration of the Agreements signed to date, the evaluation team found the following:

   - Preferential attention to the Agricultural Credit Component, with only relative success.

   - A fundamental change in the execution of the Highway

Maintenance component.

- A prolonged delay in the installation of the storage and rice and maize drying equipment.

- Delays in the provision of equipment to the Components.

- Differences in functioning of the executive entities.

- Duplication of supervision of activities.

- The direct execution of works by PEAH.

- A negative image of PEAH among the rural population, especially in the coca growing areas.

In addition, there exist special situations which affect the productive process in the valley and which are the product of the conceptualization of PEAH as a transitory organism which carries out its actions and works by means of intermediaries.

8. After five (5) years of operation of the project the state of execution of the budget would indicate that programmed investments may feasibly be executed.

Agricultural Credit has been the PEAH component which has presented the most difficulties in terms of the investment of resources which had been programmed. The resources destined to this component have been reduced by a million dollars, which has been transferred to the Community Development, Project Office, Highway Maintenance and Agricultural Extension Components principally.

9. CORDESAM in its Tocache microregion, which the Government has termed a priority area, has begun to execute an important package of works under the heading of Integral Community Development Projects of the Alto Huallaga Microregion, in the ambit of Tocache Province, which are of similar characteristics and scope to those carried out by PEAH in this same territory.

ADMINISTRATION

10. The Project Office was conceived of as a unit for the administration of resources and the supervision of activities which should be executed by the corresponding public entities by means of Agreements.

The Project Office has assumed the direct execution of some

activities of some Components, and as a consequence of Amendment No.5 its direct actions in the field of community development will be increased. This has generated an appreciable growth above all in its administrative structure, which gives the impression of an institution which is over-dimensioned.

11. In order to meet technical norms in terms of control, accounting, payroll and warehouse management, all of which are carried out manually in PEAH, the services of a large number of persons are required in the Administration Office. As of 1986 31% of PEAH employees work in the Administration Office in Aucayacu.

12. The majority of PEAH laborers and employees are located in the Executive Direction headquarters in Aucayacu. The Zonal Offices between 1982 and 1985 had between one (1) and three (3) employees each Office; and at present have between two (2) and six (6) employees each. Thus 19% of employees are currently working in the Zonal Offices, which indicates a certain degree of decentralization and in turn increases PEAH's presence at a local level.

6.1.3. RECOMMENDATIONS

1. An analysis should be carried out of the existing statistical information, verifying its reliability in order for use by the Executive Direction of PEAH and in order to offer it to other components especially Research and Extension.

   The functional relations between the Planning Office and OSE-MA should be increased.

   The elaboration of the "Logical Framework of PEAH" should be concluded in order to commence its application. In order to gain a global vision of the achievements and to identify the contributions of each Component, additional indicators should be established, apart from the goals of each Component, which would facilitate the supervision of the Components and follow-up of the Project.

2. The duplication of activities between the Executive Direction of the Project and the executive entities of each Component should be avoided; rather, the supervision which is carried out by PEAH should be complemented by assessment and specialized technical assistance.

3. Greater coordination should be developed between the Executive Direction of PEAH, the Line Directions and the Zonal

Directions, by means of periodic meetings which should be at least monthly.

4. A coordination mechanism should be established with the direction and support of INADE, and which should be composed of the Vice-Ministers of the Sectors responsible for the most important activities of the Project. The Executive Secretary's Office could also be entrusted to INADE itself.

5. The Communications Office of PEAH should be reinforced as necessary, in order to design and diffuse an intensive program of messages of interest to the peasant population and regarding the advances in the work of PEAH's components. This program would preferentially employ the radio stations which already exist in the zone. Extension workers and Social Promotion technicians should actively participate in this program.

6. It is recommended that certain posts which become vacant in the future should be filled by the hiring of social scientists and forestry specialists, in both assessment and first line posts. This is advisable since at present PEAH personnel is composed almost entirely of engineers, economists and accountants.

7. An active coordination mechanism should be established between PEAH and CORDESAN in terms of the elaboration of operative plans and the execution of actions. This coordination should be carried out in the Microregion of Tocache and the Corporation's headquarters in Moyobamba. Thus situations of budget duplication for the same activity, such as at present occurs with the maintenance of neighborhood roads in the Tocache Province, would be avoided.

8. The hiring of new administrative personnel should be limited to filling posts which become vacant and which are indispensable within the Project.

9. Taking into account the state of public security and the time left for the execution of PEAH, it is recommended that the decentralization of Zonal Offices should be carried out, in order that these may effect directly the Community Development actions which have been programmed. Priority reinforcement should be given to the Zonal Offices of Tingo Maria, Tocache and Campanilla.

10. In order to execute the new activities considered within Amendment No. 5 it is recommended that the Line Directions (at present termed Coordinations) should be restructured with the following distribution of responsibilities:

- Agricultural Development;
- Community Development;
- Highway Maintenance;
- Engineering and Works; and
- Special Actions.

6.2. RESEARCH COMPONENT

6.2.1. OBJECTIVES

The objectives of research activities supported by PEAH may be separated into operative and institutional objectives.

6.2.1.1. OPERATIVE OBJECTIVES

a) GENERAL OBJECTIVE

To achieve the development of agricultural and livestock technologies which constitute alternative sources of socio-economic income appropriate to the reality of the population within the ambit of PEAH, by means of the selection of agricultural and livestock production systems superior to those which traditionally exist in the Alto Huallaga region.

b) SPECIFIC OBJECTIVES

- To attain a full knowledge of the agricultural, economic and social efficiency of different agricultural and livestock productive systems in order for their use in harmony with the ecological environment of the Alto Huallaga.

- To obtain crops and livestock varieties with comparative advantages for the different micro-ecological environments and agricultural and livestock productive systems in the Alto Huallaga ambit.

- To obtain information regarding the socio-economic aspects of systems of agricultural and livestock production, including amongst other aspects the yield per unit of time and area of the crops and animal species concerned, labor input, income returned in relation to production costs and the influence on nutritional levels.

6.2.1.2 INSTITUTIONAL OBJECTIVES

a) GENERAL OBJECTIVE

To improve the installed capacity for agricultural and livestock research in the Alto Huallaga, in order for this to make a real contribution as a basic element in the productive process of the crops and domesticated animals which already exist or which appear to have economic and social potential for the ambit of the Alto Huallaga region.

b) SPECIFIC OBJECTIVE

To strengthen the physical infrastructure in terms of laboratories, germ plasm, machinery and others, thus improving work efficiency in the Experimental Agricultural Station at Tulumayo and the Experimental Sub-Stations of La Divisoria and Tocache.

6.2.2. GOALS

The goals established refer to the number of experiments per year and per executive organism as may be seen from Table 11 which follows:

TABLE 11

NUMBER OF EXPERIMENTS PER YEAR AND PER EXECUTIVE ORGAN

EXECUTIVE ORGANISMS	YEARS					TOTAL
	1982	1983	1984	1985	1986	
Tulumayo Exp. Station	154	158	167	177	182	838
La Divisoria Sub-Station	20	25	33	43	45	166
Tocache Sub-Station	48	53	62	72	85	320
Yurimaguas Link Station(o)	4	7	9	9	9	38
Pucallpa Link Station(o)	4	7	9	9	9	38
Amazon Research Network(x)	-	x	x	-	-	
TOTAL/YEARS	230	250	280	310	330	1,400

(o) The Yurimaguas Experimental Station of CIPA XVI-IQUITOS and the Pucallpa Experimental Sub-Station of CIPA XVIII will act as Link Stations for the execution of research adapted to the area of the "Alto Huallaga Regional Development Project".

(x) The "Alto Huallaga Regional Development Project" should support the actions of programming and training for research in the Amazon Basin.

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6.2.3. CONCLUSIONS

From the review of the documents relating to research, and from the visits made to agriculturalists' fields and to experimental plots the following conclusions may be drawn:

1. The number of experiments per year and per executive organism was programmed on the assumption that the professional staff newly hired in order to conduct research had broad experience in this field. Also, it was assumed that the flow of financial support and facilities would be available immediately from the beginning of 1982. These assumptions were not confirmed, the major drawback being the delays in administration of funds with the consequent bureaucratic obstacles found in all the entities linked to PEAH.

2. The research hypothesis put forward by the Long Term Technical Advisor who was hired to serve the Research and Training Components and to effect coordinations as representative of IRI states: "There is not sufficient available agricultural information relevant to the Project Zone for the support of the process of transfer of technology". This hypothesis might be valid if we concentrated only on the information obtained during the past three (3) years. But fortunately, there is abundant agricultural information. For example, in the case of a traditional crop such as coffee, there has been information available for 22 years which permits the assurance of yields of 60 quintals per hectare per year, using acid soils on hillsides such as those where coca is currently grown.

3. There does not exist any written information regarding the work of the Long Term Technical Advisor in research, apart from the comment quoted above. This would seem to corroborate the lack of communication established between the Advisor and the professional staff of the Tulumayo Experimental Station.

4. Originally it was planned that collaborative work should be carried out between the Research Programs of the Alto Huallaga and those of Yurimaguas and Pucallpa. Nonetheless this has only been partially fulfilled in the case of Yurimaguas, and no collaborative action has been undertaken with Pucallpa.

5. In the annual operative plans of the Research Component the execution of validation experiments in producers' lands has not been contemplated. Neither have the recommendations of the short term Technical Advisors been taken into account.

6. In the research projects which form part of the annual operative plans, in the majority of cases objectives have not been clearly defined, and they are substituted by strategies for the execution of studies. This lack of definition, which is

not limited only to the Tulumayo Station, makes the research task more complicated.

7. In the review of previous research carried out, the work of the Tingo Maria Experimental Station is hardly taken into account. This Station has been carrying out research for 46 years. Neither is the work of the Tulumayo Station over the past 30 years taken into account.

8. There is a lack of reliable statistical information as a basis for experimental work; likewise there is a lack of socio-economic analysis of results.

9. In the experimental fields there is little observable linkage or interaction between the work of different researchers. Thus the experiments of one specialist on a given crop or livestock species are little known by his colleagues. As regards research on production systems, specialists on the crops which form part of these systems do not participate in this research.

10. The Tulumayo Station has research specialists in soils and weed control. The work of these specialists is concentrated exclusively on their experimental plots, while at the same time all crops without exception show visible symptoms of severe magnesium deficiency which produces heavy premature defoliation. This occurs in spite of the fact that there exist in the zone abundant deposits of dolomite (double carbonate of calcium and magnesium). In the La Muyuna sector, leaving the city on the right bank of the Huallaga river, PEAH's crusher has accumulated more than 1,500 tons of this compound for which there is little demand.

    Furthermore, the presence of abundant weeds gives a negative appearance to the experimental fields, apart from the competition which these create with the crops being grown. An integral scale program of weed control in the Tulumayo station would undoubtedly be of great utility to many plantations in the region.

    The comments which we have made here regarding these two specialties may be extended likewise to others such as entomology, phytopathology, etc.

    The work of the specialist in agrometeorology on phenological aspects is carried out in an isolated fashion and without including the participation of crop specialists.

11. The scope and content of agricultural research would be more solid if it were carried out in continuity with previous research, rather than repeating this as is currently taking place in the case of the use of dolomite as a source of magnesium for crops. Thus the 1985 Report of the Alto Huallaga

Tropical Agricultural Research Project by IRI on page 9 mentions that a modest effort in field research by the Tulumayo Experimental Station was initiated in 1984, into the use of dolomite rock in acid soils in the Pumuhuasi area. Nevertheless in the Revista de Investigaciones Agropecuarias (Review of Agricultural Research) of the General Direction of Research of the Ministry of Food, Vol. V., Nos. 1-2, January-December 1975, the following had already been published: "La Dolomita como fuente de Mg y Ca para el cafeto" (Dolomite as a Source of Magnesium and Calcium for Coffee Plants). This research was carried out ten years ago in acid soils in Tingo Maria.

12. Taking into account the experience obtained in the region over the past 30 years, agricultural research can only achieve results which are technically and socio-economically adequate, as well as being in accordance with the real needs of the region, if this research is primarily reinforced in the area of applied investigation and the validation of results in producers' own fields. At present very few validation plots are conducted within agriculturalists' own lands.

    The links between research and extension continue to be a cause for concern. In fact, this concern should be concentrated more on the recuperation of credibility and trust on the part of agriculturalists, by means of team work by researchers and extension workers in confirmation or validation and demonstration plots. This fuller participation will permit extension workers to become ever more convinced of the value of the technological packages which they diffuse, and at the same time the agriculturalists who cooperate in this process will become agents of change, acting as bridges for the introduction of innovations which will ensure higher productivity and thus greater profitability in agricultural work.

13. The shift from coca production to the production of legal crops definitively does not depend on agricultural research alone. On referring to the productive process we should remember that research constitutes part of a basic element in this process, and that in order for change to occur it is necessary to situate the other basic elements also in favorable conditions. Thus, for example, if in the District of Hermilio Valdizan of the Province of Leoncio Prado, of 800 hectares of coffee plantations 580 hectares produce an average yield of 4 quintals of coffee, this does not necessarily imply a lack of technology. Indeed since 1964 technological packages have been available which permit yields of 60 quintals per hectare or more, under acid soil conditions such as those of Tingo Maria. In this case it is simply a question of other factors which are restricting the obtaining of greater productivity.

14. A limited contact between researchers and agriculturalists was found. This is perhaps justified due to the lack of

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availability of transport for this purpose.

15. There exist a considerable number of research findings which should be put into final shape and published.

16. The activity which is termed Research Projection is characterized by many limitations in its functions in transfer of technology to agriculturalists, and also in the supply of improved seed to agriculturalists.

17. The technological packages promoted are not accompanied by sufficient availability of improved seed. This limitation is related to the lack of adjustment between supply of and demand for this basic production input. Furthermore, the Tulumayo Station does not possess installations for the processing and storage of propagation material for principal crops.

18. Following the resignation of Dr. Duriel Perez Campana as Director of the Tulumayo Station, this post has been successively occupied in rapid succession by several different professionals who lack experience in research administration, causing confusion, conflicts and lack of leadership. This situation undoubtedly relates to the lack of support by the Direction of CIPA XI HUANUCO and INIPA at a national level.

19. There have been improvements since 1982 in the flow of funds to the Goods and Services accounts. This has had favorable repercussions in the more prompt attention to research needs. The increases in this respect have been substantial.

20. There are no coordination mechanisms with other PEAH components. Nonetheless Research, Extension and Training do perform some coordinations on their own initiative.

21. The cuts in the 1986 Operative Plan have excluded studies on integral control of diseases and pests affecting coffee, in spite of the priority due to these in the case of this and other crops. At the same time, studies of the recuperation of eroded slopes have also been eliminated.

22. PEAH has given uneven support to its components. The Training Component for UNAS has consistently been privileged. PEAH Research Coordinators and Supervisors have been characterized by their lack of experience in the specialty.

23. The wages and salaries for research staff have been and continue to be chronically deficient. Ever since the commencement of PEAH's functioning there has been a more favorable treatment of the staff in the Aucayacu headquarters. Among the research staff the situation is further complicated by the differences between permanent and contract staff.

24. In the Tulumayo Station the lack of employment stability creates an atmosphere of uncertainty. Rumors regarding cuts affecting research are widespread.

25. The reinforcement of institutional research capacity has been significant, though in terms of the number of experiments carried out the balance is negative.

26. In the Tulumayo Station the library, chemical soil and foliage analysis, computer and other services have still to be made operational.

27. The statistical information in the agricultural field recorded in the Alto Huallaga ambit from 1982-1986 does not permit us to establish any impact at all of the technology developed for the support of licit agricultural crops. This lack of impact is due to the fact that other elements of the productive process apart from technological factors have been in decline over recent years.

6.2.4. RECOMMENDATIONS

1. Special emphasis should be placed on confirmation or validation research, using agriculturalists' own lands. To this end strategic and accessible areas should be identified and agreements formalized for actions to be shared with producers themselves. The crops which should preferably be considered here should be perennial trees or shrubs such as coffee.

2. Studies should be carried out of the productive process of the principal crops and livestock species. As regards technology, efforts should be intensified and broadened in order to gather together the largest possible amount of information already existing regarding the Alto Huallaga region. In this respect we may observe continual repetition of studies already carried out in the same region in previous years.

3. The operative research plans of the La Divisoria and Tocache Sub-Stations should be reformulated. The experimental plots here are in an unsatisfactory state.

4. Studies of integral weed control should be supported, as well as of pest and disease control, as a means of reducing the use of pesticides which are generally imported from other countries at the cost of limited foreign exchange resources.

5. Seed and seedling production activities should be reinforced, with a previous analysis of the demand for these, since supplies are inadequate both quantitatively and qualitatively.

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Thus for example for coffee production in some 2,000 hectares seed is prepared for the rehabilitation of 100 hectares and nurseries are only established with 15,000 plants, sufficient for sowing 3 or 4 hectares.

6. Auxines should be used, such as naphthaline acetic acid, in order to stimulate the formation of adventitious roots in the vegetative propagation of tea. The formation of adventitious roots in tree cuttings treated with auxines takes place after 21 days, as compared to 90 days at present employed in order to obtain a limited number of weak roots.

7. The soil and foliage analysis services as well as the clinical service for the identification of disease and pests should be made functional immediately. The library and computer services should also be set in motion.

8. Priorities should be established in the assignment of resources for research:

   1st. Protection of crops and livestock;
   2nd. The search for increased efficiency and
   3rd. Attention to creativity.

   The aim of this is not to detract from the importance of any given line of research, but rather to order research in terms of the minimization of risks to agriculturalists.

9. Rather than developing costly programs in search of technological innovations, existing technology should be validated, in agriculturalists' own lands and with their participation. For this work known crops should be considered such as coffee, cacao, tea, fruits, manioc, achiote, beans, rice and maize. Likewise small animals both native and introduced, such as Cuniculus paca (locally termed majaz or picure).

10. Research actions in the forestry or agroforestry area should be included as part of the Research Component, in accordance with the ecological characteristics of the Alto Huallaga Region.

11. The market for licit crops should be strengthened, since it has been more and more neglected in recent years. The current stagnant situation of these markets, with certain exceptions, does not create incentives for production. The strengthening of these markets is thus urgent.

12. The research team should be supported by the participation of specialists in statistics and research design, since it is composed of a group of young professionals whose work would benefit greatly from this support.

13. The limitations in terms of technical personnel and financial resources for research make it essential that problems be tackled within a multidisciplinary work scheme, at least as far as the problems of principal crops and livestock species are concerned.

14. The post of Director of the Tulumayo Experimental Agricultural Station should be redesigned and stabilized, and should be entrusted to a professional qualified in research and administrative experience.

15. The operative research plans should incorporate those recommendations made by technical advisors, in accordance with the objectives of the Research Component.

16. Mechanisms should be developed in order to allow a suitable degree of contact between researchers and producers, to their mutual benefit. For example, by means of conducting validation experiments in agriculturalists' own lands, by means of field days in the experimental stations, and so on.

17. Validation actions should be concentrated on productive systems for ex-coca growing areas, employing the experience accumulated to date in the use of acid soils with aluminum toxicity problems.

18. Incentives and salaries should be given to researchers which at least equal those offered to professionals who work at PEAH headquarters.

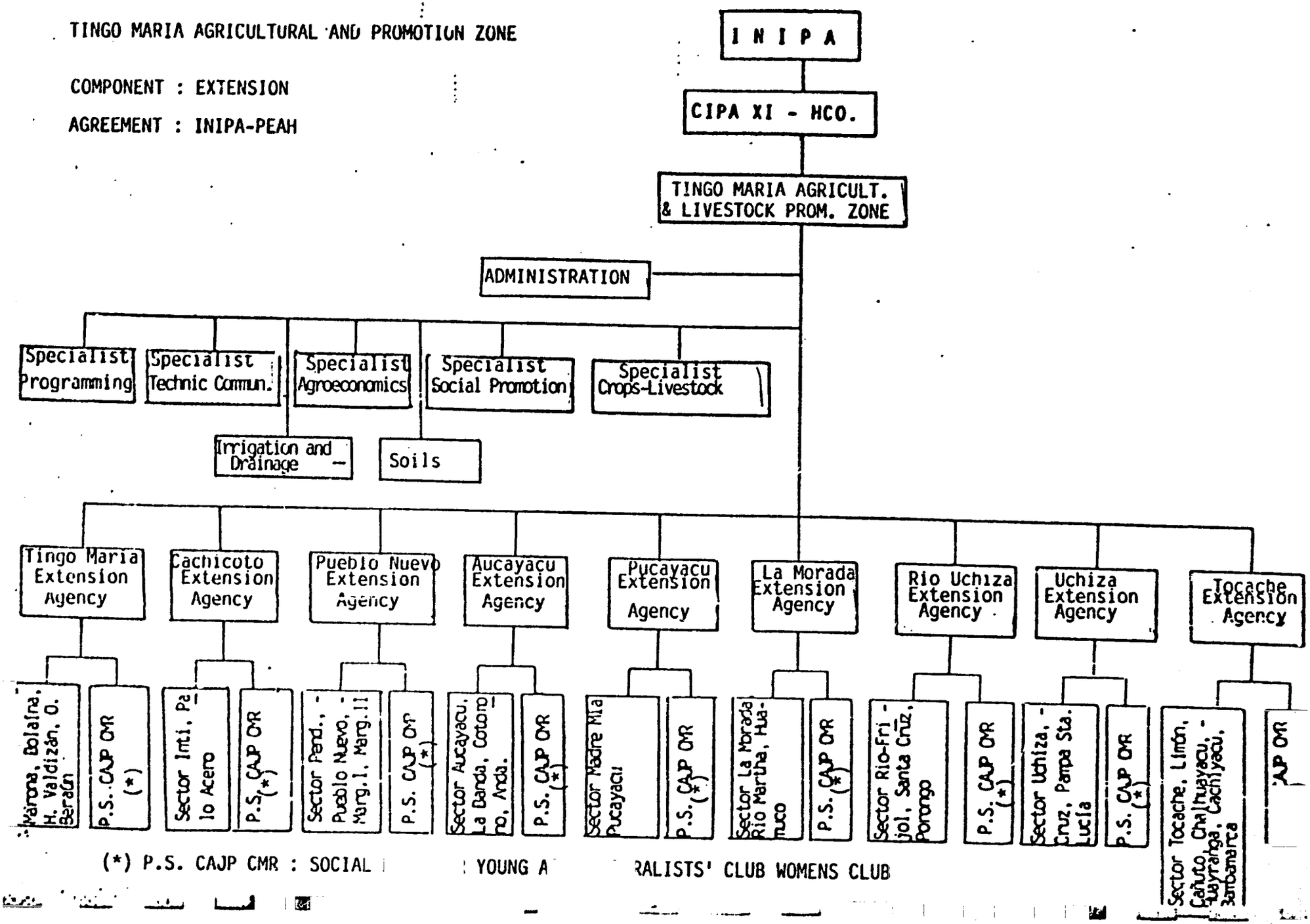
    Likewise, negotiations should be culminated at the highest level for the consolidation of the employment stability of this personnel.

ORGANIZATIONAL FLOW DIAGRAM Nº4 : STRUCTURAL FLOW DIAGRAM

TINGO MARIA AGRICULTURAL AND PROMOTION ZONE

COMPONENT : EXTENSION

AGREEMENT : INIPA-PEAH



(*) P.S. CAJP CMR : SOCIAL YOUNG A RALISTS' CLUB WOMENS CLUB

TABLE 12 : TINGO MARIA AGRICULTURAL AND LIVESTOCK PROMOTION ZONE

LIST OF PERSONNEL BY POSITION HELD

	PERMANENT SIPA XI H	CONTRACT INIPA-PEAH	PEAH	TOTAL
DIRECTOR	-	-	1	1
SPECIALIST	6	2	2	10
SUB-ESPECIALIST	-	4	-	4
EXTENSION AGENTS	1	6	-	7
SOCIAL PROMOTERS - WOMEN'S CLUB	-	5	-	5
ASSISTANTS - YOUNG AGRICULTURALISTS' CLUB	-	4	-	4
SECTOR WORKERS	10	19	-	29
ASSISTANTS	-	2	-	2
ADMINISTRATIVE	4	-	1	5
SECRETARIES	3	-	-	3
DRIVERS	2	1	-	3
GUARDIAN	2	1	-	3
FIELD LABORERS	1	-	-	1
TEMPORARY LABORERS	-	18	-	18
T O T A L	29	62	4	95

PERSONNEL EXISTING AT TIME OF EVALUATION, ACCORDING TO INFORMATION PROVIDED BY TINGO MARIA EXTENSION AGENCY

TABLE 13 : LIST OF THE MAIN CAPITAL GOODS BELONGING TO THE TINGO MARIA AGRICULTURAL AND LIVESTOCK PROMOTION ZONE

CAPITAL GOODS	TINGO MARIA	CACHI-COTO	PUEBLO NUEVO	AUCA-YACU	PUCA-YACU	LA MORADA	RIO UCHIZA	UCHIZA	TOCACHE	ZONE HEADQ.	TOTAL
Truck	1	1	-	1	-	1	-	1	1	2	8
Motorcycles, XL125 Honda	5	1	5	5	2	2	1	3	8	2	34
Motorcycle, 70 Honda	1	-	1	1	1	-	1	1	1	-	7
Refrigerators	1	-	-	1	-	1	1	1	1	2	8
Sewing Machines	1	-	-	1	-	-	1	-	1	-	4
Typewriters	1	1	1	1	1	-	1	1	1	5	13
Motor-powered sprays	1	1	1	1	1	2	1	1	1	-	10
Motor-powered fumigators	1	1	-	1	-	-	-	-	-	3	6
Powder Sprays	-	-	1	1	-	-	-	-	-	1	3
15 liter backpacks	1	1	3	4	2	1	1	3	2	-	18
Petromax Lamps	4	1	2	-	2	2	2	2	-	-	15
Water Filters	2	1	2	1	2	1	2	2	2	3	18
Equipment Poultry Farm	-	-	-	-	-	-	-	-	-	1	1
Cameras	1	1	-	1	1	1	1	1	1	2	10
Guillotine	-	-	-	-	-	-	-	-	-	2	2
Mimeo	-	-	-	-	-	-	-	-	-	1	1
Electronic Stencil	-	-	-	-	-	-	-	-	-	1	1
Fans	1	-	-	1	-	-	-	-	1	7	10

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6.3. EXTENSION COMPONENT

For the purposes of the evaluation, the Extension activities performed as part of Social Promotion are considered as a separate sub-component.

6.3.1. AGRICULTURAL EXTENSION

6.3.1.1. OBJECTIVE

To increase the rate of adoption of new agricultural methods developed as a result of research, by means of the broadening and improvement of the Extension service in the Project area.

6.3.1.2. ACTIVITIES AND GOALS

In 1982 when the first Operative Plan was elaborated on the basis of the use of the Training and Visiting method, the principal activities and goals were set as follows:

Agriculturalists to be attended	854
Agriculturalists affected by irradiation	6,912
Surface area attended	31,104 hect.
Cattle population attended	4,220 heads
Visits to agriculturalists	8,600
Training days	14
Assistants	36

In 1983 the activities outlined were retained but the goals were readjusted. The surface area to be attended was reduced from 31,104 hectares to 5,760 hectares and the number of visits to agriculturalists projected increased from 8,640 to 28,000.

The goals programmed for 1984 and 1985 determined the following workload for each sector worker:

Number of agriculturalists attended	40
Visits to agriculturalists	960
Field days	2
Demonstration Plots	2
Method demonstrations	6
Agriculturalists' meetings	8
Talks	2
Supervision days	24

The use of the training and visiting method was discontinued and it was proposed to reactivate the traditional extension

methodology giving priority to the following crops: rice, cacao (promotion and rehabilitation), maize, plantain, manioc, soya, and pasture in addition to cattle raising. The traditional methodology includes the activities listed above under the 1984 to 1985 programming.

The initial phase of implementation of the Extension Program contemplated the strengthening of the Tingo Maria Promotion Zone by the provision of specialists, and the setting in motion of nine (9) Extension agencies and forty (40) Sectors which were to be duly staffed and equipped (Organizational Flow Diagram No.4).

6.3.1.3. CONCLUSIONS

1. In the comparatively short time which has passed since the commencement of the Project and the signing of the Agreements for agricultural and livestock development, considerable advances have been made in the implementation of extension personnel and the acquisition of equipment for the support of offices and field work (Tables 12 and 13). Nevertheless, the contracting of specialists in certain areas has not been realized (soils, irrigation and drainage), and sectors such as Frijol and Santa Cruz were not established. On the other hand, the functioning of a sector in Campahilla, which is a dependency of the Juanjui extension agency, was observed.

2. There are considerable disturbances in the zone as a result of the spread of coca cultivation, drug trafficking and the presence of terrorist elements, All these have made the project ambit a hostile, aggressive and dangerous environment for the development of extension work. Due to this, some offices had to be closed, and personnel withdrawn to safer locations. Work was thus restricted to zones near to population centers or to principal highways. It is thus evident that extension personnel have to carry out their work under conditions which do not afford them the necessary security for the normal development of their activities.

3. The yield per unit of most food crops has diminished, with the exception of rice, where an increase has been observed. The reduction in yields is due to the following factors:

   a) The agriculturalist devotes more time to coca growing, detracting from the attention required by licit crops.

   b) Certain essential supplies and equipment are unavailable, such as seeds and agricultural machinery required for agricultural and livestock production.

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c) Food crops are infested by pests and diseases which are not subject to the necessary control.

d) There is a lack of facilities and incentives for agricultural and livestock production, above all in terms of infrastructure and adequate channels for the commercialization of products.

4. The majority of agriculturalists are migrants from the Andean region amongst whom there are high rates of illiteracy. At the same time they are excessively dispersed within the tropical forest environment which presents considerable difficulties in terms of its geography. They lack communication with one another, and they possess varying cultural, ethnic, linguistic and technological patterns. In addition, they are subjected to or intimidated by the drug trade and/or by subversives.

5. The Agricultural Extension Program as it is currently being carried out has not achieved significant coverage in its attention to agriculturalists. This is related to the following factors:

a) The Agricultural Extension Program in its activities only reaches 5% of the possible user population, and consequently we cannot expect its actions to have a significant impact in terms of satisfactory results.

b) There are serious deficencies in the operation of this component, especially in the methodology employed.

c) Policies and working strategies employed have failed to establish a well defined methodology adapted to the socio-political, cultural and economic conditions of the zone.

d) 70% of the personnel who were originally hired to work in the Program, and received the necessary training, have resigned.

e) The staff show considerable enthusiasm for their work, but they lack experience in tropical crops.

6. The Extension Agencies do not possess a realistic and up-to-date survey or diagnosis of their area, and for this reason extension actions are not correctly programmed and do not correspond to the real needs of agriculturalists.

The programming of goals is based on an over-simplified survey or diagnosis in which the specialist and extension agent concerned only report certain aspects having to do with productivity.

7. The coordination between Research and Extension continues to be weak. There is also duplication of activities carried out by PEAH, INIPA and UNAS.

   a) UNAS Pilot Centers duplicate the activities carried out by Extension Agencies.

   b) The Community Development Program, which is a direct activity by PEAH, duplicates the horticultural promotion activities carried out by the Social Promotion Program of the Extension Component.

   c) There exists technology for several important crops, which is the result of experimental work carried out over the past decades, and which is not being employed by researchers or by extension workers.

8. The level at which coordinations are effected between PEAH and the Agricultural and Livestock Promotion Zone of Tingo Maria is not entirely satisfactory, since the latter lacks decision making capacity due to the fact that it is subordinate to the CIPA office in Huanuco.

9. The system of information which is required of the Sectors, Agencies and Promotion Zones is both excessive and inadequate, since the extension worker is obliged to constantly write reports for INIPA as well as for PEAH. In both cases these documents are required to be submitted with exaggerated frequency (contingency reports, monthly reports, three-monthly and six-monthly reports, annual reports, monthly state of crops, etc.). This produces an unnecessary use of man hours which could well be employed in more productive activities in order to meet Program objectives.

   On the other hand, these reports refer to activities carried out but do not permit the measurement of the effects and/or projections of work undertaken.

10. There is an evident lack of a supervisory system at different levels both within INIPA and PEAH.

11. There is a lack of stimuli for technicians who carry out effective extension work, which would serve to motivate them to higher levels of achievement.

    There is no permanent evaluation system, due to the lack of supervision, and neither is there a continual and sustained professional training program in technical and methodological aspects.

12. From the outset, financial management in this component has been deficient. The Promotion Zone is not informed of budget

execution and resources arrived late up till the end of 1985 since they were unnecessarily held up in CIPA XI-HUANUCO.

The budget amounts indicated as available and the goals which are set at the beginning of each year are in accordance with the resources assigned, but the budget is not subsequently executed according to plan.

13. There is discontent among the staff, due to the differences in salary which exist for similar posts, above all between permanent and contract staff.

    The fact that the contracts of the latter have not yet been renewed also creates unease and uncertainty among them.

14. Extension activities are carried out in many cases in precarious and uncomfortable premises. To date the premises programmed for construction by the Project have not yet been completed.

6.3.1.4. RECOMMENDATIONS

1. The operation of the agricultural and livestock extension service in the project zone should be restructured, placing it within the context of a broader integral concept of Agricultural and Livestock Development. To this end projects should be designed which are related to priority production systems in the area and based on a situational diagnosis of each case, which should reflect as closely as possible the problems of each crop or livestock species which has been duly assigned priority.

2. The content and schematic design of each project should include the following points:

   a) The current situation (diagnosis or survey) which should be fundamentally oriented towards the importance of the product (surface area, production, economic value, etc.). Projections should be estimated on the basis of different factors such as adaptability, price, market, agroindustry, profitability, etc. and the socio-economic characteristics of producers.

   b) The existing set of problems.

   c) The justification of the project in the medium term according to the aptitude of the area, the correction of existing problems and the possibility of increasing yields (taking advantage of local experience) and areas under

cultivation.

d) The set of activities designed to constitute basic activating elements of the productive process These should be directed in a coordinated fashion towards the ends mentioned above, in lines of action congruent with one another such as extension, training, credit, commercialization, research, provision of supplies, etc. The operative plans of each of the organisms responsible for these activities should be defined in these terms.

e) The goals or expected results, expressed as improvements in productivity, increased production, increased returns to producers, technical training of agriculturalists, etc.

f) The budget programming for each line of action and for the set of these, including the programming of credit resources which are considered necessary.

3. The above-mentioned format, as well as corresponding to Project objectives, would permit the execution of periodic supervisions and evaluations of diverse aspects such as operative efficiency, action efficiency or impact, programming and budget and personnel control.

4. A methodological system should be adopted for extension work which corresponds to the special characteristics of the Project zone, and which should gather together positive aspects of working methodologies previously employed in this zone as well as in others of similar ecology, in order to constitute a unique system which would contemplate amongst other elements:

a) The continual training of agents for change, training which should be imparted by specialists in different agricultural products. Likewise, specialists, agents and sector workers should be given the opportunity to pay frequent visits to areas of similar ecological conditions but where technological advances are greater.

b) The use of CESPAC's audio-visual system, and the production of special programs for the area on priority crops and social promotion themes.

c) A different conception of the subject of extension action. This should preferably be in terms of group participation, in order to obtain a real irradiation of training and technical assistance processes.

To this end, the extension personnel should be reinforced by the inclusion of one or two social scientists specializing

in farming systems, whose function would be to motivate the small farmer to group together with his neighbours for the purposes outlined above. Another function of the social scientists would be to identify community leaders, through whom group acceptance may be achieved, for the execution of tasks such as field days and demonstration plots. In addition, they would support the extension worker in the discovery of more effective ways of reaching the population with the technological packages offered. These specialists should also detect the socio-cultural diversity (of ethnic origin, age, religion, plot size) and the diversity of economic resources and levels of capitalization among agriculturalists. Without pushing this classification of agriculturalists to an extreme, we nevertheless feel that these factors could serve as starting points for the division of colonists into types.

d) The group concept mentioned above should be closely linked to supervised credit activities, with the idea of granting in the future collective credits to organizations formed in the population. This would give greater coverage and scope to the work which is carried out in assisting in the preparation and processing of requests for credit, and would facilitate the task of periodic supervision.

e) Programmatic documents should be prepared, for the supervision, control and evaluation of the system of local extension, which would in turn guarantee these procedures and their concordance with the objectives of the Alto Huallaga Special Project and the projects which form a part of this.

5. A CIPA - Alto Huallaga Office should be created, whose jurisdiction would cover the entire Project ambit, in order to raise the hierarchical level of the present Promotion Zone, giving it increased decision making capacity and improved levels of coordination and administration.

6. Extension workers should coordinate with their Research counterparts, in order to determine alternative crops and/or agroforestry systems which may be offered to agriculturalists whose coca plantations have been erradicated. These alternatives should be complemented by:

a) Preferential treatment for the commercialization of products which originate in the zone, guaranteeing refuge prices attractive to the producer.

b) Facilities for the acquisition of agricultural inputs in terms of quantity, quality and opportunity, as also for that of agricultural machinery and credit.

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c) Rational exploitation of the natural resources of the region.

7. Extension-Research relations should be intensified by means of team work on confirmation or validation and demonstration plots.

8. Extension workers should receive similar salaries for similar posts, and their work should be subject to continual evaluation and incentives such as financial rewards, promotion, scholarships,etc.

9. The information system employed by Agents, Sector Workers and the Promotion Zone should be perfected, by means of its simplification and the introduction of indicators for the measurement of the effects and/or projections of the activities carried out.

10. Interinstitutional coordination should be strengthened in the search for harmonic development in the zone, under PEAH's leadership.

11. A supervisory system should be implemented at all levels, both in INIPA and in PEAH, in order to increase efficiency without detracting from the hierarchical position of the persons subject to such supervision.

12. Finally, extension work should be supported by the utilization of the mass media, especially radio whose scope in the zone is vast.

6.3.2. SOCIAL PROMOTION SUB-COMPONENT

6.3.2.1. GENERAL OBJECTIVES

Among the general objectives for agricultural extension we find one which refers to "the achievement of improvements in the quality of life of the rural family by means of educational processes in nutrition, health, housing, etc.". It is understood that this is to be placed within the context of another more general objective, which is the "increase in agricultural production, elevating productive indices by means of technology" (Evaluation Report on Progress of Results by Components: Period 1982-June 1985).

Articulating both these objectives is the assumption that the improvement in the quality of life of the rural population will permit both a greater participation in productive economic activities and a more efficient use of labor input. Thus social and technical aspects should be geared together in order to generate an integral development process within rural society, in this case specifically in the Alto Huallaga.

6.3.2.2. SPECIFIC OBJECTIVES

a) Educational, which are defined as the search for technological changes conducive to the improvement of knowledge, attitudes, skills and productive abilities both of school age children and of women, essentially peasant mothers.

b) Social, which try to propitiate changes in living conditions of the family and the collectivity - be this the community, the village, etc. - in aspects relating to health, food, housing, environmental sanitation and service infrastructure.

c) Economic, directed towards the generation of additional sources of income complementary to traditional agricultural and livestock activities, improving nutrition in the peasant household and fomenting the rational use of regional resources.

6.3.2.3. ACTIVITIES AND GOALS

For the execution of social promotion activities the organization of Juvenile Agricultural Clubs and Rural Women's Clubs was programmed, entrusted to suitably trained Social Promoters.

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Within the context of the above-mentioned objectives, these clubs were to implement diverse projects. Among these are the productive projects, such as for example the creation of cultivated plots managed by the Women's and Juvenile Clubs; the installation of nurseries for cacao and citrus plants, and also the rearing of small livestock species. In the youth clubs the activities which are most popular and often chosen are the productive ones. Similarly among the women the most popular activities are in the field of food education, sewing (jute weaving) and handicrafts such as toys.

We also observed development of community services projects such as the carrying out of collective work in the construction of roads; the decoration of parks; construction of sanitary posts and latrines - for schools and community centers; the construction of schools, churches and sports fields. Finally, there are also socio-cultural and sports projects, as well as those which involve training in club organization and leadership.

ATTAINMENT OF GOALS

Within the goals for social promotion for the period 1982-1986, the creation of 120 Juvenile Agricultural Clubs (CAJP - Club Agricola Juvenil) was programmed, with the participation of 3,270 members and the execution by them of 500 projects, most of them productive. A similar number of clubs, members and projects was programmed for the Rural Women's Clubs (CMR - Club de la Mujer Rural). But as of December 1985 only 79% of these Juvenile and 51% of the Women's Clubs had been created. Likewise, only 62% of the projected membership of the former and 39% of that of the latter had been achieved. Finally, as regards the projects, 31% and 43% respectively of the progress planned had been attained. In general terms, the progress towards goals is relatively low, due essentially to the regional situation of violence, to the economic problems of promoters, and also to the lack of adequate supervision.

The number of members given for the Juvenile Agricultural Clubs is in part illusory. Several of the clubs constituted in 1983 no longer exist, and by the same taken every year or two years new ones have been formed. In the case of the Women's Clubs the phenomenon of terrorism has been the principal cause of their disappearance. Nevertheless, these latter clubs are more stable, though with lesser overall membership.

6.3.2.4. CONCLUSIONS

1. A global evaluation of the activities carried out by CIPA's social promoters permits the assertion that on the whole this work has been positive, in spite of the difficulties confronted. Leaving aside a strictly quantitative evaluation in terms of goals attained, we found that in the regions where work has been carried out there is a qualitative change in attitude among the sectors affected by social promotion actions.

2. In general terms, the juvenile agricultural clubs and the women's clubs are capable of generating resources for self-financing, and even for investment in infrastructural works. This of course depends on the interest of the group concerned and the motivation of the promoter. The path which has been followed to date has tended to be that of excessive financial support by state institutions for the creation of cultivated plots and the construction of sanitary posts, etc. Nevertheless experience has shown that with suitable previous motivation the inverse path may be followed, where the grass roots organizations themselves generate their own resources to meet their own needs. If this is not attained, there will be an excessive dependence of these organizations on the State.

3. The principal problem of the region is the development of coca farming, with the accompanying problems of drug trafficking and terrorism. Thus a regional development project must recognize the fact that it exists within the framework of a contradiction between legal and coca farming. Consequently the principal task of state organisms is to support and guarantee the productive and commercial activities linked to legal commercial agriculture; and the activities of Social Promotion should also be placed within this context.

4. In their methodology the promoters employ the demonstration method for technological training and the home visit method for social motivation. They thus limit themselves to two methods for their educational tasks.

5. As regards the elaboration of educational and graphic material, we found that promoters produce a large quantity of this. However in some cases the texts are too dense, with the excessive use of technical vocabulary and a lack of illustrations and diagrams. For example, one text has thirty pages of long paragraphs, only five of which are illustrated.

6. The social promotion personnel perform a good job, within their limited possibilities, and for this reason require greater support, recognition, stimuli and evidently also training. These technicians constitute an exceptionally valuable channel

of communication with the peasant population. Where the promoter gets to know the peasant family well, he may even directly tackle the theme of the implications of coca farming.

7. The elaboration of situational diagnoses or surveys in each zone apparently does not influence clearly the programming of goals for social promoters. Thus in the annual plans for 1986 work was programmed for 64 clubs with 1,280 members and 64 specific projects. However due to the situation created by terrorism, not all agencies are functional. Thus many initial plans cannot be fulfilled since they are not based on adequate previous analysis.

8. The predominance of goals of a quantitative nature leads to the neglect of qualitative aspects which are a measurement of the impact of the work of promoters. While evaluative criteria employed do include such factors as changes in attitudes or family behaviour, there are no objective measures of such changes.

9. The supervision carried out by PEAH of the work currently effected by promoters is insufficient, to the point where the totality of the actions carried out by promoters is not fully known.

10. Some parents' associations have questioned the difference observed between the investment which INIPA and PEAH respectively make in school projects. PEAH invests 2,000 Intis in each school plot, while INIPA gives only 200 Intis per month which must be divided between several productive projects. Some promoters, in the desire to fulfill their obligations, have employed their own resources to cover the costs of their projects.

11. The statistical compendiums elaborated by OSE-MA do not offer homogeneous information in terms of the categories employed from one year to the next. For example, initially information was reported on the basis of its collection from the working ambits of the extension agencies - Tingo Maria, Aucayacu, La Morada, Tocache, Uchiza - but later data were classified by district. While this latter political division may be of academic interest it is not of practical utility for the functions of extension workers and promoters or of PEAH technical staff.

12. There is no information on social aspects - place of birth, number of children, other occupations - except that provided by the 1983 census. While OSE-MA surveys are necessarily anonymous due to the violence which exists in the region, this does not exclude the possiblity of considering data on the socio-cultural characteristics of migrants.

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If the annual surveys do not consider variables other than strictly productive ones, they run the risk of reproducing a typically quantitative style of evaluation biased towards the consideration of aspects such as increased number of hectares or the reduction of specific licit crops.

13. Both extension and promotion workers have been especially vulnerable to terrorist actions by Sendero Luminoso. They have not only been affected by attacks on different INIPA extension agencies but above all they have been the persons most subject to threats by this political group. Several INIPA technicians on different occasions have been obliged to make financial contributions to Sendero. Likewise they have been threatened in order to oblige them to give information, and in some cases they have been psychologically and physically mistreated.

6.3.3.5. RECOMMENDATIONS

1. The Women's Clubs should be more closely articulated with the Juvenile Clubs, which would allow the fund-raising activities of the former to be used for the support of school plots.

2. It is advisable to make an initial donation of financial and physical resources to the Productive Projects. However this should have a time limit. This recommendation applies both to INIPA's Social Promotion work and to PEAH's Community Development work. In both cases the management and rational use of rotating funds should be encouraged, in order to promote the capacity of these clubs for self-financing.

3. The work of promoters should be concentrated on productive projects which contemplate not only the transfer of technology or the increased productivity of certain crops, but also and more importantly support to the peasant family in its principal legal agricultural activities. Specifically, for example, the work of the social promoter and the extension worker should converge on the peasant family with similar technological packages. Thus rather than the social promoter being occupied in training mothers and children in the installation of cultivated plots, while the extension workers trains in rice management under irrigation, both the promoter and the extension worker should collaborate in order to present to the family head, mother and children suitable technology for the principal family crops, since all of these persons in the last instance participate in the cultivation of all the crops grown on their land. This does not exclude the possibility of the promoter working on plots, poultry farming, etc., but the special characteristics of the Alto Huallaga do require a greater fusion of these two functions. By the same token, the

extension worker too may collaborate with the promoter on plots and poultry farming projects. However both technicians should stress in their work the promotion of legal agriculture. In the school projects, for example, not only vegetable varieties should be sown but also other products such as rice, yellow maize, manioc, beans, etc.

4. We concur with G. Valdez when she states in her report on Assessment of Social Promotion that teaching methods should be broadened. According to this author those workers who employ three methods including demonstration, visual aids and written material have greater coverage and influence on peasant families than those who use only one method. Furthermore, when up to five (5) teaching methods are employed, around 90% of families accept new technological practices. In this respect it would be useful to effect further coordinations with CESPAC for the design of audio-visual materials which are better adapted to the regional economy and ecology. In previous years, material has been presented on projects located in the Andean region, which are of relatively little utility here.

5. The Social Promotion staff should receive training. Amongst other aspects, the design of educational and graphic material in general should be stressed, apart from courses on social communication, group dynamics, the management of social statistics and the elaboration of situational diagnoses. It is notable that the National Agrarian University of the Jungle (UNAS) does not offer programs in agricultural extension or social promotion, while it has opened programs in Administration and Accounting. At the least a package of courses relating to these themes could be taught in this University.

6. Considering the specific characteristics of the region and the agricultural problems of each ambit, it is more realistic to work with a reduced number of agencies with a greater concentration of promotion personnel in each agency. Before advancing with new projects, existing ones should be consolidated, giving priority to erradicated zones and those with greater population concentrations.

7. Surveys should be carried out at the end of each year in order to evaluate the global efficiency of the social promoter's work. These surveys, while specifying data referring to children and women, should also attempt to evaluate the impact on the entire peasant family including the father or head of the productive unit.

8. PEAH should hire a social promoter to work more directly with the promoters employed by INIPA. There should also be greater coordination between the Supervision of Community Development and these promoters, since they carry out in many cases similar

activities.

Within INIPA itself specialists competent in social communication are needed for the design of graphic and educational materials. At present there are several texts on file which have not been published for lack of human resources.

9. The operative plan of INIPA should be coordinated with that of PEAH in Community Development in order to avoid the duplication of activities. In general terms, it is incorrect for some school projects to receive from PEAH working materials such as tools (rakes, picks, machetes, etc.), seeds and fertilizers, while INIPA only gives a small amount of seed to the Women's and Youth Clubs.

10. As regards the need for greater coordination between the work of INIPA and PEAH, there are good reasons for the implementation of this. Specifically, for example, some social promoters have acquired significant technical experience relating to school plots, and especially to the working methodology to be employed with the children. Since Community Development is implementing projects in schools, it is advisable that this work be articulated with that of the Juvenile Agricultural Clubs which exist in each ambit, in order for their work to project itself beyond the duration of the plot - 3 or 4 months - or the school period.
The work of the children's clubs ranges from cultivated plots in summer months to environmental sanitation works in winter or vacation months. Thus not only do both institutions complement one another but also the children are kept occupied in productive activities. Associative work teams could also be formed which would carry out agricultural work on parents' plots during periods of greatest labor shortage.

11. The use of existing regional resources in agroindustrial activities performed by women through their organizations should be encouraged. In some cases the manufacture of certain products requiring the acquisition of extra-regional resources has been promoted, such as for example the production of cakes. Rather, small household agroindustries such as the production of jams using regional fruits should be promoted by programs of mass diffusion. This has occurred in some cases but in limited form.

12. The statistical information collected and processed by OSE-MA should include socio-cultural variables such as place of birth, number of children, other occupations, technological experience, etc. in order to follow up the economic behavior of agriculturalists according to these variables over several years.

6.4. TRAINING COMPONENT

6.4.1. OBJECTIVES

According to Project Paper the following objectives are established:

6.4.1.1. GENERAL

To strengthen the capacity of the National Agrarian University of the Jungle (UNAS) in the training of professionals with adequate skills for their employment in the Tingo Maria zone and other parts of the Peruvian jungle region.

6.4.1.2. SPECIFIC

- To improve the academic level of UNAS faculty members.
- To improve support to teaching by infrastructure and services.
- To link staff and students of UNAS to the research and extension activities of INIPA.

6.4.2. ACTIVITIES AND GOALS

According to Project Paper the following activities are to be financed under the training component:

- The contracting of 5 additional teaching staff for the duration of the Project.
- Training scholarships for 16 faculty members for Masters degrees preferably in tropical universities. Similarly for 3 faculty members for PhD studies, and short-term training scholarships.
- Short-term technical assistance for specific academic programs or for seminars and workshops.
- Improvement of laboratories and library. Construction and minor repairs to labs, repairs to lab equipment and acquisition of equipment and supplies for library and laboratories.
- Financial support for the preparation of theses for academic degrees, and for Students' Clubs.

Within the Training component the analysis and evaluation of training programmed for Research and Extension personnel is also included.

6.4.3. CONCLUSIONS

1. Training constitutes an incentive, even more so when the center of research work is located in a region in a state of emergency and the salaries paid are relatively low (Annex 7 to the Working Document). Nevertheless, due to bureaucratic restrictions at a central level in INIPA, the academic training of a group of promising professionals has been held up for one or more years. By the simple modification of the regulation which requires applicants to have been members of the permanent staff for at least two years, 85% of the professional personnel would thereby have been made eligible for training.

2. UNAS is the institution which has most potential importance for development in the zone due to its role in the training of specialized technical personnel who work in the Alto Huallaga and other tropical zones of the country, as well as to the projection of its activities towards the community through its different programs.

3. The work stipulated under the INIPA-UNAS agreement has been carried out with only partial coverage. Thus, while the UNAS cacao specialist collaborated in the planning and execution of research into this crop, in other areas actions continue to be uncoordinated and there is often duplication of efforts in many cases employing the same financial source.

4. The support to the UNAS library has been discontinued during 1986 and as a result publications which had been subscribed to are no longer received.

5. The situation of the Tulumayo Experimental Station Library has remained almost unchanged since before the establishment of PEAH. The improvements to the premises and bibliographic material which were planned by IRI specialists brought in for this purpose have not been effected.

6. In UNAS and in the Tulumayo Station to date the equipment acquired has not been made operational. This equipment includes computers, atomic absorption spectro-photometers, etc.

7. There have been desertions from the scholarship programs: one in the Tulumayo station and two in UNAS.

8. From the documents relating to training and from personal interviews held it is clear that a scale of priorities was not established for the granting of scholarships. Individual effort and initiative were dominant.

9. The quality of teaching in UNAS at an advanced level has been improved as a result of the contributions of faculty members who have benefited from post-graduate scholarships.

TABLE 14 : ROLL OF FACULTY MEMBERS OF UNAS BENEFITTING FROM THE TRAINING PROGRAM WITH PEAH FUNDS TO DECEMBER 1985

NAME	DEGREE	INSTITUTION	COUNTRY	SPECIALITY	PERIOD OF STUDIES
Hernandez Terrones, Tito	Masters	VICOSA	Brasil	Plant Pathology	1982-84
Bravo Santillan, Miguel	Masters	CATIE	C. Rica	Animal Production	1982-84
Eguzquiza Catillo, Julio	Masters	CAMPINAS	Brasil	Food Technology	1982-84
Piscoya Hermosa, Zoila	Masters	C. HEREDIA	Peru	Microbiology	1982-84
Junes Cornejo, Diomedes	Masters	CHAPINGO	Mexico	Irrig. and Drainage	1983-85
Olivera Nunez, Jose	Masters	VICLA	Brasil	Agrometeorology	1983-85
Maldonado Vasquez, Hernan	Masters	VICOSA	Brasil	Pastures	1983-85
Loli Figueroa, Oscar	Ph.D.	L.DE QUIROZ	Brasil	Soils	1983-85
Dionisio Garma, Maximo	Masters	SAN MARCOS	Peru	Quantitative Economi	1983-85
Valencia Chamba, Teodolfo	Masters	FAUNINENSE	Brasil	Animal Production	1984-86
P. Hernandez, Carlos	Masters	CAMPINAS	Brasil	Food Technology	1984-86
Carbajal Toribio, Carlos	Masters	LA MOLINA	Peru	Plant Multiplication	1984-87
Urrelo Guerra, Rafael	Ph D	K.STATE	U.S.A.	Entomology	1984-87
Centeno Fabian, Henry	Ph D	VICOSA	Brasil	Animal Production	1985-88
Alcedo Romero, Margarita	Masters	VICOSA	Brasil	Food Microbiology	1985-87
Natividad Ferrer, Raul	Masters	VICOSA	Brasil	Food Technology	1985-87
Rios Ruiz, Rolando	Masters	VICOSA	Brasil	Plant Pathology	1985-87
Sanchez Escalante, Jose	Masters	LA MOLINA	Peru	Soils	1985-87
Sandoval Chacon, Manuel	-	U. OF FLORIDA	U.S.A.	Soils	3 months'84
Adriazola del Aguila, Jorge	-	CATIE	C. Rica	Cacao Production	5 weeks'85

10. The quality of events organized by UNAS with financial support by PEAH has been satisfactory, within the limitations characterizing the Alto Huallaga ambit. A relatively reduced number of agriculturalists participated in these events.

11. Efforts in the field of transfer of technology are not always carried out in a coordinated and integrated fashion between the Zonal Directions of PEAH, UNAS Pilot Centers and INIPA.

12. The La Divisoria Pilot Center No. 5 develops its activities within the lands belonging to the CAP Jardines de Te cooperative, but without any appreciable degree of participation by neighboring agriculturalists. The production of vegetables and especially tomatoes takes place under the regime of private landholding.

13. The technical assistance by IRI, whose reports were presented with considerable delay, has not been taken into account in the elaboration of annual operative research plans. This is in part due to the limited distribution of IRI reports.

14. From the content of the reports by the short term Technical Assessors it is clear that many of these are professionals who have ample experience, and it is lamentable that their presence in the Alto Huallaga has not generated the desired impact.

15. The execution of an agrarian research plan by the students of UNAS with PEAH support would bring many benefits. This area, which has yet to be properly attended, would improve the use of installed capacity and of the human potential of the student body. Such a research plan could also serve amongst other purposes to fulfill the requirements of thesis presentation in order to obtain a professional qualification.

6.4.4. RECOMMENDATIONS FOR THE IMPROVEMENT OF EXECUTION

1. The implementation and operationalization of soil and foliage analysis and other services should be culminated, and these should be projected towards regional agriculture.

2. Both broader and deeper coverage is required in the efforts directed towards the recopilation of technological knowledge obtained for the region over the past forty years.

3. Technical assessment, however many consultants are employed, should be oriented towards common specific objectives This would permit integration towards development, rather than the dispersion and mutual isolation of positive ideas.

4. The Spanish language reports of Technical Assessment should be delivered more promptly and more widely distributed.

5. If External Consultants are to be continued to be used, these should in any case be those who work in International Tropical Centers who have great relevant experience and represent lesser cost. PEAH should cover travel and living expenses.

6. Events should be held with the participation of INIPA and UNAS and which should relate to appropriate methods for the transfer of technology to agriculturalists.

7. Training events should be held in the production of improved quality seed.

8. Adequate salary levels should be considered, indexed to regional living costs, for the professional and other personnel who work in the Research, Extension and Training Components. The current personnel have increased their knowledge and experience, but if they receive no incentive to continue they may at any moment leave their posts, once more abandoning studies and actions at different stages of execution. The salaries policy which has been applied in previous years should not be perpetuated.

9. PEAH should promote coordination between UNAS and INIPA in the elaboration of an Agricultural Research Program to be executed by UNAS students under the sponsorship of faculty members and with financial support from PEAH. This Program would serve amongst other purposes for the fulfillment of the requirement of thesis presentation by students.

10. UNAS should collaborate with INIPA and PEAH to organize and execute training events to benefit agriculturalists.

6.5. AGRICULTURAL CREDIT COMPONENT

6.5.1. HYPOTHESIS

It is presumed that the growing of coca generates surpluses which are in part employed to cover the costs of producing licit crops; thus it was assumed that with the reduction of coca plantations there would also be a reduction in licit crops. It was therefore considered that the Credit Component should compensate for the loss of liquidity caused by erradication, and 2.5 million dollars (50% of the Component's resources) were assigned to the provision of loans to producers for this purpose.

On the other hand, it was also proposed to compensate for the shortage of labor by increased mechanization of agricultural exploitation, and 2 million dollars (40% of the Component's resources) were assigned to the granting of loans for the purchase of machinery.

Likewise the necessity of expanding the agricultural frontier was assumed, and 0.5 million dollars (10% of the Component's resources) were assigned for this purpose.

As may be observed these hypotheses are of a general nature and are also ambiguous, since they do not present evaluative elements which would permit impact to be measured, such as agriculturalists to benefit from the measures, surface areas to be covered by crops, duration, etc.

6.5.2. OBJECTIVES

The objectives of the Agricultural Credit Component of PEAH are to extend the mechanisms of credit and the annual placement levels in real terms of loans in the Project area, in order to compensate for the loss of liquidity caused by coca erradication, to mechanize agricultural exploitation and to expand the agricultural frontier.

6.5.3. GOALS

Initially 5 million dollars were to be invested, 4.8 from an AID loan and 0.2 million from an AID donation, up till September 15th 1986. 4.8 million were to be devoted to loans and 0.2 million to technical assistance.

Later, with Amendment No. 5, the amount to be invested by this Component was reduced to 3.956 million dollars; 3.8 from the AID Loan for credits to agriculturalists and 0.156 million from the AID Donation for technical assistance. The term of investment was

extended to September 15th 1988.

The granting of credits was to be effected through the Peruvian Agrarian Bank (Banco Agrario del Peru - BAP) and the National Cooperative Bank Limited (Banco Nacional Cooperativo del Peru Ltda. - BANCOOP).

6.5.4. CONCLUSIONS

1. A first conclusion should stress the following points relating to the execution of this Component:

   a) In spite of the fact that coca farming finances the cost of other crops, the fall in production and in the surface area of licit crops is essentially due to the increase in surface area under coca.

   b) A considerable sector of erradicated colonists moved from the right bank to the left bank of the Alto Huallaga or to zones further from the Marginal Highway in order to establish new coca plantations.

   c) The abandonment of lands in flat areas of the Alto Huallaga occurred basically as a result of the diffusion of coca farming, as demonstrated in the working document corresponding to Social Promotion and Community Development which forms part of this evaluation.

   d) Wage laborers, both permanent and temporary, did not leave the region but rather moved to more distant zones together with the owners of coca plots.

2. The placements in terms of loans and loan commitments for 1986 totalled the equivalent of US$3'317,505 - Executive Letter No. 56 - since the amount originally contemplated for this component had been reduced by a million dollars. The results of the efforts of the Direction of this Component, while they produced an increase in placements, which depend in large part on the profitability of licit crops in the valley, have not achieved the investment levels initially programmed by PEAH. During the execution of the Project, illegal coca plantations continued to expand in the valley.

3. The placements and commitments were executed almost entirely through BAP. The program which should have been executed through BANCOOP was paralyzed in its first year due to the institutional crisis within this credit entity. Having passed through this crisis with support from the Government, a new

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Agreement was signed between PEAH and BANCOOP which has recently entered into operation.

4. It should be especially emphasized that the application of PEAH funds has not produced the effect of increasing agricultural surfaces under use, since overall credit demand has not increased. This is true even to the extent that in part PEAH resources have replaced BAP's own loan funds, as may be seen from the following table:

AGRICULTURAL SURFACES FINANCED IN THE ALTO HUALLAGA
(hectares)

YEAR	BAP FUNDS	PEAH FUNDS	TOTAL
1981	5,235	---	5,235
1982	4,487	15	4,502
1983	2,997	1,925	4,922
1984	2,182	2,137	4,319
1985	3,109	1,262	4,371

SOURCE: OSE-MA

5. Loan applications are processed by the engineers who work in the BAP offices in Tingo Maria, Aucayacu and Tocache. In 1981 according to the FDN study BAP in these three (3) offices had 10 engineers; at present there are 11, showing that the increase in BAP's installed capacity in this respect has been minimal.

6. The number of loans granted by BAP between 1980 and 1985, including those using PEAH funds, reached a maximum of 1,320 in 1981 and registered a minimum of 1,200 in 1985. In the Chapter on the Rural Survey in this report 24,000 survey units are considered for the Alto Huallaga; which would indicate that credit only reaches a maximum of 5.5% of the agriculturalists in the valley. The number of loans granted by BAP is shown in the following table:

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LOANS GRANTED BY BAP
(number of loans)

YEAR	OWN RESOURCES	PEAH RESOURCES	TOTAL
1980	1,281	----	1,281
1981	1,320	----	1,320
1982	1,145	9	1,154
1983	729	532	1,261
1984	633	586	1,219
1985	882	318	1,200

SOURCE: BAP - DEPARTMENT OF STATISTICS
OSE-MA

7. Of the volume of credit applied by BAP in the Alto Huallaga with its own resources, the commercialization credits granted to one or two borrowers each year (Naranjillo Cooperative) represent between 31% and 60% of placements, as shown in the following table:

APPLICATION OF BAP'S OWN RESOURCES
(amounts refer to %)

YEAR	MAINTENANCE	CAPITALIZATION	COMMERCIALIZATION
1980	46	17	37
1981	68	1	31
1982	42	24	34
1983	39	1	60
1984	17	38	45
1985	25	16	59

8. The maintenance loans represent a lower percentage of placements during the past three years, due in part to the use of PEAH funds for this category of loan.

9. The resources of the PEAH Credit Component applied in the Alto Huallaga in 1985, represent only 10% of the total BAP placements, as may be seen from the following table:

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APPLICATION OF LOAN FUNDS BY BAP
(thousands of Intis)

YEAR	OWN RESOURCES		PEAH RESOURCES		TOTAL AMOUNT
	AMOUNT	%	AMOUNT	%	(100%)
1980	1,386	100	----	--	1,386
1981	1,376	100	----	--	1,376
1982	2,193	99	25	1	2,218
1983	2,459	74	881	26	3,340
1984	13,653	92	1,194	8	14,847
1985	49,733	90	5,720	10	55,453

SOURCE: BAP - DEPARTMENT OF STATISTICS
OSE-MA

10. It was counterproductive to subject the Alto Huallaga Development Credit program to the same possibilities and conditions as normal BAP credits, without changes in its mode of action being introduced by this entity, and without the increase in specialized technical personnel to give priority attention to the program. It should be pointed out that PEAH's direct intervention in the processing of credit applications from 1986 is having the effect of increasing placements.

11. 80% of maintenance loans were oriented to the growing of maize and rice, even where other placement possibilities exist. In this respect credit has not fulfilled its role in promoting the diversification of crops, due to the lack of demand for loans for this purpose.

12. Drug laws prohibit the giving of technical, credit or other forms of assistance to agriculturalists who grow coca, other than for the substitution of this crop. For this reason the functions of entities responsible for these actions - in the case of credit BAP and BANCOOP - are subject to the previous erradication of coca and the eventual demand by agriculturalists affected by this. The negative existing situation as regards these points has been described in Chapter 3, and has affected credit placements.

13. The requirement which stipulates that the agriculturalist should neither be a coca grower nor start this crop is one of the Loan Clauses. BAP verifies this by field inspections. In the case of loans with PEAH funds, initially a Sworn

Declaration with legalized signature was required, which was later substituted by the above mentioned contractual clause, due to the fact that the legalization process is difficult and onerous owing to the lack of district authorities.

14. BAP acts in an isolated fashion since its interinstitutional coordinations are weak, above all with the Promotion Zone responsible for Agricultural and Livestock Extension.

15. There was no demand for Capitalization Credits with PEAH funds until the end of 1984 due to the difficult and time-consuming bureaucratic procedures, and above all to the indexed interest rates which were onerous and unattractive to agriculturalists. The modification for the execution of an interine Program of non-indexed medium-term credits was approved by AID only on June 15th 1984.

16. Apart from the problems of scarce credit demand due to the effects of the coca economy, BAP has shown that its placement capacity even under normal conditions is low and it has not fulfilled the expectations, objectives and goals set. Likewise, BAP acts only to receive credit applications but not to actively promote credit.

17. In terms of socio-cultural characteristics, the study by INANDEP showed that migrants - who are generally more innovative - tend to have a higher rate of credit demand than those who are native to the region, and among the former the greatest demand is found among agriculturalists of Andean rather than jungle origin. This finding by INANDEP confirms those of previous studies regarding the more intensive working pace of Andean agriculturalists in colonization zones, as well as their greater commercial orientation as compared to those who originate from the jungle region. Evidently greater use of credit reflects a greater or more accentuated market orientation as opposed to family subsistence consumption.

18. An important point made by the INANDEP study is that the level of income of the agriculturalist is positively associated with the degree of demand for credit. Nonetheless this study does not specify if this is a pre-requisite for credit demand or rather a result of previous credits. In our opinion, lower-income farmers - who are evidently not coca growers, since they are poor - do not request credit. The uncertainty of prices or of obtaining labor as well as the low probability of being able to repay a relatively large sum of money are elements which create low demand for credit.

19. Finally, the INANDEP report indicates too the typical secondary bottlenecks which reduce the demand for credit. Among these are lack of familiarity on the part of agriculturalists with banking procedures; the low amounts loaned; delays in payment

or inopportune execution of loans (an average of 40 days delay); the short repayment periods and the excessive number of average visits required (usually 7) to the Bank premises in order to fulfill procedures. This latter may be the most significant factor, since in many areas agriculturalists must undertake a whole day's journey each time they visit the bank. If we add to this the scarcity of manpower or daily laborers who could replace the colonist during the time he employs in order to obtain credit, we may deduce how unattractive it is to initiate a loan application.

6.5.5. RECOMMENDATIONS

1. With respect to the persistence of typical bottlenecks it is recommended: that massive campaigns be effected publicizing banking procedures among agriculturalists; that the procedures for credit applications be simplified, that loans should be granted of amounts which correspond more closely to real production costs, and finally that repayment periods should be lengthened. In this respect the current campaign by extension workers, involving their carrying out the procedures required for loan applications on behalf of the agriculturalist, is a positive contribution. The possibility of extending the coverage of this campaign should be studied.

2. It is also recommended that studies be undertaken of the possibility of extending credit coverage to certain agriculturalists who are apparently not coca growers and whose income levels are low. The regional socio-economic study which is suggested in this report would probably provide guidelines for this.

3. The Credit Program using PEAH funds should be oriented towards those categories of credit not traditionally attended by BAP. Priority should be given to medium and long term loans for agroindustry, as well as to loans for the commercialization of supplies and products.

4. Capitalization credits should be substantially increased, as a fundamental action for agricultural and livestock development. Systems and executive procedures should be improved, eliminating obstacles in order to promote this type of credit.

5. The greater use of supervised credit should be promulgated, in order for this type of credit to fulfill its function in agricultural promotion, and above all in order to raise productivity in the field and intensify soil use.

6. It is recommended that BAP's installed capacity be increased in terms of technical personnel, in order to ensure the opportune and agile processing of credit applications by this entity, and above all for the purposes of identifying borrowers and promoting credit in a team effort together with INIPA extension workers.

7. It is recommended that greater coordination be established between BAP and the Extension Organs, in order to broaden placements and apply group or joint credits for certain areas. This would avoid individual credit applications and the corresponding bureaucratic procedures and would encourage association between neighboring farmers.

8. PEAH should promote and organize a training program for INIPA extension agents on credit systems and procedure, with the active participation of BAP and UNAS personnel. The objective of this training is to prepare extension personnel for active participation in the credit program.

6.6. PRODUCTION SERVICES COMPONENT

This component includes the following sub-components:

a) Land Registration and Titles
b) Services in Buying and Selling of Supplies and Products
c) Agroindustrial Promotion

6.6.1. LAND REGISTRATION AND TITLES SUB-COMPONENT

6.6.1.1. OBJECTIVES

According to Project Paper the general objective of the activities of land registration and titles is to correct the precarious system of rural private property which exists in the Alto Huallaga ambit.

The Specific Objectives are: initially, to regularize legal documents relating to land tenure of the agriculturalists within the project area, followed by the registration of changes in land titles and the incorporation into the Public Registers of lands without titles.

6.6.1.2. ACTIVITIES

a) The granting of land titles to those agriculturalists who are settled in the area and do not possess legally valid titles.

b) The establishment of two (2) sub-departmental offices of the Land Registry (Office of the Public Registries).

Activities contemplated within the Development and Interpretation of Information on Resources Component are vital to the process of land registration for the areas occupied by agriculturalists. For this reason we include in this part of the report the following specific activities of this Component:

- Aerial Photography
- Elaboration of Topographic Maps
- Elaboration of Maps of Soil Use Capacity
- Elaboration of Survey Maps

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6.6.1.3. CONCLUSIONS

1. The lack of availability of recent and adequately scaled aerial photography has constituted the principal limitation on the Cartography, Rural Survey and Land Classification activities which are pre-requisites for land registration. It also impeded the carrying out of adjudication of lands in priority areas in the early years of CORAH.

   Of a total of 900,000 hectares to be photographed from the air by SAN under contract in 1980 at a scale of 1:20,000, 279,424 hectares were photographed; and of 350,000 hectares which were to be photographed under contract by ONERN only 266,000 hectares were covered, partially duplicating those covered by SAN. PEAH did not assign resources for the completion of aerial photography of the Alto Huallaga, and this remained subject to the availability of material contracted by other entities.

   We have received information to the effect that CORAH with financing from the United States Embassy has contracted 1:10,000 scale aerial photography covering the Alto Huallaga; however this material is not yet available for use by PEAH.

2. The mapping of 391,000 hectares obtained by photogrametric restitution, although it does not cover the totality of the area affected by agricultural activity, constitutes an important achievement by PEAH, since it has broadened the coverage and improved the quality of the existing topographic maps.

3. The surveying has been completed of the totality of the existing agricultural units in an important zone of the Project between Tingo Maria and Tocache, going beyond the conception in Project Paper which was of completion of the survey inventory. The reason for this change was the advisability of registering on the basis of the newly available and more accurate mapping the current limits of all agricultural and livestock units.

   The information thus obtained should serve as the basis for the adjudication and registration of lands.

4. The reverting of lands to State control in the case of 2,431 holdings which were not being managed by adjudicatees, as well as the 648 cases being processed, constitutes one of the principal achievements of PEAH, considering the goal set of 3,500 holdings. This leaves the way clear for the readjudication of these holdings as conditions permit. This is especially important when we consider the lengthy bureaucratic procedures involved in reversion, which is a necessary previous step for the readjudication of lands which have been abandoned or are being used by persons other than the adjudicatee.

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TABLE 15 : PRINCIPAL BUREAUCRATIC PROCEDURES FOR ANNULMENT OF CONTRACT OF ADJUDICATION AND LAPSE OF TITLE

PROCEDURE	LEVEL RESPONSIBLE	ESTIMATED DAYS DURATION
1.Identification of holding (census and survey)	Local	
2.Notification of date for ocular inspection	Local	8
3.Ocular Inspection	Local	5
4.Organization of documentation with technical and legal report	Local	5
5.Raising documentation to Huanuco Agrarian Region Tingo Maria Agrarian Office	Local	3
6.Study of documentation and issue of First Instance Directoral Resolution	Regional	5
7.Return of documentation and Directoral Resolution for Notification	Regional	3
8.Notification of Directoral Resolution (period for appeal)	Local	3 15
9.Return of documentation to Agrarian Region for raising to DGRA/AR	Local	3
10.Raising of documentation to DGRA/AR	Regional	7
11.Study of documentation and issue of DGRA/AR of Ministerial Resolution (lapse of title)	Nacional	15
12.Return of documentation with 2nd. Instance Resolution to Agrarian Region	Nacional	7
13.Documentation returned to Aucayacu for notification	Regional	3
14.Notification of Resolutions (period for impugment before Agrarian Tribunal)	Local	3 15
T O T A L		100

TABLE 16 : EXAMPLES OF DURATION OF PROCEDURES FOR REVERTING OF LANDS

A. DOCUMENTATION FOR ANNULMENT OF CONTRACT OF ADJUDICATION

DOCUMENTATION No.	DATE OF NOTIFICATION	REGIONAL RESOLUTION	LIMA RESOLUTION	TOTAL TIME MONTHS
1904/72	10-10-84	02-07-85	09-27-85	11
3852/71	11-15-83	03-14-84	04-16-85	16
0892/71	02-18-83	04-21-83	10-17-83	8
0683/71	05-11-81	04-02-82	09-22-83	27
0292/75	03-05-85	09-12-85	without resol	-
06/85	08-08-85	01-31-86	without resol	-
020/84	06-08-84	01-31-86	without resol	-

B. DOCUMENTATION FOR LAPSE OF PROPERTY TITLES

DOCUMENTATION No.	DATE OF NOTIFICATION	REGIONAL RESOLUTION	LIMA RESOLUTION	TOTAL TIME MONTHS
LOTE 15/B	09-05-84	03-13-85	03-06-86	18
LOTE 109/1	06-04-84	01-30-85	11-08-85	17
LOTE 110/3	07-16-85	11-15-85	without resol	-
LOTE 88/A	01-03-85	04-11-85	without resol	-

TABLE 17 : SUMMARY OF ADVANCES IN TITLING AND PRIOR ACTIVITIES

ACTIVITY	UNIT MEASURE	GOAL TOTAL	EXECUTED 1982	1983	1984	1985	1986	TOTAL EXECUTED	%
CARTOGRAPHY									
Aerial Photograph	has.	900000	266000	130000	---	149000	---	545000	60.5
Restitution	has.	526000	---	192860	171340	27200	---	391400	74.4
SURVEY	(1)								
Delimitation	S.U.	24000	---	2167	5329	649	151	8109	33.8
Maps and Lists	S.U.	24000	---	---	2167	---	2197	4364	18.2
REVERSION									
Ocular Inspect.	Holding	3500	358	1272	954	312	156	3052	87.2
Resolutions	Holding	3500	---	148	1143	1103	37	2431	69.4
TITLING									
Classification	Benef.	4710 (1)	---	167	224	205	149	745	15.8
Adjudic. Contract	Benef.	4710 (2)	---	132	---	214	148	494 (3)	10.2

(1) Survey Units : one holding may consist of more than one survey unit
(2) At least 3500 correspond to reverted holdings
(3) With a surface area adjudicated of 7,113 has. of the 494 plots, 365 are reverted holdings
(4) With an estimated surface area of 91,850 has.

SOURCE: Reports by General Rural Survey Office and Aucayacu Survey and Land Titles Office

TABLE 18 : LAND REGISTRY SUB-COMPONENT - TITLES AND CERTIFICATES PROCESSED AND TYPES OF REGISTER
AUCAYACU REGISTRY OFFICE

TYPES OF REGISTERS	TITLES		CERTIFICATES					
	PROCESSED	%	NEGATIVE PROPERTY	POSITIVE PROPERTY	LITERAL	MORTGAGE	OTHERS	TOTAL
1.PROPERTY								
Urban Holding	176 (1)	58.0	-	-	-	-	-	-
Rural Holding	32 (2)	10.7	97	5	13	25	9	149 (3)
2.MERCANTILE	12	3.9						
3.MANDATES	64	21.1						
4.OTHERS	19	6.3						
GENERAL TOTAL	303	100.0	97	5	13	25	9	149
PROPERTY TOTAL	208	68.6	97	5	13	25	9	149

(1) 17 holdings correspond to the period of September 83-January 84.
The remainder to the period November 85-July 86.
(2) 1 holding corresponds to the period of September 83-January 84.
The remainder to the period November 85-July 86.
(3) All certificates correspond to the period November 85-July 86.

SOURCE: REGISTRY OFFICE REPORT

5. The lengthy procedures for the reversion and subsequent readjudication of lands to their current users who do not possess legal titles is a problem which discourages agriculturalists concerned to regularize their tenure, and frustrates their expectations towards PEAH.

   The reversion procedure involves 14 steps and requires for its legal culmination a period of 3 or 4 months at least. Documentation chosen at random shows a period of delay in these procedures of between 8 and 27 months, with delays being produced at local, regional and national levels (Tables 15 and 16).

6. The goals met in terms of land titles are of comparatively little significance, considering the number of holdings still to be registered. Achievement in this area has been made more difficult due to the presence of coca crops and the lack of interest and even hostility displayed by some of the potential beneficiaries.

   While the goal which had been set was of 4,710 beneficiaries and a total surface area of 91,850 hectares, in fact only 7,113 hectares were adjudicated to 494 agriculturalists.

   Of 2,431 plots which reverted to the State, only 355 had been readjudicated as of June 30th 1986 (Table 17).

   The lack of coincidence between erradication areas and PEAH's work areas gave rise to the situtation in which many plots which had reverted to the State could not be readjudicated since they were under cultivation with coca.

   Furthermore, the erradication of coca crops generated hostility and rejection among peasants affected by this, at least up till the time when they were interviewed for the purposes of census and classification. In addition to this, the atmosphere of insecurity created by terrorism and the drug trade contributed as well to the virtual paralyzation of field work in this sector.

7. The Sub-Departmental Registry Office of Aucayacu, which was created in 1983, in practice only began to function at the end of 1985, and has only one Registry Secretary.

   At the time of the evaluation there was a clear tendency towards the inscription of titles relating to urban holdings (58%) and mandates (21.1%) as compared to titles of rural holdings (10.7%). On the other hand, all the Certificates issued correspond to rural holdings (149) (Table 16).

   To date a system has not been implemented which would allow the Registry Office to work in coordination with the Survey Office

in order to base the rural Property Register and its modifications on a single up-to-date mapping and survey of the area.

8. There is a high degree of mobility and informality in the occupation and transfer of land, both lands belonging to the State and those plots which have been adjudicated and abandoned. This fact may be appreciated from the number of plots which have reverted to the State because they are occupied by persons other than the adjudicatee who do not possess legally valid title, as well as from the large proportion of areas under de facto occupation.

   The offices of the Ministry of Agriculture in the ambit of PEAH are not able to deal opportunely and promptly with the problems arising from this situation, thus contributing to the tendency of landholders to resort to informality. Among other causes, this is due to the delays and complications involved in legal procedures for the reversion and readjudication of abandoned holdings, and to the lack of basic information which would permit the rapid adjudication of freely available lands.

6.6.1.4. RECOMMENDATIONS

1. PEAH should coordinate with CORAH in order to obtain for use by PEAH the aerial photography (1:10,000 scale) which CORAH is being provided with thanks to financing from the United States Embassy.

2. PEAH, DGRAAR and ONARP should agree upon and implement the procedures for the coordination of functions of the Registry Office and the Survey, Agrarian Reform and Rural Settlement departments of Aucayacu, in order to provide a mapping and survey basis for the rural property register.

3. Considering the problems in field work in much of the Project area, the Agrarian Region office in Aucayacu which is in charge of Survey and Land Titles should give priority among its activities to the regularization of inscription in the Aucayacu Registry Office of lands which have reverted to the State and those which have been adjudicated.

4. Having once established the procedures which are recommended in point 2 above, PEAH should give broad publicity coverage to the services which the Aucayacu Registry Office would then provide, including those which relate to the Registry of Landed Property of rural holdings.

5. For the purposes of those actions mentioned in points 3 and 4

above, the Aucayacu Registry Office should be duly equipped and supplied, and should be staffed by an official Registrar.

6. PEAH should coordinate with CORAH in order to give preference to the granting of land titles to ex-coca growers.

7. The offices responsible for Survey and Titles at a local and especially at a regional and national level should execute their actions and procedures more rapidly.

8. DGRA/AR and PEAH should study the problems of informality and mobility which exist in the tenure and transfer of land within the Alto Huallaga ambit in particular, and should design procedures for opportune and rapid attention to the needs of the peasant population. These procedures by ensuring the prompt adjudication and transfer of holdings would avoid the tendency of the landholder to resort to informality.

6.6.2. SERVICES FOR BUYING AND SELLING OF SUPPLIES AND PRODUCTS SUB-COMPONENT

6.6.2.1. OBJECTIVE

Improve the system of marketing of supplies and products in order to attend more efficiently the needs of the agriculturalist in this respect.

6.6.2.2. ACTIVITIES AND GOALS

a) GRAIN STORAGE AND HANDLING

i) Increase grain storage capacity in Tocache to 2,100 metric tons. This should alleviate the situation of limited storage capacity in this zone, which is considered that of greatest potential for rice production.

ii) Provision of grain dryers for the existing warehouses in Progreso and Tingo Maria (Naranjillo), in order to prevent losses due to storage in unsuitable conditions. Acquisition of humidity meters and laboratory equipment for the ENCI and ECASA warehouses in Tingo Maria.

iii) Improvement in the technical capacity of the agencies responsible for grain storage, in terms of operations, logistics and handling. To this end, it is proposed to train the corresponding personnel within the country, and

to provide short-term technical assistance.

b) SUPPLY OF FERTILIZERS

It is proposed to establish a pilot scheme of incentives to increase the distribution of fertilizers through the private sector in the Tocache area, where there is insufficient supply of these inputs.

c) IMPROVEMENT IN SEED SUPPLIES

A Certified Rice Seed program is envisaged, in order to increase the availability of improved varieties of seed in the Project ambit.

d) PRODUCTION OF LIME FOR AGRICULTURAL USE

The production of ground dolomite rock for agricultural use, employing a small mobile grinder belonging to the road maintenance program. This machine should work part time, according to the needs of the zone, in different places previously chosen for this purpose.

6.6.2.3. CONCLUSIONS

1. In general terms, the activities carried out in the areas of grain storage and handling have been oriented according to the guidelines in Project Paper, though the equipment for the improvement and increase in storage and drying capacity has not yet been fully implemented.

   The principal problem for the implementation of grain storage and handling activities has been the delay in achieving the necessary levels of coordination with ENCI and ECASA for the signing of respective agreements stipulated in Section 5.7 of the Loan Contract as a prerequisite for the release of funds. To this has been added the time required for the elaboration of engineering, operative and acquisition plans, which are also part of the above-mentioned prerequisites.

   In spite of the fact that coordinations were initiated by PEAH in a timely fashion, agreements were only signed with ENCI on June 25th 1985 and with ECASA on October 29th 1985. According to our review of the documents relating to the negotiations, PEAH carried out its part in these correctly, but did not meet

TABLE 19 : USE OF FERTILIZERS BY CROP TYPE IN AGRICULTURAL AND LIVESTOCK UNITS
PERCENTAGES 1984-1984 - BY ZONES OF PEAH AMBIT

CROPS	AUCAYACU		TINGO MARIA		UCHIZA		LA MORADA		TOCACHE		CAMPANILLA	
	1984 (2)	1983 (2)	1984 (2)	1983 (2)	1984 (2)	1983 (1)	1984	1983	1984 (2)	1983 (1)	1984 (1)	1983
TOTAL %	100	100	100	100	100	100	---	---	100	100	100	---
A.L.U. Absolute Figures	(53)	(100)	(129)	(275)	(15)	(209)	---	---	(8)	(55)	(14)	---
Coca	69.8	65.0	54.3	57.0	53.3	76.6	---	---	---	1.8	---	---
Cacao	67.9	36.0	45.7	26.9	26.7	7.6	---	---	12.5	12.7	---	---
Coffe	26.4	23.0	37.2	24.7	---	0.4	---	---	---	---	---	---
Plantain	5.7	7.0	15.5	6.1	9.5	10.5	---	---	75.0	23.6	21.4	---
Citruses	3.8	5.0	3.9	4.7	---	3.8	---	---	---	5.4	---	---
Maize	3.8	3.0	2.3	1.0	6.7	3.3	---	---	37.5	10.9	25.0	---
Rice	5.7	1.0	1.6	---	13.3	1.9	---	---	50.0	3.6	75.0	---
Manioc	3.8	3.0	0.8	---	---	0.9	---	---	---	---	---	---

(1) A.L.U. Census

(2) A.L.U. Sample

SOURCE: Statistical Compendiuns PEAH_OSE: 1981-1983 and 1984

TABLE 20 : USE OF PESTICIDES BY CROP TYPE IN AGRICULTURAL AND LIVESTOCK UNITS
PERCENTAGES 1984-1984 - BY ZONES OF PEAH AMBIT

CROPS	AUCAYACU		TINGO MARIA		UCHIZA		LA MORADA		TOCACHE		CAMPANILLA	
	1984 (2)	1983 (2)	1984 (2)	1983 (2)	1984 (2)	1983 (1)	1984	1983	1984 (2)	1983 (1)	1984 (1)	1983
TOTAL %	100	100	100	100	100	100	---	---	100	100	100	---
A.L.U. Absolute Figures	(87)	(169)	(305)	(476)	(16)	(346)	---	---	(22)	(122)	(18)	---
Coca	49.4	43.1	53.1	48.5	56.2	71.9	---	---	13.1	4.1	5.5	---
Cacao	48.3	34.3	41.0	26.4	12.5	8.9	---	---	19.4	9.0	---	---
Plantain	25.3	27.8	11.2	10.7	18.8	24.2	---	---	27.8	40.9	5.5	---
Coffe	19.5	18.3	42.3	31.7	---	0.8	---	---	---	---	---	---
Citruses	3.4	4.7	3.0	2.1	---	1.7	---	---	---	2.4	---	---
Maize	3.2	1.1	2.0	1.8	6.2	2.0	---	---	9.5	8.2	11.9	---
Manioc	3.2	1.7	1.3	0.6	6.2	1.4	---	---	---	1.6	5.5	---
Rice	1.2	0.5	0.6	0.2	6.2	1.4	---	---	31.3	35.2	45	---

(1) A.L.U. Census

(2) A.L.U. Sample

SOURCE: Statistical Compendiuns PEAH-OSE: 1981-1983 and 1984

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with the necessary response on the part of the executive entities concerned.

2. Since the equipment acquired has not been installed and made operational, nor has the capacity for grain storage been increased in Tocache, the situation as regards the acquisition and bulk collection of grains has not improved, and at the same time liquidity problems in ECASA and ENCI have continued to exist. Thus in objective terms incentives for maize and rice growers have not been established or improved as far as the commercialization of their production is concerned. Nevertheless, improvements have been produced in other areas such as the provision of technical assistance, improved seed and agricultural machinery, in the case of those pioneering agriculturalists who have initiated the cultivation of rice under irrigation in La Morada and Tocache.

3. Though the local technical staff of ENCI and ECASA have received training, the administrative and operational functioning of these agencies have not been improved, especially as regards timely payment to producers, due to institutional problems of an administrative and financial nature.

   The training of ENCI and ECASA personnel aimed to improve the technical capacity of agencies responsible for grain storage. To this was to be added agile and functional administrative operation, including prompt payment to producers. From the point of view of the technical training of personnel, the courses which have been held represent an important advance; nevertheless there is no evidence that the global objective of improved functioning of the agencies has been achieved. Apart from the technical capacity of local level functionaries and employees, attempts should be made to solve institutional administrative and financial problems which have remained constant.

   The financial resources destined to this component have been directed almost entirely to infrastructure and equipment for grain storage and drying, and have not included financial support in order to alleviate the liquidity problems of ECASA and ENCI, problems which permanently affect the productive process of rice and maize in the Project ambit.

4. Incentives have not been established for the pilot scheme of increased fertilizer distribution through the private sector in Tocache, though in the PEAH-ENCI agreement there is a projected study of the establishment of a center for the sale of these inputs in this locality.

   The main problem would seem to have been lack of interest on the part of ENCI, as well as concern regarding the eventual

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destination of these products, which it was feared would be their use for coca cultivation. According to OSE information the use of fertilizers and pesticides is greatest in the case of coca crops, followed by cacao, coffee and plantains (Tables 19 and 20).

5. PEAH has produced ground dolomite rock, and has donated small quantities to research centers and agriculturalists, as well as selling some to EMDEPALMA. However an integral program has not been articulated to encourage the use of dolomite, a program which would include research, extension and promotion. On the other hand, the rock grinder is out of action at present, thus failing to fulfill its function for the production of pulverized dolomite for agricultural use and also of ground rock for highway maintenance.

   Problems in ground dolomite production and distribution have related to the equipment required, the institutions involved and the environment. The machine purchased by AID was not suitable for the purpose of producing pulverized dolomite, and the resulting product was mostly unsuitable for immediate agricultural use, having to be further ground by hand in small quantities.

   As regards the institutions involved, PEAH did not manage to articulate the participation of CIPA and UNAS in an integral program of research, demonstration, extension and promotion.

   Finally, the atmosphere of violence in the zone and the attacks made upon State property have led to the fact that the grinding equipment has not been transferred to other quarries where it should have produced material for road maintenance, but where it would have been more vulnerable to terrorist attacks.

6. PEAH, in coordination with ECASA and with the Tingo Maria Promotion Zone, has acquired and distributed rice seed, especially the CICA 8 variety. The Experimental Agricultural Station at Tulumayo has also produced CICA 8 and African Unknown varieties of seed for sale to agriculturalists in the Alto Huallaga. Nonetheless, in general terms there does not yet exist in the project zone a timely and sufficient supply of seed or cultigen varieties of superior quality for annual or permanent crops.

   Under the agreement signed between PEAH and ECASA on October 29th 1985, one of the objectives indicated is the establishment of a program for the supply of certified rice seed of improved varieties to agriculturalists within the ambit of PEAH. ECASA commits itself under this agreement to consign sufficient quantities of certified rice seed for the sowing campaign corresponding to each annual operative plan, and in accordance with the specific agreement to be signed for this purpose. It

TABLE 21

STUDIES CARRIED OUT FOR AGROINDUSTRIAL PROMOTION

A. PROFILES

- Balances Feed Plant
- Fruit Processing Plant
- Cattle Slaughterhouse
- Pasteurized Milk, Cheese and Butter Processing Plant
- Soya Oil Processing Plant
- Techno-economic profile for a Sugar Milk in the Alto Huallaga
- Techno-economic profile for Promotion and Development of Small and Medium Sized Palm Oild Production Units in the Tocache Zone
- Exploitation Planta for Dolomite Coushing Plant

B. PRE-PROJECTS

- Dehydration Plant for Fruits and Vegetables
- Processing Plant for Oil Essences - Hierba Luis, Citronela and Mint
- Lemon Oil Essence Processing Plant
- Spices Processing Plant
- Plant for Extraction of Crude Dye from Achiote
- Processing Plant for Marañon Nut or Cashew
- Processing Plant for Soy and Peanut Crude Oil, Cake and Flour for Human Consumption
- Manioc and Pituca Starch Processing Plant

C. OTHERS

- Study of Pre-Feasibility and Engineering Pre-Project for Industrial Polygon

is thus clear that the legal basis has been established for the fulfillment of the activities envisaged in Project Paper, but this requires subsequent coordinated work between PEAH, CIPA and ECASA.

6.6.2.4. RECOMMENDATIONS

1. An amendment should be considered which would allow the provision of annual loan funds for working capital to ECASA and ENCI, in order for these entities to purchase the harvest of rice and maize and make immediate payment to producers. ECASA and ENCI in turn should establish, in coordination with PEAH and with producers' representatives, temporary reception centers for the harvest period, employing existing storage capacity. Likewise, PEAH should intensify coordinations with ECASA for the culmination of the implementation of warehouses with the equipment purchased.

2. PEAH should effect together with ENCI a study of the supply of agricultural inputs in the Project ambit, in accordance with the PEAH-ENCI Agreement.

3. PEAH together with ECASA, CIPA and the Rice Producers' Committee should establish the certified rice seed program envisaged under the PEAH-ECASA Agreement. For other annual and permanent crops, the supply of seed, fertilizers, dolomite rock and other inputs should form part of the integral projects for crop systems which are recommended here as part of a new strategy of action for the Project.

6.6.3. AGROINDUSTRIAL PROMOTION SUB-COMPONENT

6.6.3.1. OBJECTIVE

To promote and support the development of agroindustries and product processing activities in the Alto Huallaga zone.

6.6.3.2. ACTIVITIES

1. Provision of technical assistance, be this direct or by means of the hiring of short term assessors.

2. Development of prefeasibility studies for investment in commercialization and agroindustries, directly or by means of the hiring of outside experts.

3. Distribution of information among producers regarding the requirements of processing plants and prices of products, and among industrialists regarding local conditions of supply.

4. Support to investors for the presentation of requests for credit to financial entities, work with banks and investors for the execution of adequate feasibility studies, and finally identification of possible investors.

5. Identification of consumers of local goods, putting them in contact with local producers and processors.

6.6.3.3. CONCLUSIONS

1. In general terms the activities contemplated in the operative plans are related to the objectives and actions envisaged by Project Paper, though actual achievements do not meet the goals set.

   Abundant work has been carried out on the identification of investment opportunities by means of the elaboration of profiles and pre-projects, and in the agroindustrial and commercialization study carried out by IRI (Table 21).

2. As regards the elaboration and distribution of informative material and the identification and follow-up of possible investors, a good start has been made but there is a lack of continuity and reorientation of strategy in view of the scarce results obtained.

3. With respect to the development of projects which have been selected as far as the level of prefeasibility or feasibility, the studies programmed have not been carried out. However this would seem to be irrelevant since there are in any case no investors interested in these projects. Success in developing agroindustrial investment programs in the private sector depends on the set of factors which includes interest, decision and dynamism on the part of the industrialist and support from the public sector. The elaboration of prefeasibility or feasibility studies does not in itself constitute a sufficient stimulus or promotional element.

4. The increase in production costs caused by the coca economy and the deterioration of conditions of security for investment due to the drug trade and terrorist violence, contribute to a configuration of relative disadvantage for the Alto Huallaga region, which acts as a disincentive to interest among possible investors, and neutralizes the promotion work PEAH may carry out.

5. There are agroindustries already established in the Alto Huallaga such as EMDEPALMA, PALMAS DEL ESPINO, PALMA SELVA, TABACOS DEL PERU, COOPERATIVA JARDINES DE TE EL PORVENIR, COOPERATIVA TE CAFE DEL PERU, PLANTA DE PROCESAMIENTO DE LA COOPERATIVA NARANJILLO (Naranjillo Cooperative Processing Plant) and other small industries, which confront the difficulties mentioned in the previous paragraph and deserve PEAH's support to aid their activities. These companies and cooperatives are also in a position to be able to develop new agroindustrial activities which constitute too an excellent area for PEAH support in accordance with its objectives in terms of increasing and diversifiying production.

6. The hydroelectric power transmission line between Cerro de Pasco, Huanuco and Tingo Maria is under construction, and this should be extended to Aucayacu. However there are certain problems regarding the financing of this extension, which is of considerable importance for agroindustrial development in the zone.

6.6.3.4. RECOMMENDATIONS

1. The State should undertake integral action for the pacification of the Alto Huallaga, in order to control Sendero Luminoso and drug-related violence, and execute a new strategy for the erradication of coca crops and their substitution by licit agricultural exploitation. This strategy should be carried out in conjunction with the agriculturalists themselves.

2. In parallel form, PEAH should persist in its activities which are designed to make existing agroindustrial investment possibilities in the zone more widely known, and to identify and support possible investors.

3. PEAH should establish a program for support to agroindustries which already exist in the Alto Huallaga. This program should include points such as agricultural research to improve crop yields, extension and promotion to increase supplies of raw material, credit for improving equipment and/or processing technology, neighborhood road maintenance, identification and study of new agroindustrial activities, etc.

4. The possibility should be studied of establishing, with AID resources, a Guarantee Fund for new investments in agroindustry in the Alto Huallaga.

5. Mechanisms should be studied for ensuring exceptional incentives for reinvestment in agroindustry in the Alto Huallaga, related to Banca de Fomento (Fomentation Bank)

credits of exceptional conditions.

6. INADE should negotiate the realization of the extension of the hydroelectric power transmission line from Tingo Maria to Aucayacu.

6.7. DEVELOPMENT AND INTERPRETATION OF INFORMATION ON RESOURCES - SYSTEM OF STATISTICAL INFORMATION COMPONENT

6.7.1. OBJECTIVES

According to Project Paper the objectives of this component were the following:

- To provide the bases for evaluation of Project impact.

- To provide a continual flow of statistical information on agricultural and livestock production, to serve as the basis for planning and implementation of agricultural and livestock development in the Alto Huallaga region.

- To provide the bases for future plans for investment and the elaboration of rational policies.

According to the clauses of the OSE/MA-PEAH Agreement the general objective was:

- To establish a system of agricultural and livestock statistics for the Alto Huallaga region. The specific objectives were:

  - To obtain information on:
    The agriculturalist
    Principal Crops
    Livestock Production
    Human Settlements
    Cartographic Material

  - To provide periodic documentation regarding the agricultural and livestock statistics obtained.

6.7.2. GOALS

In Project Paper the final goal for the end of the Agreement period was set as the establishment and functioning of a system of agricultural and livestock stat.stics which would have sufficient capacity to include measures of change in patterns and technology of agricultural and livestock production, as well as in the economy of agriculturalists.

6.7.3. ACTIVITIES

The conception of this component did not inclu'e specific lines of work or activities to be effected. Rather,it only specified that

the strategy of a sample frame by area was to be used, that surveys of the samples were to be carried out in order to generate a series of variables as stipulated in the OSE/MA-PEAH Agreement, and that documents should periodically be delivered regarding agricultural and livestock statistics in the region.

While the sampling frame by area was being constructed, it was decided to collect information for the time being on the basis of a frame derived from the total census of Agricultural and Livestock Units (Structural Census), including the following activities:

- Population Census
- Structural Census
- Collection of information on production costs on the basis of sampling frame by area.
- Costs of Agricultural and Livestock Production

Due to the lack of necessary material (aerial photographs and LANDSAT images) it was chosen to replace the sampling frame by area by a frame based on the Structural Census. Thus from 1984 activities were delineated as follows:

a) AGRICULTURAL AND LIVESTOCK UNITS

i) Structural Census

In order to determine the structure and tenure of land, and thus to generate a statistical frame for the execution of sampling by agricultural and livestock units.

ii) A.L.U. Sample

Collection of data on agricultural and livestock production, through sampling based on the frame provided by the Structural Census.

It was proposed to carry out sampling at the level of districts by means of a bi-phase stratification:

- Strata by predominant crops
- Sub-strata by ranges of size of the agricultural and livestock unit.

In the methodolo employed sampling size and stability were proposed according to the sub-strata of surface variability.

b) RESEARCH INTO SPECIALIZED INTENSIVE LIVESTOCK PRODUCTION UNITS

Collection of data by means of surveys applied to these units, and the emission of preliminary three-monthly livestock bulletins.

c) PRODUCTION COST

i) Agricultural, based on samples of agricultural units and the follow-up of productive cycles.

ii) Livestock, samples of livestock production units.

d) COMPLEMENTARY STATISTICS

Collection of secondary information for the production of the "Agricultural and Livestock Statistical Supplement" Bulletins and the "Compendiums".

e) HUMAN SETTLEMENTS

Collection of data based on the Population Census of 1981.

f) DATA BANK

The orderly recopilation and classification of all the information acquired.

6.7.4. CONCLUSIONS

CONCEPTION OF PEAH AND OF THE COMPONENT

1. As a prerequisite to PEAH's actions it was clearly necessary to possess a valid diagnosis of productive processes and of the standard of living of the agriculturalist in the region, in order to plan and define these actions.

However the necessary reliable information did not exist. The most organized information available was that provided by the diagnosis which formed part of the Execution Plan of FDN, which was based on information collected over a short period (3 months) and analyzed without a specific statistical methodology. This diagnosis only provided information for the design of preliminary short term development actions over a maximum period of 2 years.

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2. In Project Paper an orderly and clear definition of the problem, hypothesis, objectives and goals of the Statistical System component was not established. It was assumed that simply by means of the efficient collection of complete, timely and reliable information regarding a series of variables, a basis would be obtained for the measurement of Project impact.

3. The OSE/MA-PEAH Agreement only concerned the tabulation and reporting of the measures of the variables indicated in its clauses. Apparently it was believed that by means of these measures a Statistical System would be established which would aid in the measurement of the impact of PEAH.

4. Within the conception of the Project, the need for an integral diagnosis was not taken into account. The Project conception neglected the need to analyze the information collected and processed in order to identify interrelations between the components of the productive system of the agriculturalist, and thus to be able to establish the limiting and potentiating factors which condition the improvement of the agrarian sector in physical-biological, economic, social, cultural and institutional terms.

5. Since an integral diagnosis was not contemplated and neither was the definition of a frame of beneficiary agriculturalists, the activities of PEAH were conceived of rather as financial investment projects isolated from one another, without a global vision of the real and necessary development goals of the agriculturalist.

6. As a consequence of the situation described above, the Statistical System component came into being as an element limited to the collection and tabulation of information, and was not given responsibility for carrying out the necessary statistical analyses for obtaining an up-to-date diagnosis of productive processes and living standards of the regional agriculturalist.

RESULTS

7. We found that this component has generated data (data base) and statistical tables in greater quantities than that which were anticipated according to the obligations, personnel and material and human resources which were assigned by the OSE/MA-PEAH Agreement.

8. The statistics generated are crude ones. We did not find information regarding ranges of reliability, nor statistical analyses of the interrelations between the variables observed. The statistics do not cover all the Agricultural and Livestock Units in the region, but only include areas which could be

reached without encountering problems of rejection by the population.

The information provided in the bulletins generally lacks a summary of the origin of data, the methods employed for estimates and the readjustments applied. For example, the differences between total surface areas between the estimates belonging to the Structural Census and those belonging to the Samplings are not explained, as in the case of Uchiza, Tocache and Aucayacu.

9. The results obtained are insufficient for their use in the evaluation of the impact of PEAH. Besides the limitations mentioned above, they need to be complemented by statistics regarding other basic variables.

10. The Data Bases generated lack basic information for the analysis of the development process over time and space. For example, there is no information on the age of perennial crops nor their relation to ecological life zones.

    The estimation method does not consider a sampling frame by area, which is one of the factors which causes the estimates for each year of the total area under study to vary.

6.7.5. RECOMMENDATIONS

CONCEPTION OF PEAH AND OF THE COMPONENT

1. A study should be carried out of all existing information in order to determine its reliability in order to effect a diagnosis approximating to the reality of the region. This should be carried out by an inter-disciplinary team in the fields of biophysics, socio-economic analysis and anthropology, with the support of a statistical specialist as necessary.

2. The frame of agriculturalists towards whom PEAH's development actions should be directed should be established.

3. PEAH should plan and evaluate its activities in terms of an Integral Diagnosis of the region, based on the collection and analysis of data regarding:

   i) Agroecosystems

      . Ecological classification
      . Climatological environment
      . Edaphological environment

. Hydrological resources
. Natural flora and fauna
. Economic environment
. Social and cultural environment
. Institutional environment
. Non-agricultural resources
. Commercial environment (regional, national and international)

ii) Agrosystems

. Land tenure
. Technology utilized
. Bio-economic productivity
. Cost/Benefit of production
. The investment by agriculturalists in each system used.

4. Based on this diagnosis and on the establishment of the frame of agriculturalists to be attended, there should be a reformulation of the process of identification and according of priority to problems, proceeding to analyze these in order to establish the priority projects which should be undertaken by PEAH and defining the time and space dimensions of these.

   PEAH's projects should be integral ones of medium to long term duration. It is hard to achieve results, for example, from research and extension projects which only last one year. Projects should consist of inter- and multi-disciplinary and inter-component actions.

5. On the basis of these reformulated working projects, and of the diagnosis and definition of the frame of producers to be attended, the problem, hypothesis, objective and goals of each of PEAH's components should be reformulated. It should be taken into account that each component is a participant (according to its specialty and the sub-product expected of it) of each one of the Priority Projects of PEAH. Thus the component termed "Agricultural and Livestock Statistical System" should also participate in all the projects at the level of planning, execution, analysis and interpretation.

6. The activities of this component, rather than being entrusted to OSE, should be carried out by PEAH, including activities required by OSE (related to the National Agrarian Statistics). This same strategy should be employed for other components.

EXECUTION

7. The system of Statistical Information should be restructured so as to constitute a basic element in a continual diagnosis of

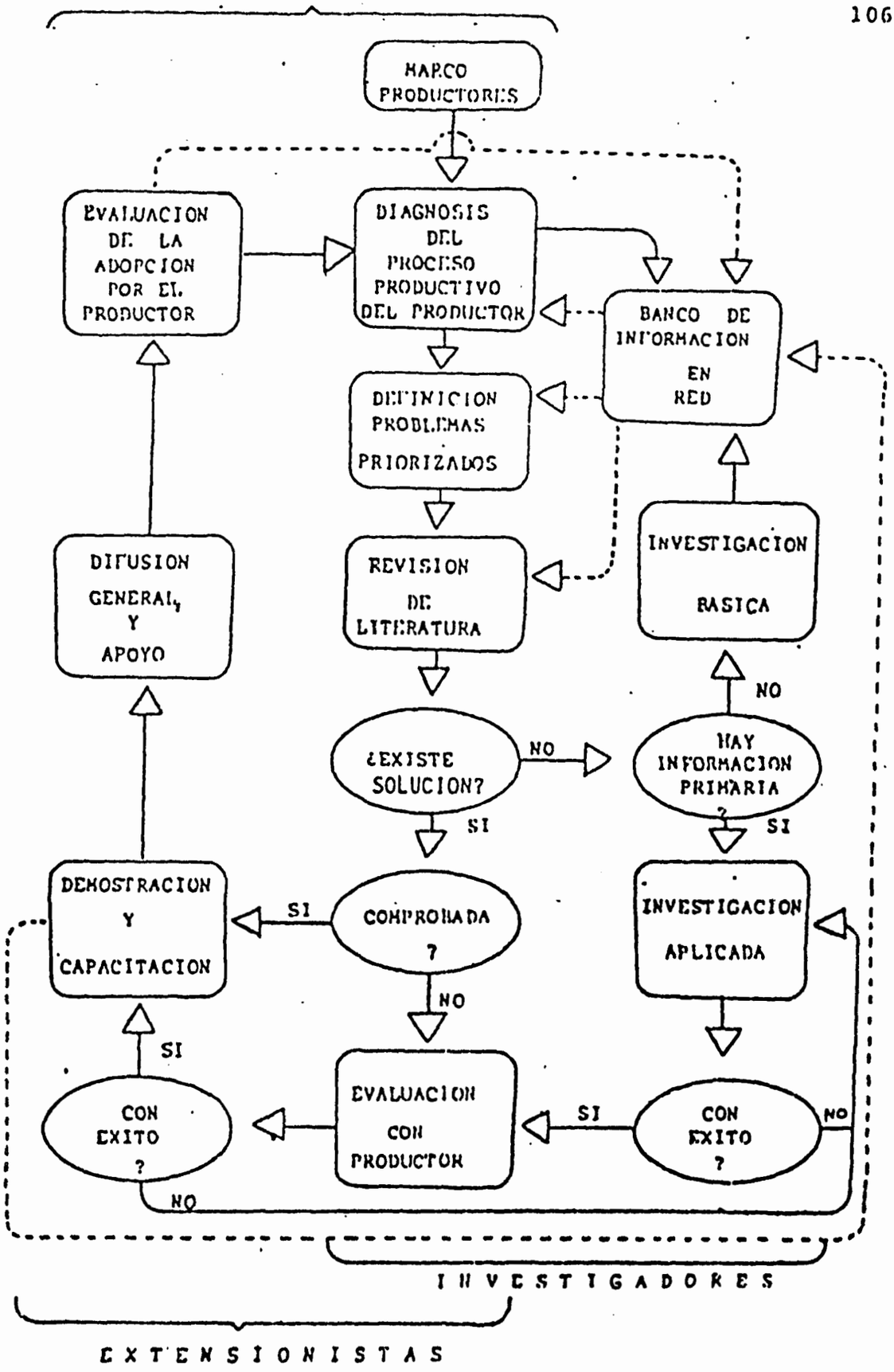

FIGURA 3 : ACCIONES PARA LA GENERACION Y TRANSFERENCIA DE TECNOLOGIA

the productive process of beneficiary agriculturalists in the region. This restructuring includes that of Data Bases, survey design, sampling methodology, experimental design, analytical and estimation methods and the design and distribution of bulletins. These latter should be oriented principally towards service to the agriculturalist and to other components.

It should emphatically be required that estimates be made on the basis of a sampling frame by area.

STATISTICAL ASSESSMENT

8. It should be borne in mind that statistics as such, and a Statistical Information System in particular, play an essential and decisive role in diagnosis and thus in the planning, execution and evaluation of PEAH's actions (Figure 3).

9. It is advisable to introduce the permanent services of a specialist qualified in statistics to give assessment in the application of statistical theory in the following areas:

   . Agricultural and livestock research design and analysis.
   . Survey research design and analysis
   . Demographic analysis
   . Econometric analysis
   . Research into ecosystems and agrometeorology.
   . Agroindustrial research

10. Training in statistical theory for professional and technical personnel within the System of Statistical Information Component should be given priority by PEAH. As far as possible this training should be received in countries which are most technically advanced in this field.

PERSONNEL RESOURCES

11. An adequate knowledge of Basic Statistics requires that the person concerned should have successfully completed at least eight basic courses (Methods, Design, Sampling, Statistical Theories, Probabilities). Thus the new personnel hired should possess professional training in statistics and ample experience in the field of statistical applications in agricultural and livestock problems, as well as in the use of computer packages, data base and electronic calculation sheets.

12. The Tulumayo Experimental Station requires a Statistician for the performance of daily tasks in design and analysis of research and extension. This specialist should also have experience in the use of computer packages, and in addition would be responsible for the computer equipment at the station.

13. Considering the difficulties which exist in locating and hiring statisticians, it is suggested that newly qualified personnel be employed in this field, supported by continuous in situ training, and with the assessment provided by the specialist in statistics mentioned above on the basis of periodic assessment visits. This same specialist should carry out effective training in statistics for the personnel of all the components of PEAH, by means of applied workshops. This same strategy might be employed for training in other areas of quantitative methods.

EQUIPMENT

14. The Office of Technical Coordination in Tingo Maria should be equipped with a personal computer, in order for the work of summaries and analysis to be carried out in a more efficient and prompt manner, thus freeing technical personnel and enabling them to devote themselves to fieldwork or to creativity in statistical methods.

15. In order to make rational use of personal computers existing in UNAS, PEAH and the Tulumayo Station, priority should be given to training in the use of computer packages which are employed by INIPA at its headquarters (dBase III, Lotus 1-2-3 and other scientific packages). This training should be given to professionals working in the area of quantitative methods.

6.8. HIGHWAY MAINTENANCE COMPONENT

6.8.1. OBJECTIVES

According to Project Paper the general objective of this component is to establish a highway maintenance capacity sufficient to ensure the operativity of roads all year round, regardless of climatic conditions. To this end it is proposed to substantially improve the capacity of the Regional Office of the Ministry of Transport and Communications for the planning and execution of highway maintenance.

6.8.2. ACTIVITIES AND GOALS

- Improve the institutional capacity of the Ministry of Transport and Communications.
- Maintenance of the Marginal Highway of the Jungle from Tingo Maria to Puerto Pizana and of 290 kilometers of secondary roads.
- Improvement to and equipment of the maintenance center of the Ministry of Transport and Communications in Huayranga (Tocache).

6.8.3. CONCLUSIONS

The evaluation carried out led us to draw several conclusions regarding the execution of the highway maintenance component of the Project; and regarding its objectives and the goals attained. These may be divided into general and specific conclusions.

1. In general we may affirm that the execution of the component has been overall of a positive nature since it has made it possible to maintain communications along the marginal highway and some secondary roads. If this program had not been executed, important areas of the Alto Huallaga ambit would have been at risk of being isolated from the rest of the national territory.

   In terms of the analysis of the results obtained, with regard to the general aspects of project execution it is fair to say that success has been partial, but that at the same time important experience has been gained for the continuation of this process.

2. With respect to the program for the reinforcement of the of the

institutional capacity of MTC as the entity responsible for road administration in the project area, the goals set have not been met, in spite of the actions carried out in order to provide equipment and to improve the efficiency of the Transport and Communications sector. This is due principally to the fact that the serious institutional disorganization of MTC was reflected in the operative capacity of its units in the project ambit, creating levels of inefficiency which were of such a degree as to be technically unmanageable.

For these reasons MTC from the date of project commencement was unable to perform the actions for which it was responsible, and could not contribute its share of personnel and equipment for the work involved.

At present, while the change of Government in July 1985 has produced some positive changes, there is not sufficient evidence as yet of permanent and significant institutional consolidation of the Ministry.

3. Due to MTC's failure to meet its obligations, PEAH was obliged to assume at first the maintenance of rural roads and later too that of trunk roads. For this purpose it had to improvise the organization of a highway office which - though it does not possess the necessary capacity required for a task of this nature - at present directly attends the rehabilitation and/or maintenance needs of 92 kilometers of Marginal Highway (Pucayacu-Tocache) and 200 kilometers of neighborhood roads. According to progress as of last July, 100% achievement of these goals is expected for the end of 1986.

4. The results achieved in terms of PEAH's role as promoter towards MTC have shown that the strategy of seeking the consolidation of MTC by means of its own institutional channels was not viable; since it is subject to the global set of problems which affect the entire ambit of this Ministry. These complex problems create a situation where it is extremely difficult for the institution to respond to the real needs of a Highway Maintenance program.

   The development of PEAH's own technical capacity, to which it was obliged to resort in the face of these problems, in order to complement MTC's capacity, has proved to be a viable alternative. However this should not be envisaged as a form of strengthening PEAH itself, since PEAH is by nature a temporary institution. Rather it should constitute a new strategy for the achievement of the original Project goal of supporting and consolidating the Ministry of Transport and Communications.

5. A significant part of trunk routes continues to deteriorate, for lack of a routine maintenance program, as may readily be observed from the poor state of the asphalted stretch of the

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Marginal Highway, to give one example. This shows clearly the lamentable fact that the Project goal of institutional consolidation of MTC within the Project ambit has not been achieved. The improvement to and equipment of the MTC Maintenance Center in Tocache (Huayranga) has not been carried out according to Operative Plans, and PEAH was obliged to set up a substitute workshop in its Aucayacu headquarters.

Due to terrorist activity in the Alto Huallaga, it was not possible to enter the following zones to carry out road maintenance works:

Castillo Grande-Venenillo;
Alto Pucate-Primavera-Bajo Pucate-Pavayacu;
Pueblo Nuevo-Campo Grande-Saipai;
La Morada (since July 4th); Anda-Saipai;
Puerto Megote-Frijol-Paraiso;
Pucayacu-Marona-Maronilla-Consuelo-Gozen.

6. While in financial terms investment goals have been met, since in practice all the resources assigned have been used; nevertheless it is clear that this does not mean that success in reaching the institutional and physical goals set has been achieved, since at present there still exist many roads which are in a poor state of maintenance.

It would seem that given the results obtained: roads in a poor state of maintenance and failure to consolidate MTC, the resources assigned are too few in the face of the magnitude of the tasks to be undertaken. Thus it has not been possible to date to organize a well structured action which would ensure permanent and efficient highway maintenance.

TECHNICAL-ADMINISTRATIVE ASPECTS

7. In the execution of this component it may be appreciated that circumstances have led the lack of programming of activities by MTC, as well as of technical support, fiscal supervision and control; and of course lack of efficient administration. In the face of the these unforeseen conditions, PEAH was only able to organize an improvised supplementary action.

Nonetheless, we may note with some satisfaction that in spite of the difficult circumstances under which work is carried out, this supplementary action has organized a technical-administrative system which does cover a large proportion of the more urgent needs of the Project. However it is clear that this organization is elementary and incomplete in terms of personnel and equipment.

In order to carry out the tasks assigned to the operative highway maintenance unit, it is necessary to supply it with technical and administrative personnel and with the necessary equipment. From a functional viewpoint it should also be given more independence, since at present it is only a small technical support unit which in addition to road maintenance also provides support to other PEAH actions such as in the field of community development. If these modifications are not effected, highway maintenance will continue to be simply one more task which is not attended by this unit in accordance with the true magnitude of the program which needs to be carried out.

PLANNING, PROGRAMMING AND SUPERVISION

8. We observed that there is a lack of planning actions which would permit operative programs to be designed in terms of a more adequate information base. Consequently the programs under execution have constituted a set of heterogeneous actions to which respective priorities have been assigned largely in terms of subjective and circumstantial criteria.

   For planning purposes it is necessary to implement a technical department with specialized personnel for the programming, design, supervision and control of activities. Technical laboratories and geotechnical, hydrological, topographical and other studies are also needed.

   Due to unforeseen and urgent needs, programs have in addition been modified without due justification, which could be a source of subsequent administrative problems.

MECHANICS

9. Neither MTC nor PEAH have a Mechanical Engineer for Machine Maintenance who could acquire the necessary technical experience for a continued permanent action in the zone.

   There is also a lack of logistic capacity which leads to much loss of time in problem solving, with the consequent low index of utilization of equipment. If this situation is not improved, and given the age of the equipment involved, there will be greater difficulties in the short term.

   The maintenance costs calendar follows a monthly program, according to generic administrative norms, but this does not correspond to needs for immediate expenditure in mechanics.

MTC does not have a programmed calendar for heavy machinery repairs, and this impedes the attainment of goals.

PEAH in its Aucayacu workshop does not possess sufficient tools or appropriate space for major repairs. Acquisitions in process take up an excessive amount of time due to lack of specialized administrative personnel.

EXECUTION OF WORKS

10. In order to execute the tasks within the operative plans the basic problem which occurs is that of the lack of incorporation of technical personnel into the work, especially as regards the technical personnel "assigned" by MTC.

    It is indispensable to incorporate equipment, material and personnel in soil evaluation and geology and for hydrological and topographical studies.

    There is a serious problem as regards the use of the rock breaker acquired for the preparation of material, due principally to the lack of adequate programming of the works to be carried out during the year, which impedes the appropriate use of this machine. In addition, given the size of the area to be attended, another and more easily handled breaking machine should be acquired, in order to meet circumstantial needs in other work areas.

DUMPERS AND TRACTORS

11. There is a real lack of machinery for many tasks. Due to mechanical maintenance problems which promise to be a permanent source of delay in works, it would be advisable to make greater use of the system of machine hire, which in the long term is simpler, more efficient and more economical. Likewise, we found that machinery acquired was of several different brands, which makes the obtaining of parts for maintenance much more difficult.

INSTITUTIONAL ASPECTS

12. At present there exists an institutional problem of the lack of definition of functions and responsibilities, which has even led in 1986 to reticence in the signing of the agreement for the execution of the operative plan. It is necessary to reinforce interinstitutional relations as far as possible,

since in general for one reason or another the initiation of the execution of annual operative plans is excessively delayed, as is the subsequent provision of financial resources, with delays in payments having negative repercussions for goal attainment.

One of the most important aspects which should be dealt with in the interinstitutional field is the salaries policy for PEAH and MTC personnel. This is a serious problem due to the social characteristics of the area and the high cost of living for personnel assigned to the zone. The solution of existing problems is indispensable in order to ensure that these institutions are staffed with suitable and qualified personnel on a permanent basis.

6.8.4. RECOMMENDATIONS

Considering the different problems encountered in the execution of this component actions of a diverse nature have been established which should be put into practice at different executive levels.

PROGRAMMING

1. In the first place, as regards the technical conception, a global planning vision should be applied contemplating actions for the entire Project ambit or area, with well defined goals and activities.

   These should include, both for principal and rural routes, the following differentiated basic activities:

   - Rehabilitation of highways
   - Complementation of highways
   - Routine maintenance
   - Emergency actions (rains)

   Over the past decades within the country it has not been possible to define policies nor to plan and program actions within an integral framework; but this does not justify the acceptance of this deficient working method as normal practice. On the contrary, procedures should be readjusted and the project should become a real model of technological advance.

   Efficient programming should be based on good information; and to this end the project has already contemplated the execution of a route inventory, at present being carried out. It should be pointed out that in the meantime and for the purposes of programming the information currently available on the road

network may be employed. Subsequently as the inventory (which should be a continuing activity) provides new information, programming may be readjusted accordingly.

ECONOMY

2. The definition of the extent of the necessary investment for the integral maintenance of road communications should be one of the principal themes to be reviewed in the coming months by the project.

   A more complete and conceptually coherent program in technical terms, well structured and implemented, would undoubtedly give rise to greater resource requirements, since physical goals would be more extensive.

INSTITUTIONAL ASPECTS

3. The procedure which has been followed for the institutional reinforcement of this component should be reformulated. In the first place, it is important to specify that PEAH is an institution with a limited time span. Thus the permanent presence of MTC as the national organism which administers the national trunk road network must be reaffirmed. Thus in the case of trunk or principal highways it will be necessary to maintain the project objective of strengthening MTC's action within the Alto Huallaga ambit.

   On the other hand, while the administration of the National or Principal Highway Network is by nature the responsibility of the MTC, it is equally clear that this institution is not the most appropriate one to assume the administration of rural or secondary roads, due to the great number and diversity of these. This situation is of course not limited to this area, but is universal. Good highway practice all over the world assigns these roads to local institutions. So too in this case, the need for permanent administration of rural roads leads us to consider the advisability of organizing permanent local and/or regional institutions.

   In this respect the medium and long term option could be administration by the Provincial Councils or Departmental Corporations; and better still by both Councils and Corporations in a joint coordinated action.

   The Corporations have traditionally executed investments in infrastructural works, for which purpose they are assigned financial resources. However they have not normally been assigned functions in administration and maintenance of public

services. In practice they have always been politically unstable institutions.

On the other hand, the Municipal Councils, given their communal nature, are stable institutions although traditionally weak in all their aspects. This situation is at present subject to rapid change since new functions and resources have been assigned to the Councils, and the democratic participation of the population has been instituted within them. These changes make them, among other things, technically apt organisms for the administration and maintenance of local road networks.

The possibility of reinforcing the operative capacity of the Provincial Councils for the administration of Neighborhood Roads could be a realistic goal if it were combined with the obtaining of financial resources from the Corporations and if PEAH provides its expertise for the constitution of technical and operative departments in order to strengthen the Councils in institutional terms.

CHANGE OF STRATEGY

4. It is proposed that PEAH, in close collaboration with MTC, establish an operative unit termed the Alto Huallaga Highway Office. This should be constituted and organized with workshops, trained personnel, laboratory equipment and sufficient financial resources. In its first stage it would be directly administered by PEAH during the period 1987-1988.

   At the end of this program, the unit would be transferred from PEAH to MTC, becoming the only operative unit of MTC in the project area. The Huanuco and San Martin Departmental Offices would thus be substituted in this area by the new Office, from a set date established by a calendar of coordinated actions.

   This office should be created by means of the corresponding Agreements and by mandate of the Central Government which should assume conscious responsibility for its creation and shared direction.

   The necessity for the participation of MTC in the creation and shared direction of the Highway Office is in order to ensure that on finally assuming the direction of the unit MTC possesses the necessary financial and operative resources assigned by the Central Government budget to the Transport and Communications Sector. Furthermore it is recommended that on the trunk highway of the Alto Huallaga Valley a toll should be charged, which should be paid from now to this office.

RURAL ROADS

5. In the case of the Councils, as regards rural roads, the possibility should be studied of PEAH temporarily initiating a program of organization of the road maintenance unit of the Tingo Maria Provincial Council, financed by CORDEHUANUCO. In addition the eventual need for another similar unit in Tocache in the department of San Martin should be analyzed.

   These units should be directly administered by PEAH, until their subsequent transfer to the Councils who would in future be the organisms responsible for those communal works which naturally correspond to them.

FINAL RECOMMENDATION

6. Finally, we must emphasize and reiterate the need to redouble efforts to institute a more coherent and sustained highway maintenance program, as an essential requisite for the support of the diverse objectives of the integral project.

TECHNICAL AND SPECIFIC RECOMMENDATIONS

7. MTC and PEAH cannot do without a Mechanical Engineer for the maintenance and habilitation of machinery. This Engineer should possess considerable knowledge of parts and broad experience in road equipment.

8. It is important for the Commercialization Department of the Project to have contractors with great expertise in the provision of repairs and materials, as well as knowledge of the supply centers for these.

9. A stock of operative machinery should be maintained in the case of large and specialized machines. However the more common types such as dumpers and rollers could preferably be hired in good condition, in cases where this accords with the fulfillment of Operative Plans.

   If the machines of any client are in poor condition, it is recommended that PEAH should abstain from participating financially in their recuperation, since traditionally in this country this method has only served to divert from the execution of works.

10. Priority should be given to the resolution of problems of acquisition of equipment and tools approved by AID in December

1985 to a total of US$120,000 for the Project Workshop in Aucayacu.

11. MTC should specifically include, in order to carry out the tasks for which it is responsible, technical procedures which incorporate the following:

    - Calendar of personnel assigned exclusively to the Project.

    - Calendar of heavy machinery repairs, list of parts, market availability and estimates.

12. The calendar of project expenses should consider the priority to be given to disbursements for the purchase of materials and parts according to the corresponding acquisitions calendar.

13. Budgets for works should be maintained up to date, by means of the use of corrective formulae, in order to have timely information regarding the costs of execution and in order principally to restructure real goals to be met.

14. Interinstitutional relations should be improved and their level raised, in order to ensure better support for the Project in the conservation and rehabilitation of highway infrastructure.

15. It is of great importance that the Project Highway Maintenance Supervision Office intervene in order to resolve the problem of equipment (smooth roller and asphalt cooker) required for the fulfillment of patching and sealing work in the Tingo-Maria-Pucayacu sector (asphalted zone). This work, which is carried out under the terms of the agreement by MTC, should be given priority for completion before the rainy season.

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6.9. COMMUNITY DEVELOPMENT COMPONENT

The Community Development Component replaces the Drinking Water and Environmental Sanitation Component, from June 1986, as stipulated in Amendment No. 5.

For the purposes of the evaluation the reports corresponding to these two activities are presented separately.

6.9.1. DRINKING WATER AND ENVIRONMENTAL SANITATION COMPONENT

6.9.1.1. OBJECTIVES

To improve the sanitary conditions of certain rural communities of the Alto Huallaga in order to reduce the incidence of gastrointestinal diseases.

According to Ministry of Health information, in the period prior to the Project, about 20% of mortality in the area was attributed to diseases associated with deficient sanitary practices. Children of pre-school and school age are the most severely affected by health problems such as gastrointestinal infections, intestinal parasites, malnutrition and anemia.

6.9.1.2. ACTIVITIES AND GOALS

In Project Paper the provision of drinking water to rural communities in the Alto Huallaga zone is proposed, as well as the construction of latrines in public buildings such as schools, sanitary posts, commercial premises, etc.

Three types of water supply are considered: gravity systems, deep well systems and superficial well systems. These last employ manual pumps.

In each case communal promotion actions were to be carried out which would involve the participation of the population in the construction, operation and maintenance of these systems.

The goals set in Project Paper are the following:

WORK	QUANTITY
Gravity system	10
Deep well system	70
Superficial well system	40
Latrines	130

6.9.1.3. CONCLUSIONS

1. The Agreement signed by PEAH and DIGEMA has not been fulfilled in its totality. DISAR carried out field studies and designed the Drinking Water Projects. 21 Projects were prepared, 19 by DISAR and 2 by PEAH. Likewise, DISAR has carried out 9 field studies which have been delivered to PEAH for the elaboration of the respective Projects.

   The construction of the gravity drinking water systems was assumed directly by PEAH's administrative system, with initial support by the resident engineer of the Hospital Area of Tingo Maria.

2. PEAH did not possess sufficient institutional capacity in qualitative and quantitative terms for the direct execution of this component. PEAH failed to develop human resources within the institution for this purpose.

   Some Environmental Sanitation activities were not fully carried out since the Project did not possess sufficient human resources in quantitative and qualitative terms. It should also be stressed that in general there has been almost no training of technical and professional personnel or of laborers. This has also contributed to the fact that the necessary actions within the field of Promotion and Community Development have not been adequately performed, prejudicing the execution, maintenance and operation of drinking water systems and other Sanitation works.

   From the evaluation of work carried out we may conclude, for example, that works have been executed as far as their physical part is concerned (construction of water systems, construction and installation of latrines, wells and manual pumps), but in the majority of these works there has not been massive participation by the beneficiary population. This has led to the fact that the population does not identify these works as belonging to them.

3. Under the Drinking Water Systems Works Construction Program, six (6) systems have been completed and four (4) are under construction. If these latter are completed at the end of 1986 according to plan, the Project Paper goal of construction of ten (10) systems will have been attained, serving approximately 850 families or 5,100 persons, representing 6% of the rural population within the Project ambit. This coverage would imply that the component has up till now a very low social impact.

4. The other activities of the Component will not be concluded during 1986, judging by progress as of the date of evaluation. This is due to the reasons mentioned in Conclusion 2.

5. The information provided at a technical-administrative level is clumsy and dispersed, and thus investments cannot be quantified for each work concluded (drinking water project, installation of latrines, wells with pumps, etc.) In addition the concurrence or participation of other entities such as Cooperacion Popular (Popular Cooperation), Departmental Development Corporations, Municipalities and others who contribute finances for diverse Community Development projects, takes place without a discriminated budget which would permit follow-up and control.

6. Guidelines have not been established for obtaining financial coefficients in drinking water systems. These are obtained from the analysis of costs of production and operation. The relation between Income Balance and Balance of Expenditure would give the financial coefficient which would reflect whether the system maintains itself or needs to be subsidized in order to compensate for deficits.

7. There has been no programming of epidemiological quantification by the Ministry of Health or by the Project Office. This would permit the evaluation of the Component's impact in terms of changes in mortality and morbidity among the beneficiary population.

8. The execution of the Component has been increasingly affected by the socio-economic and political situation of the zone. The personnel of the Component confront difficulties in obtaining labor for the projects due to the competition exercised by coca growing which offers high daily wages. Likewise, the climate of violence limits the deployment and normal development of activities in the field.

6.9.1.4. RECOMMENDATIONS

1. Medium term planning (for the period of duration of PEAH) should establish the policy to be followed with regard to the administration and maintenance of drinking water services and other sanitation works which have been completed.

2. Given the characteristics of the component an aggressive and broad sanitary education and community development campaign should be instituted. This is the only way of ensuring the committed participation of the population in terms of the labor required for field studies, construction and maintenance of sanitary works.

3. There should be stricter observation of the norms for technical-administrative control of the works of this Component which PEAH executes by direct administration, for the quantification of investments in each project, and for the making of settlements and payments.

4. Financial coefficients should be obtained for drinking water systems in order to establsih whether these are self-supporting or originate a deficit which should be met by the State.

5. There should be permanent training of technical and professional personnel and laborers, by means of the design and teaching of short courses, forums, seminars, etc. as well as the design and publication of educational and informative material.

   Courses for updating and extending expertise could be carried out by means of Agreements with public and/or private national and international technical assistance institutions, or with institutions linked to the respective sectors concerned. Thus the National Engineering University through its Environmental Engineering Faculty could prepare courses for engineers; the Ministry of Health, through the Public Health School, for Sanitary Inspectors and Sanitary Educators; the Ministry of Housing through SENSICO for foremen, drinking water systems operators, plumbers, etc.

6. An adequate salaries polic, should be applied, above all taking into account the socio-economic conditions of the zone, given that the low level of remunerations creates instability and poor performance on the part of permanent and contract staff.

7. PEAH's Statistical Information Component should include among its activities the measurement of indicators of the impact of drinking water and sanitation works, such as indices of morbidity and mortality due to diseases originating in water supplies.

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6.9.2. COMMUNITY DEVELOPMENT COMPONENT

At the end of 1985 and as a result of an internal evaluation of PEAH functionaries and of the opinions of the AID technical team, it was decided to structure a program of Community Development. This component attempts to integrate and increase actions relating basically to the social domain - education, health, recreation, etc. - within the ambit of PEAH. These aspects had previously been covered in a disperse fashion and without a precise conceptual framework by the Social Promotion, Highway Maintenance and Drinking Water and Environmental Sanitation Components.

For the execution of this component an initial budget was estimated at US$500,000, to which were added contributions from diverse sources of co-financing such as Popular Cooperation and the Municipalities. Finally, Amendment No. 5 increased the budget to 4'189,000 dollars for the two (2) years for which the Project was extended, and also included other kinds of action such as Education and Prevention of Drug Abuse.

6.9.2.1. OBJECTIVES

a) GENERAL

- Improve the standard of living of the population within the ambit of PEAH, by supporting the execution and improvement of social services.

- Support the development of the activities of the Components of the Project, of Local Government and of other sectors, by means of promotion and participation.

- Promote community organization and participation for the development of the activities of Local Government, Project Components and other sectors.

- Support the process of socio-political stabilization of the zone by means of the execution of activities oriented towards the search for socio-cultural identity among the population.

- Support agriculturalists in the development of agricultural and livestock production for self-consumption.

b) SPECIFIC

- Support the construction and improvement of infrastructure in health, education and environmental sanitation in selected communities.

- Support and execute actions for community organization, participation and training: Local Development Councils, Productive Associations, Juvenile Agricultural Clubs, Peasant Women's Clubs, Parents' Associations, etc.

- Support and promotion for training events in technical and professional development and for community leaders.

- Promote technical and financial support for the production and extension of food crops and livestock for self-consumption, at the level of families and schools.

- Support the organization and execution of civic and cultural events with the participation of the community and the student population.

6.9.2.2. GENERAL OPINION REGARDING THE CREATION OF THE COMMUNITY DEVELOPMENT COMPONENT

Due to the recent creation of this component, the evaluation team considered it appropriate to modify the scheme of presentation of this report and to formulate its opinions regarding the objectives and future of this component in general terms. In general, the evaluation team considers that the decision to constitute a specific Community Development component was undoubtedly correct. In the first place, we believe that the actions of a communal nature undertaken by PEAH have improved the image of the institution in the region, though clearly within the limits of what is possible in this context.

Secondly, we hold that these actions will make the later realization of direct intervention in the productive sphere possible, since given the adequate execution of the initial phases of Community Development the population can and will approve further developments.

Thirdly, given the inefficiency of some public institutions, the work of this component permits PEAH personnel to act directly in actions of high social content and undoubted economic benefit to the affected population. This in turn obliges personnel to abandon a bureaucratic and merely supervisory role. In this respect it would seem that PEAH personnel undergo a change in consciousness, when the conjunction and greater conceptual precision involved in

certain tasks as well as the increase in budget and in the number of activities oblige them to reflect more deeply on the economic and social problems of the region.

Fourthly, though some of the actions of Community Development may not be of the utmost importance in terms of the serious and difficult struggle between the legal economy and the spread of coca, they have in some measure furthered the rights and met the needs of the region, especially as regards basic services of health and education.

A fifth opinion of the evaluation team is that implicit within this component in the majority of its lines of action is the process of organization of producers. In this respect we are fully in agreement with the present supervisor of Community Development when he asserts that one of the objectives of this component is to promote and contribute to the self-development of the population. For this reason we hold that while for tactical reasons a preliminary phase of donation of economic and financial resources by PEAH is necessary, this should have a time limit. It should be borne in mind that PEAH should not promote a dependent attitude in the population which receives donations. For example, the history in the region of the agrarian productive cooperatives which were established by direct State intervention clearly demonstrates the formation of bureacratic clientism, as opposed to the different pattern of development of associative enterprises created spontaneously by settler agriculturalists (CENCIRA 1973).

A sixth point relates to some environmental sanitation works - for example drainage - in urban zones, which provide the opportunity for PEAH to act in terms of more integral criteria. Numerous ecological problems are not generated solely in rural zones but also originate from the small but under-supplied towns of the Alto Huallaga. In this respect, it would be positive in the future to promote a campaign among the urban population regarding the need for rational environmental management as a means of protecting the fragile tropical ecological equilibrium. This action could be carried out in the future as part of the work of Community Development. This component should not only promote infrastructural works but also carry out educational functions.

To summarize, we regard the creation of a special Community Development component as a positive step, since it gives a more social character to the plans and activities of PEAH, improving its image and thus facilitating its work; likewise, it meets certain regional needs and demands regarding basic services in health and education. Also, it extends the field of action of the development project to include the urban domain, giving an integral character to certain ecological aspects such as environmental sanitation works in urban centers. Further, and this is probably one of its most positive consequences, it encourages the organization of the population in support of the activities of

local government directed to solving basic problems of health, environmental sanitation and education.

6.9.2.3. ACTIVITIES

The Community Development Component has five fields or lines of action, according to the Working Plan for 1986 (Un Plan de Trabajo para el Desarrollo Comunal, Esau Hidalgo).

a) Environmental sanitation and improvement in the quality of water supplies.
b) Primary health extension services
c) Productive projects for self-consumption - integral fields and school plots
d) Support to educational and recreational services
e) Support for community organization and training.

6.9.2.4. CONCLUSIONS

1. The line of action which corresponds to Productive Projects for self-consumption is that which is most directly related to the situation of the productive sphere in the Alto Huallaga, where the principal problem which exists is the struggle between the legal economy and the spread of coca growing. For this reason, without wishing to detract from the importance of problems such as education, health, urban environmental sanitation, and so on, we believe that productive problems deserve special attention.

2. The Community Development Component has acquired greater relative importance and possesses comparatively the largest budget amount to be executed during 1987 to 1988. However, in spite of the fact that there exists an office which is institutionally responsible for the coordination of Community Development work - CODECOM - the body which in reality controls this work is the respective Supervision belonging to this office. CODECOM also controls the work of Highway Maintenance and supervises Drinking Water and Environmental Sanitation works, having as a result an excessive workload given the importance which Community Development is now acquiring.

   In addition, the actions of this component are administered in a dispersed fashion. The School Plots and Integral Fields are the responsibility of the Coordination of Agricultural and Livestock Promotion and Development (CODEPA), while the rehabilitation and construction of schools, medical posts,

sports fields and others are controlled by CODECOM.

3. In spite of the fact that the work of Community Development requires a previous campaign of psychological motivation and social promotion among the population who construct sanitary posts, latrines, and so on, there have been specific cases where the population has participated in the execution of these works but does not make massive use of the facilities. Undoubtedly in these cases prior educational work was not adequately carried out. By the same token, Community Development does not yet articulate its actions sufficiently with INIPA Social Promotion, and there are even cases of the duplication of activities such as school plots. This latter situation has generated certain conflicts between the personnel of the two institutions responsible for these activities. Further, we believe that the methodology employed for prior motivation in order to ensure adequate levels of community participation has not yet proved effective.

4. According to the official documents studied by the team, both in the case of the school plots and that of the integral fields for self-supply, the emphasis is on the need to promote food crops for self-consumption and thus reduce the cost of the family food budget. In our opinion this also makes it easier and more viable for erradicated agriculturalists to switch over to the growing of legal products. Furthermore, in the documents reviewed there is also emphasis on the need to promote several different crops in the integral fields, which in general terms perpetuates the scheme of crop diversification typical of the family agricultural and livestock units which have a double function or nature: as productive enterprises and for self consumption.

   In the same fashion in the programs of integral fields the rearing of small animals - hens, guinea pigs, ducks, pigs, etc. - is included within the logic of diversification indicated above. Nevertheless the plans for Community Development do not yet clearly specify the type of technological packages which are to be implemented, and neither do they contemplate the problem of reforestation which is of considerable importance in the Alto Huallaga.

5. Within some Community Development and also Social Promotion activities it was found that the wealthier social sectors are those with greater initial participation in these activities. There is a clear tendency for local authorities, or certain family groups with economic prestige, to be those who assume leadership roles. This clearly creates the danger of limiting the benefits of the communal and social activities of these components to a certain sector of the population and not the population as a whole.

6. For a series of social and economic reasons which date back more than a decade, the associative enterprises of the Alto Huallaga ambit have been affected by a profound institutional and financial crisis whose final detonator was the spread of the coca economy. Nevertheless certain associative enterprises of considerable importance survive, though not without problems, such as the "Jardines de Te El Porvenir" and "Te Cafe del Peru" agricultural production cooperatives and the "Naranjillo" agricultural services cooperative, as well as the Central de Cooperativas del Alto Huallaga (CECOAH).

6.9.2.5. RECOMMENDATIONS

1. After carrying out certain tasks relating to coverage of needs in health, sanitation and education, community development should be oriented towards the productive field. According to Amendment No. 5, the Services to the Community section of the Community Development Component has a total donation budget of 449,000 dollars within a total budget to 1988 of 2'479,000 dollars. This section includes markets, irrigation canals, community centers, etc. Given the need to increase the production and productivity of legal crops, among other tasks it is necessary to intensify soil use under these crops; for this reason it is recommended that the budget destined to agricultural engineering works, construction of warehouses or bulk collection centers, etc. be increased.

2. In order to confront other substantive problems in the productive sphere, it is recommended that mutual aid days be promoted among legal agriculturalists, both at the level of the community and at the level of groups by type of agriculturalist. Community Development and INIPA Social Promotion should coordinate this activity involving the design of written educational material and together with the Communications area of PEAH by means of mass media such as radio and television.

3. As regards school plots and integral fields for self-consumption, we believe that these should not only include new crops but also should be employed for the diffusion of technological packages involving the principal crops of the region - rice, maize, manioc, etc. This method would complement the activities of agricultural extension workers in transmitting technology to children and mothers for the traditional crops grown on their holdings. This recommendation is designed to reinforce and increase the learning of indispensable technological knowledge by all family members.

4. It is suggested that the present Community Development

Supervision be changed to a Line Direction which would supervise works in schools, medical posts and sports fields, and would assess at the same level the CODEPA staff member responsible for social aspects of school plots and future integral fields. This in turn would make it possible for Community Development to occupy a higher hierarchical position and give it greater powers to assess INIPA's Social Promotion area which is a subcomponent that is closely related to the former.

5. It is necessary to improve the prior motivation activities and those of social promotion which are pre-requisites for the execution of diverse activities of this component. To this end the following corrective measures should be applied. Firstly, it is advisable to turn as far as possible to the women's and youth clubs for the realization of the indispensable prior tasks of motivation which must come before the installation of latrines and sanitary posts. Secondly, we recommend better use and design of the written educational material employed for this purpose. Both for PEAH and INIPA it would be useful to hire a specialist in social communications. Thirdly, to avoid the duplication of activities in school plot projects, INIPA's role should be to give assessment in technical aspects and in the field of relations with the children, in accordance with its ample experience in these areas. PEAH on the other hand should give assessment on more general social and anthropological aspects. In this respect, while both institutions may continue to work on school plot projects - INIPA in rural areas and PEAH in urban ones - it is recommended that there also be a technical division of functions within the parameters outlined above. Clearly there should be closer coordination between the working plans of both institutions in order to avoid future conflicts.

6. An additional recommendation which relates to the problems of social group motivation is that of the need to attain levels of consciousness, cohesion and group identity among colonists. The current supervisor of Community Development is emphatic that in order to achieve effectiveness in the actions of this component it is necessary first of all to materialize the formation of communal forums. These should be constituted by means of making explicit the history of the community itself. We should remember that the colonization process in the Alto Huallaga has a series of special characteristics which the population should consciously recall. This would evidently contribute to greater group cohesion.

7. In the context of the aim of accommodation to the double function - production and consumption - of the agricultural and livestock units of the Alto Huallaga, the school plot and integral field projects have been correctly conceived. Nonetheless there is a need for an integral technological

conceptualization which would permit the attainment of the desired diversification of crops. In the context of this logic, we believe that the farming systems perspective should be taken into account. This involves the establishment of agrosilvipastoral systems, including small-scale cattle-raising and the management of forestry resources, for the purposes of self-consumption and commercialization. Reforestation within the project ambit is almost non-existent. Through the integral field projects this could be promoted, and equally communal work days could be employed for the same purpose. Community Development cannot turn its back on or separate itself from a problem which is of crucial importance in the Alto Huallaga and which is that of environmental management and especially that of zones of protected forest or forestry use which have been considerably damaged by the spread of coca.

8. It is necessary to respect the economic rationality of colonists, and it is therefore advisable to abstain from programming a predetermined size for all integral fields. The area of these should be adjusted according to the total size of the family and especially the number of children of working age.

9. In the execution of Community Development activities efforts must be made to avoid the wealthier sectors or local authorities being the only or most active participants. The participation of informal social leaders should also be encouraged, such as that of members of peasant families who have social but not economic prestige.

10. The support currently being given to enterprises such as the Jardines de Te El Porvenir cooperative is a very valuable aspect which should be extended or intensified towards other associative enterprises and to the existing Producers' Committees such as that of rice producers. Likewise, the creation of new Service Cooperatives for the commercialization of agricultural products, the installation of mills, etc. should be encouraged. It is recommended that the formation of these cooperatives be based on the current Producers' Committees rather than on the older associative enterprises, some of which are too heavily affected by coca growing.

    In addition, it is recommended that technical, accounting, administrative and financial training should be emphasized, not only for the current management of the cooperatives but for all their membership.

    Finally, it is also recommended that the existing private and public enterprises in the region such as Palma del Espino and EMDEPALMA should receive support, inasmuch as they constitute a vital area of the regional legal economy.

LIST OF PERSONS INTERVIEWED

USAID - LIMA

Mark Silverman	Head of Office of Development Resources
John Wall	Head of Special Projects Office
Frank Dall	Project Coordinator
Max Patruco	Financial Analyst
Liliana Gonzalez	Division Assistant

INADE

Oswaldo Gonzales	General Manager
Jose Perea	Manager of Jungle Special Projects
Edwin Penaherrera	Assistant Manager Jungle Special Projects
Eduardo Durand	APODESA
Carlos Yanez	APODESA

PEAH

Percy Lindo	Executive Director
Melanio Alayo	Assistant Director
Manuel Sandoval	Technical Director
Jose Medina	Head of Planning Office
Jose Millones	Follow-up and Evalaution Unit
Jorge Ruiz	Budget Programming and Evaluation Unit
Ricardo Giraldo	Pland and Programs Unit
Lucio Suarez	Head of Internal Control Office
Fernando Mendoza	Head of Administration Office
Clemente Hernandez	Accounting and Treasury Unit
Carlos Liyuen	Personnel Unit
Miguel Gomez	Supply Unit
Victor Rubio	Head of Communications Office
Hugo Robles	Coordinator Comm. Dev. and Highway Maint.
Alfonso Falla	Community Development Supervisor
Pablo Arredondo	Highway Maintenance Supervisor
Javier Tantalean	Drinking Water and Sanitation Unit
Carlos Arevalo	Agricultural Dev. and Prom. Coordinator
Teodoro Chuman	Research and Extension Supervisor
Javier Soto	Training and Credit Supervisor
Ramon Rios	Production Services Supervisor
Carlos Nurena	Community Development
Nilda Valdivia	Community Development
Enrique Cribilleros	Tingo Maria Zonal Director
Mario Bazan	Tocache Zonal Director
Luis Mendoza	Rio Uchiza Zonal Director
Rommel Palacios	Campanilla Zonal Director
Loring Cook	Consultant Contracted by AID

John Whalton	Consultant Contracted by AID
Esau Hidalgo	Community Development Consultant - AID

INIPA - LIMA

Hugo Villachica	Co-leader National Jungle Agricultural Research Program
Flaminio Villavicencio	Research Director
Guillermo Sander	Extension Director
Faustino Mayta	Technical Cooperation Office Director
Gonzalo Silva Santisteban	Technical Cooperation Office
Juan Vasquez C.	Ex-Director CIPA XI-HUANUCO

CIPA XI - HUANUCO

Americo Diaz	Director
Federico Ascanio	Head of Planning Office

TINGO MARIA PROMOTION ZONE

Gustavo Lopez R.	Director Tingo Maria Promotion Zone
Jorge Tanaka	Specialist in Programming
Vicente de la Cruz	Specialist in Social Promotion
Alcides Escobar	Specialist in Irrigation
Rafael Gallo	Specialist in Communications
Aldo Ramirez	Tocache Extension Agent
Jorge Panduro	Aucayacu Extension Agent
Carlos Coz Carhuamaca	Rio Uchiza Extension Agent
Jose Estela	Pueblo Nuevo Extension Agent
Alberto Quinones	Pachicoto Extension Agent
Faustino Marin	Tingo Maria Extension Agent
Rommel Palacios	Campanilla Extension Agent
Edmundo Cornejo	Social Promotor - CAJP Assistant
Americo Landa	Social Promotor
Eduardo Vela	Social Promotor
Juana Mujica	Social Promotor
Lidio Rene	Social Promotor
Adelina Rojas	Social Promotor
Martha Ocana	Social Promotor
Ner Villadares S.	Social Promotor
Ramon Pimentel	Rio Uchiza Secvor
Jose Zevallos	"La Banda" Sector
Alejandro Pimentel	Aucayacu Sector
Ignacio Santisteban	Pucayacu Sector
Carlos Leon	Pueblo Nuevo Sector
Luis Lermo	La Marginal Sector
Noe Zevallos	Pendencia Sector
Javier Paz Almonacin	Inti Sector
Nelson Sanchez	Marona Sector
Pedro Rios	Bolaina Sector

Gunter Mori	Valdizan Sector
Raul Trigoso	Campanilla Sector

TULUMAYO EXPERIMENTAL STATION

Raul Lao	Director of the Station
Eduardo Ubillus	Cacao Specialist
Gustavo Castro	Cacao Sepecialist
Manuel Flores	Production Systems Specialist
Carlos Espinoza	Maize Specialist
Jorge Cavalie	Manioc and Plantain Specialist
Mercedes Auris	Fruit Tree Specialist
Adelo Vivanco	Soil Fertility Specialist
Marino Cubas	Rice Specialist
Niceforo Trujillo	Coffee Specialist
Anibal Cornejo	Weed Control Specialist
Jorge Rios	Small Animals Specialist
Martha Gallo	Legumes and Soya Specialist
Raul Leon	Pig and Sheep Specialist
Alberto Saldana	Plantain Specialist
Ronel Echevarria	Beans Specialist
Hermilcie Ibazeta	Pasture Specialist
Juan Munive	Phytopathology Specialist
Ada Cornejo	Entomology Specialist
Isaias Merma	Tea Specialist
Manuel Castaneda	Cattle and Guinea Pig Specialist
Lina de la Cruz	Tea, Coffee, and Cardamom Specialist
Jorge Figueroa	Research Programming Specialist

NATIONAL AGRARIAN UNIVERSITY OF THE JUNGLE (UNAS)

Cesar Mazabel	Rector of UNAS
Manuel Leon	Vice-Rector and Dean of the Faculty of Food Industries
Oscar Cesare	Dean of the Faculty of Agronomy
Salvador Cruz	Dean of the Faculty of Natural Resources
Oscar Loli	Planning Director
Antonio Lazo	Training Coordinator
Diomedes Junes	Professor of Hydrosciences
Zoilo Piscoya	Professor of Microbiology
Miguel Bravo	Professor of Animal Production
Maximo Dionisio	Professor of Mathematics
Tito Hernandez	Professor of Phytopathology
Jose Olivera	Professor of Agro-Meteorology
Antonio Lazo	Coordinator Pilot Centers
Ramon Sanchez	Head of Aucayacu Pilot Center
Wagner Villacorta	Supervisor of Pilot Centers

MINISTRY OF AGRICULTURE - LIMA

DGRA-AR

Mariano Santillana	Director Rural Settlement
Hernan Castillo	Sub-Director of Studies Direction of Rural Settlement
Jesus Contreras	Lawyer

OGCR

Edo Huerta	Assistant Director

DGFF

David Melendez	Sub-Director

AUCAYACU

Manuel Cristobal	Head of Survey and Titles Office
E. Gomez	Head of Agricultural District

PROJECT CORAH

Fred Coral	Executive Director
Alejandro Costa	Ex-Director of Administration

OSE

Jorge A. Valencia	General Director
Roberto Huamanchumo	Executive Coordinator PEAH-OSE Agreement
Victor Villar	Technical Coordinator PEAH-OSE Agreement
Percy Noblecilla	Assistant Technical Coordinator

AGRARIAN BANK

Roberto Navarrete	Head of Tingo Maria Office
Leonidas Mosquera	Administrator Tocache Agency
Misael Alvarado	Auxiliary Aucayacu Agency

ECASA

Cesar Castaneda	Head of Tingo Maria Office

EMDEPALMA

Juan del Aguila	General Manager
Jose Hernandez	Plantation Head

PALMAS DEL ESPINO S.A.

Ruperto Raygada	Manager

DISAR

Renato Escobar	Assistant General Director of Rural Sanitation
Luis Frassinetti	Head Departament of Projects and Works
Heraclio Maquera	Assistant - Works Department

CORDEHUANUCO

Moises Coronado	Programming Office
Rommel Santa Maria	Lima Link Office

CORDESAN

Luis Leon	General Manager
Alberto Sigarrostegui	Head of Tocache Microregion
Antonio Perez	Tocache Microregion

ENACO

Franco Fernandez	Tingo Maria Office Manager

SENAMHI

Raul Aranda C.	Head of Tingo Maria Office

ONARP

Berardo Isisque	Substitute Registrar in charge of the Aucayacu Registry O

MEMBERS OF ADMINISTRATIVE BOARDS OF DRINKING WATER WORKS (JAO)

Victor Raul Daza	JAO Madre Mia
Teddy Grandes	JAO Madre Mia
Leoncio Oliva	JAO Madre Mia
Maximo Trinidad	JAO La Victoria
Teodoro Camacho	JAO Santa Lucia
Fermin Cercedo	JAO Pueblo Nuevo
Julian Lopez	JAO Pueblo Nuevo
Edwin Soto	JAO Pueblo Nuevo
Indalecio Garay	JAO Cayumba-Chunatagua
Julio Trujillo	JAO Cayumba-Chanatagua
Miguel Meza	JAO Cayumba-Chunatagua
Fabian Rivera	JAO Santa Rosa de Quezada
Guillermo Pinan	JAO Santa Rosa de Quezada
Domingo Zuniga	JAO Santa Rosa de Quezada
Nicolas Pizarro	JAO San Martin I - II and 2 de Febrero

AGRICULTURALISTS INTERVIEWED

Eloy Barreto	President of Rice producers Committee- Leoncio Prado
Julio Mendez	Vice-President of Rice Producers Committee-La Morada
Jesus Hinostroza	Vocal Rice Producers Sub-Committee-Pucayacu
Valentin Quispe	Administration Council - CECOAH
Victor Livia	Vice-President Administration Council Cooperative: Jardines de Te El Porvenir
Ever Castro	Administrator Cooperative: Jardines de Te El Porvenir
Slander Torres	President of Administrative Council Cooperative: El Po
Genaro Hidalgo	Ex-President Cooperative: El Porvenir
Teodoro Sanchez	Cooperative: El Porvenir
Tomas Jimenez	Cooperative: Arequipa
Tomislavo Zecevich	Administrator Cacao Processing Plant, Coop. Naranjillo
Augusto Mosquera	Uchiza (ex-Mayor)
Ricardo Pelaez Casma	Tingo Maria
Guillermo Durand Talancha	Naranjillo
Juan Munoz Perez	Santa Lucia
Armando Espinoza Estrada	Aucayacu
Delmira Mosquera Pinedo	Uchiza
Agustin Aguinaga	Uchiza
Francisca Gutierrez	Uchiza
Damaso Vidal Agurto	Uchiza
Eusebio Flores Paredes	Tocache
Polidoro Olano Herrera	Tocache
Rodolfo Soto Ruiz	Campanilla
Rodi Perez Ramirez	Campanilla
Pedro Acosta Pena	Campanilla
Vicente Dominguez	Campanilla
Ruben Pizango Sajami	Campanilla
Ricardo Pelaez	Naranjillo
Saturnino Tolentino	La Divisoria
Juan de la Cruz M.	Santa Lucia
Fausto Capcha	Pueblo Nuevo
Grimaldo Mendez	Coffee producer and Small Cattle Farmer: La Divisoria
Alfonso Pena	Coffee Producer, fruit grower and ex-coca grower: Huyabal
Mario Rios	Citrus producer: Supte Grande
Eloy Malpartida	Ex-coca-grower, producer of manioc, maize and others: P
Manuel Bermejo	Fruit grower: Tulumayo

In addition around forty agriculturalists were interviewed anonymously in order to facilitate the provision of information.

LOCAL AUTHORITIES

Virgilio Ciriaco	Mayor of Pumahuasi
Gregorio Vela	Director Inca Wiracocha School - Aucayacu

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