PD-ABM-328

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
USAID/PERU

SELVA ECONOMIC REVITALIZATION PROJECT DESIGN

PART I

BASIC FINDINGS AND PROPOSALS

submitted by:

LIMA, PERU
January 1993

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BASIC FINDINGS AND PROPOSALS

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Foreword

The Selva Economic Revitalization Project (SER) is a new effort of USAID to work with the Government of Peru, through local and regional governments agencies and private institutions, including basic social organizations, in the major coca producing area of the country. This area is geographically defined by the watershed of the Huallaga river and its tributaries, and in this document it will be indistinctively mentioned as Huallaga Valley, Huallaga Cuenca or Huallaga Region

A Peruvian private consulting firm was contracted by USAID Mission in Peru to support the completion of the planning, design and analysis of the new Project and to provide the baseline data needed for evaluation of performance.

This study has been conducted by Novoa Ingenieros, a consulting firm from Lima. With that purpose special analysis in selected areas has been carried on in a period of two months, by a team of 12 professionals, giving great importance to the direct confrontation of ideas in field work, interviewing as many local leaders as possible.

Analytical work has been complemented with proposals of strategic criteria to guide the Project implementation. In this part of the document both analysis and basic strategic proposals are summarized; in the second part of the document a more detailed description of the analytical work is presented. In the third part the Baseline information is detailed with a proposal for a data gathering system.

I-Basic Project Design Issues

1.1 Basic Project Purpose

As defined in the Scope of Work document the basic purpose of the Project is "to restore confidence" to the Huallaga Valley residents, who, after years of violence, mixed with economic and political instability, have become disillusioned with a normal socio-economic life and suspicious of government institutions. In this situation, illegal activities, such as coca production, will attract people more than just for economic reasons.

The restoration of confidence can only be a gradual process. In the Huallaga region this process will have to operate in two ways: first people have to believe in their own capability (to recuperate their normal development course); secondly, they have to recover confidence in the governmental and other legal institutions.

The possibility of achieving such a purpose through the Project actions will depend, in great part, on the ability of Project promoters to communicate with the local population, and on the correct understanding that the people will have of the Project intentions and components. For that reason in the Project design phase it is important to clarify, as much as possible, the issues that will be most relevant to the people's interests. These include a realistic understanding of what is **alternative development**, the **Project broad economic goals**, and the related consistency of its financial resources, and the functionality of the **Project structure and components**.

1.2 Regional Significance

As coca grows only in specific areas of Peru, mainly the tropical rain forests of the eastern foothills of the Andes, its geographical concentration produces a narco-dependant economy affecting entire regions of the country. Consequently it is expected that alternative development can be promoted more effectively by acting in an entire territory, that has economic and political unity, than by acting within fragmented areas of a region.

The principal coca producing region in Peru is in the **Huallaga River Cuenca (basin)** . This is an area that has an strategic value for the Peruvian economy, not only because of its narcotics-related importance (supplying more than 80% of the total country production) but also because it is, or at least it was until recently, one of the main suppliers of food crops for internal consumption. Moreover, this region has the potential to became an important agricultural producer of those products that Peru imports most, such as rice, corn, vegetable oil, meat and dairy products, and also it has promising possibilities for tropical export crops.

The major part of the Huallaga Region forms an administrative unit known as the Region of San Martin. Traditionally this area was linked by the river itself as a means of transportation, and its geographical and social unity extends to the South covering the province of Leoncio Prado, which belongs to a different administrative region. So the

target area of the Project has been defined by the entire territory of Region San Martin plus the mentioned province.

Political and economic changes have occurred in the last 2 or 3 years that have affected notably the entire Huallaga region. To be taken into account, for future action, are the following:

-Major changes have occurred in government economic policies and institutions, in some cases drastically affecting legal agricultural producers. The most dramatic effect was caused by the elimination of the Agrarian Bank, which from 1985 onwards provided loans with subsidized rates of interest. The government also dismantle ECASA and ENCI, former state corporations who bought all rice and corn production in the past.

-Within the Huallaga Cuenca region, the Upper Huallaga (UH) is until now the most important producer of coca, but its relevant position, in relation to Central Huallaga (CH) and Upper Mayo (UM) areas, is decreasing as cultivation in the latter is expanding notably, and that in the UH is diminishing.

-The market price of the coca leaf has varied notably through the years, and a declining trend can be observed from 1982 to 1991. During some periods of the last three years the lowest prices were paid (down to $ 0,50 per kilo), nevertheless during 1992 a notable increase has occurred in the price of coca and it is difficult to say whether this is a response to transitory conditions or a new trend in world markets.

-It is estimated that, at least for some short periods during the last three years, coca farmers have not been making any money by just selling the coca leaf. For that reason, and also for improved security, more and more farmers are also becoming producers of Pasta Basica de Cocaina (PBC), a crude input for the production of cocaine.

-Security conditions in the region have improved recently due to improvements in the government anti-terrorism strategy. Subversive groups have suffered severe military defeats and many have surrendered. Also improvements have been made to cut the financial linkages between the narco-traffic and the terrorists. Nevertheless terrorism continues to be a major threat for all legal economic activities.

-The overall presence of the government institutions is improving in comparison to their weakness observed three years ago. This can be due to the partial retreat of subversive groups, but also to an improvement of the operational capacity of some of the governmental institutions, including local governments which now feel in a better position to promote development actions.

1.3. Alternative Development Strategy

In May 1991, the governments of Peru and the United States of America concluded an umbrella Narcotics Control Agreement. One of the aims of the Agreement is the achievement of "**alternative development**"; that is to say the replacement of illegal coca cultivation, and thus the employment and foreign exchange earnings generated from it, with legal activities.

It is now commonly accepted that the coercive eradication of coca plantations is not the best policy to be applied, because of its high social costs. It does not stop, but rather it promotes, farmers to move into other areas, within the vast Peruvian jungle, where they continue to expand coca cultivation. This can be confirmed with what is happening in the Upper Huallaga, the only area where enforcement has been implemented with some efficiency. If it is true that in the UH coca cultivation is declining, it is also true that it is rapidly expanding in surrounding regions, such as Aguaytia or the Central Huallaga.

Alternative development has replaced eradication as the strategy to be applied to the coca leaf farmers, but it is clear that its implementation won't be easy. Many difficulties have to be overcome, ranging from the poor performance of the national economy to the presence of armed subversive support to coca growers and narco traders.

The search for alternative development is not new in the Huallaga. Since 1982, both USAID and the United Nations have invested in research and promotion of alternative crops and economic activities with minimal positive results. Meanwhile, coca cultivations has continued to expand, reaching in 1990 an area at least 5 times the original in 1982. There are several explanations as to why this has occurred:

-Political terrorism (Sendero Luminoso and MRTA) infiltrated the area to take advantage of the social conflict between coca farmers and the government and to participate, through coercive quota collection, in the foreign exchange brought by traffickers.

-The macro-economic policy applied by the government was negative towards legal economic activities, producing restrictions in credit supply, technical assistance, foreign exchange and competitiveness.

-The government presence, as a whole in the region, has been weakening for many years due to a combination of economic recession and terrorism coercion. This has favored the alliance of the population with illegal action promoters and limited the scope of socially accepted alternatives.

-The Peruvian Army intervention in the region gave priority to anti-terrorism actions. Sometimes these actions conflicted with alternative development promotion, as the potential ally to be gained by both parties was the same coca producing farmer.

-Alternative development search concentrated too much effort in non-traditional or export oriented crops, characterized by poorly known or fluctuating international markets. Meanwhile production for internal markets received little attention.

-Financial resources allocated to alternative development promotion were to little to produce a minimum counterbalance to the financial power of narcotraffic.

-Alternative development actions were normally executed directly by bureaucratic departments, with little or none participation of representative social organizations.

The new Project for the Huallaga region is expected to maintain the same broad principle of alternative development, but with the incorporation of lessons learned from previous experiences.

Alternative development requires a stronger support from the social base and consequently a new strategy based on the restoration of confidence to the people and from the people to the democratic and economic institutions. As the achievement of confidence is a gradual process it needs positive results to be shown from the very beginning, in areas such as the economy or the sound restoration of institutions.

Agriculture, being the major economic activity, positive results have to be shown first in this sector. There is no doubt that legal agriculture in the Huallaga region has the potentiality to grow at a sustained rate and in the long run overcome the coca economy. The question is how in the short or medium term, positive results can be demonstrated with levels of competitiveness with coca production.

The new alternative development strategy should give priority to the promotion of crops that in the short term could reach competitive levels. Considering the great difference currently existing in the productivity and total production of legal and illegal crops, this would be possible only if productivity of coca is significantly reduced through the efforts of law enforcement. For that reason, in this document, economic projections towards competitiveness have been made considering a parallel effort in legal crops promotion and in law enforcement activities.

Competitiveness between crops is normally measured in terms of their productivity per unit of land. But obtaining competent levels of productivity for legal crops won't be enough to counterbalance the financial influence of coca trade. It will also be required that the total legal agriculture economy should reach volumes of production in the same order of magnitude as that of the coca economy . This means that selected crops should have potential markets of significant scale to guarantee the future purchase of an expanding production. It also means that less attention should be given to small pilot projects and funding should be dimensioned and directed to impact the entire economy of the region.

Although the region shows potentiality to produce tropical export crops, these normally require medium to long term efforts and substantial market research and promotion. In the short term it is clear that alternative agricultural promotion will have to give priority to the Peruvian internal market, taking into account that the region produces, and can produce in a much larger scale, products that the country is currently importing. Meanwhile research and development must continue for non-traditional export oriented crops, with careful steps taken towards their promotion to the farmers.

1.3.1 Geographical implications of alternative development.

From a geographical point of view it is clear that development efforts should give priority to the **Central Huallaga (CH) and Lower Mayo (LM)** areas, where **higher rates of return** to investment on legal activities can be expected, as well as most significant results in halting expansion of coca can be obtained.

In the **Upper Huallaga (UH)** the combination of diminishing productivity, increasing costs and violence will most probably accelerate a decrease in coca production, even without the introduction of alternative activities. On the other hand the possibilities of sound alternative crops in this area are more limited because of poorer soils and heavier rains. This is not to say that there are not good agricultural potentialities in the area, but require bigger investments per hectare and longer periods of maturity until returns will be obtained.

In the CH, development possibilities are clearer and returns can be expected in shorter periods (from 1 to 4 years), with smaller investments per hectare and per farmer. From an alternative development point of view, efforts in this sub-region should be focused on the **lower foothills**, the area where until recently corn was dominant. This focused attention is justified for several reasons: first coca producers in this area (in the upper foothills) are at the same time corn producers and owners of the land in the lower foothills, so in a way we are talking of alternative crops for the same farmer in a different site; secondly preference in relation to the richer lower lands of the valleys is justified because in the latter rice is grown. Rice is a cash-crop with no major technical problems, except for a current lack of production credit.

Being the natural conditions of the CH more benign for agriculture (less rain, lower humidity, less steepness, etc.), the possibilities of introducing non traditional alternative crops are better than in the UH, as fewer environmental restrains are expected. Some of these crops have already been identified as economically attractive, such as "morera" for silk-worm cultivation or Macadamia, but, as mentioned before, non-traditional crops need previous research and investment for several years before expecting significant returns.

The CH also shows potential for crops traditionally grown in the coast of Peru, where their economic justification is now doubtful. Such is the case of sugar cane, for which a feasibility study has been completed to install in the area of Bellavista an integrated complex including the plantation, the industrial processing and energy generation.

1.4 Project Broad Economic Goals.

The Project's basic economic goal is the expansion and increase in the profitability of legal economic activities in the region, up to a point where they can compete with existing illegal activities. As mentioned before in this document this goal will require a parallel effort to reduce the profitability of coca cultivation and related activities through persistent law enforcement.

The Project capacity to pursue its basic economic goal will be, in great part, defined by the characteristics of its financial resources, both in volume and time frame, in favor of production. Agriculture, being the predominant economic activity and the only one with known potentialities, requires that the Project resources should be dimensioned in consistency to legal agriculture economic indicators and financial requirements.

The competitiveness principle requires also that financial resources allocated through the Project should be dimensioned in proportion to the size of the coca economy. Current Value of Production of coca leaf and PBC processed directly in the farms, is estimated at US$ 734 million. Meanwhile the same value for legal crops in the region is only US$ 110 million.

Value of Production of the more important legal crops has decreased at least 28% in the last 5 years (see graph No 1). The decline is a consequence of both a reduction of cultivated areas and diminishing productivity. Meanwhile coca has increased by 43% in the same period.

Legal agriculture production can eventually return to previous levels by providing credit and technical assistance when needed. Nevertheless previous levels will be far from a competitive position in relation to coca, and consequently legal agriculture requires a sustained additional support in financial and technical resources in order to become an alternative possibility.

The magnitude and intensity of the additional support required to sustain alternative agriculture will depend on several factors such as: the expected effect of law enforcement on coca earnings, the potential increase in productivity of legal crops and the time limit established to place legal agriculture in a competitive position.

Because of the instability of the economy and political framework of Peru, it is not recommended to establish long term for the Project goals. It will be more realistic if the effect that SER, and other coordinated development actions, would have on the region's economy are planned in clearly defined stages with medium term (4 to 5 years) horizons.

In a first stage the broad economic goal could be just to return legal agriculture to the production level existing between 1984 and 1987,when it was at its highest.. In a second stage, when experience has been accumulated, the economic goal can be more ambitious, such as to expand significantly production, through the introduction of high-value alternative crops and through a further increase in cultivated area and productivity of traditional crops.

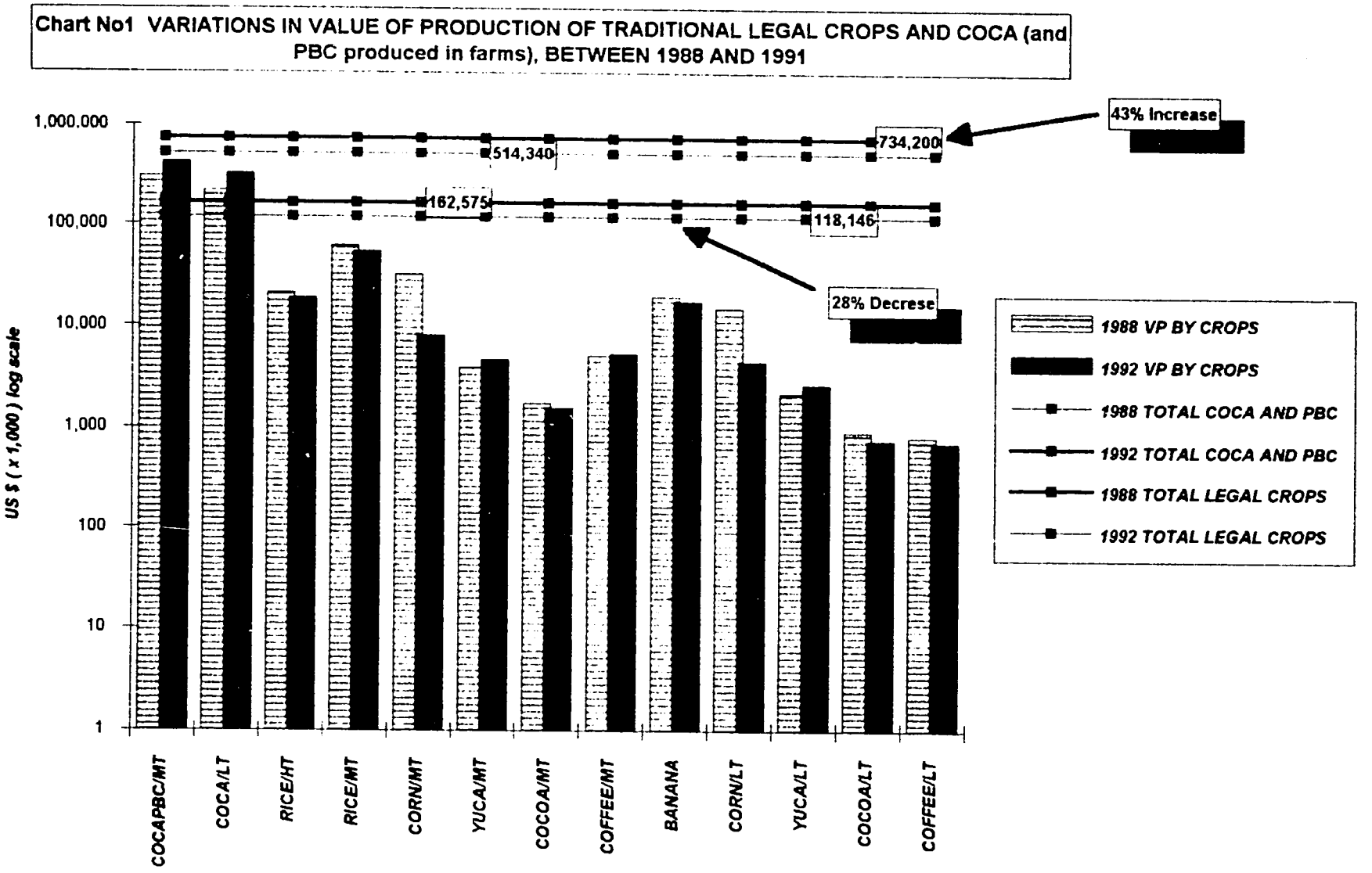


Chart No1 VARIATIONS IN VALUE OF PRODUCTION OF TRADITIONAL LEGAL CROPS AND COCA (and PBC produced in farms), BETWEEN 1988 AND 1991
US $ (x 1,000) log scale
1,000,000
100,000
10,000
1,000
100
10
1
734,200
514,340
162,575
118,146
43% Increase
28% Decrese
1988 VP BY CROPS
1992 VP BY CROPS
1988 TOTAL COCA AND PBC
1992 TOTAL COCA AND PBC
1988 TOTAL LEGAL CROPS
1992 TOTAL LEGAL CROPS
COCAPBC/MT
COCA/LT
RICE/HT
RICE/MT
CORN/MT
YUCA/MT
COCOA/MT
COFFEE/MT
BANANA
CORN/LT
YUCA/LT
COCOA/LT
COFFEE/LT

Chart No 1A VARIATIONS IN VALUE OF PRODUCTION OF TRADITIONAL LEGAL CROPS AND COCA (and PBC produced in farms) between 1988 and 1992 (in % terms)

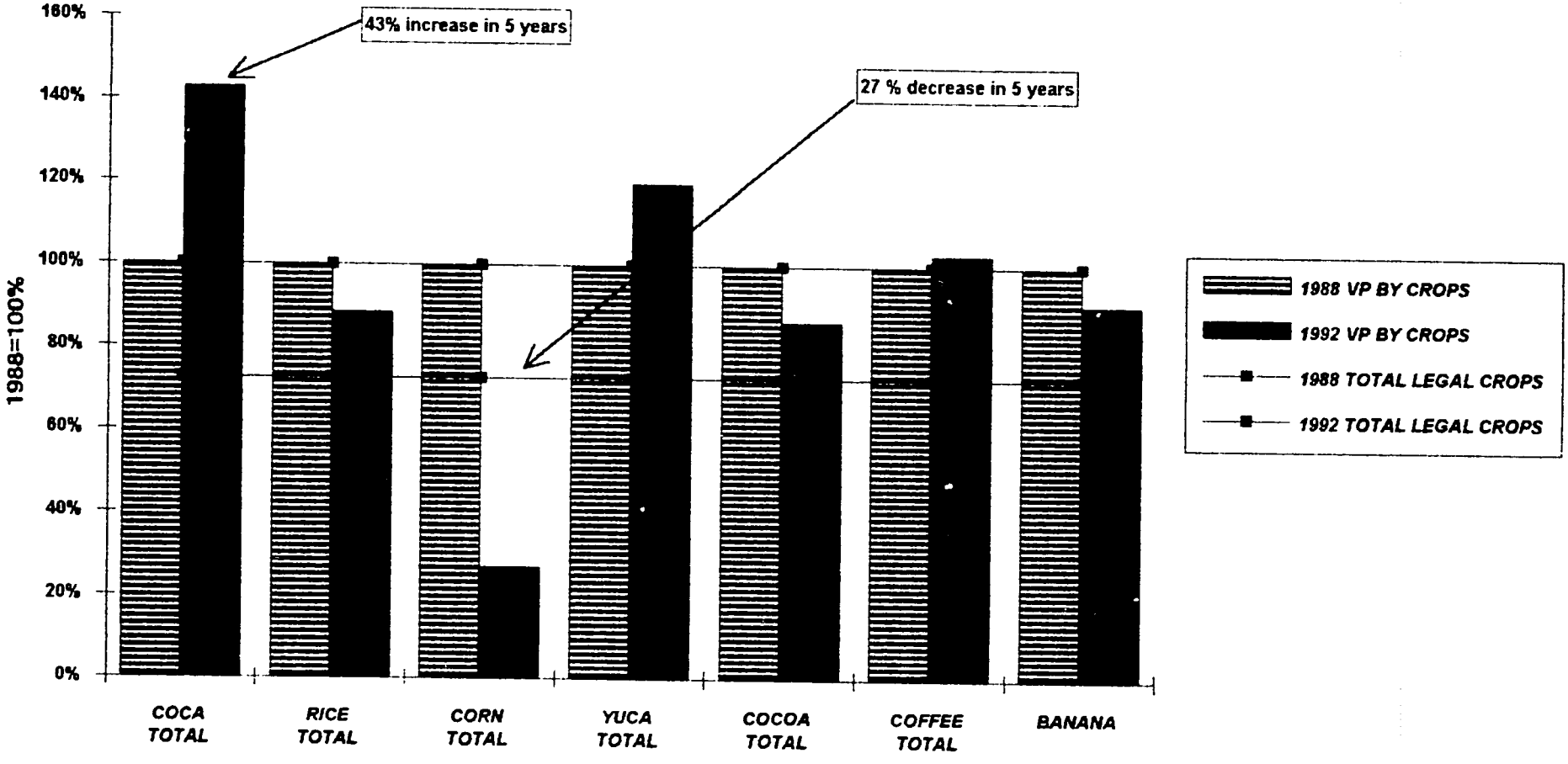
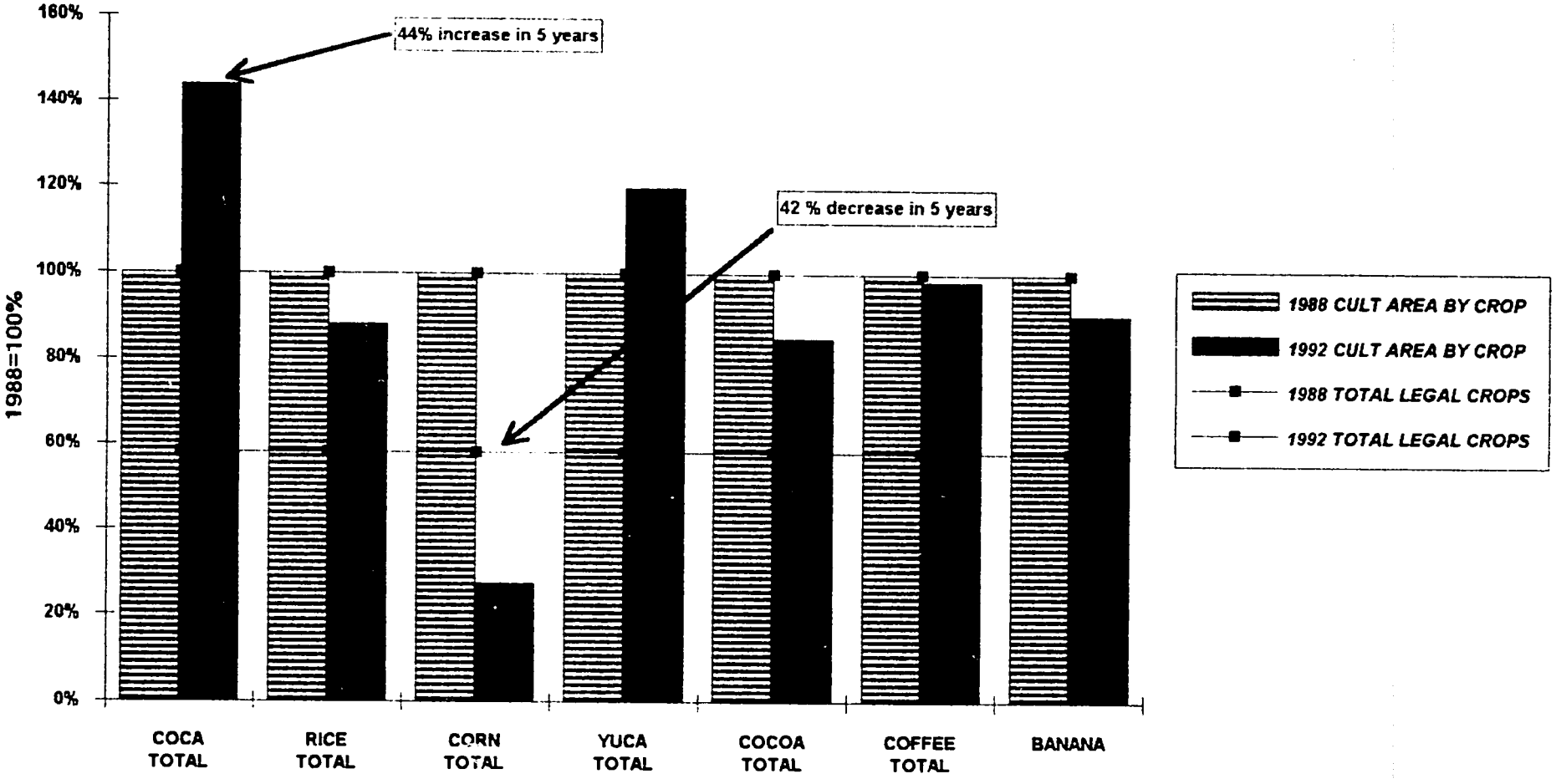


Chart No 1B VARIATIONS IN CULTIVATED AREA BY CROPS BETWEEN 1988 AND 1992



To measure the effort required and the probable cost of transforming legal agriculture into a competitive alternative possibility, projections have been made using Value Added (VA) indexes (per crop or per hectare) rather than Total Value of Production, as the latter does not take into account production costs. To project the potential VA increases for legal crops, and its cost, two productivity functions have been calculated using rice as a pattern (rice is currently the most attractive legal crop, and the only one with reliable information on costs). One of the functions is for low technology agriculture and the other for medium technology agriculture (see chart No 2), on the assumption that with financial and technical assistance both will evolve to the next higher level.

Using the productivity function as a base, two sensitivity analysis projections have been made . The first projection measures the effect of combined variations in productivity and costs over Net Income Ha of legal and illegal crops, using medium technology rice on one side and joint coca and PBC production (at the farm level) on the other side.[1]

Projecting combined percentage variations in rice productivity (positive) and in costs of production of coca and PBC (negative) a point is calculated where both Net Income ha indexes match. This demonstrates that a 40% increase in gross productivity of rice, using available technology, will place that crop in a position to compete with coca, provided that an equivalent increase occurs in the coca cost of production (see Chart No 3). To reach that point an additional investment of US$577 ha will be required.

A second projection has been made (see Chart No 4) to calculate the effect of combined variations of productivity and cultivated area, and costs of production, over total Value Added of legal and illegal crops, (using current productivity and cost of production values, from 7 medium and high technology crops and 4 low technology crops)

The projection has considered the achievement of the first stage economic goal (recuperate highest previous levels) in 4 years, and from then on, the continuation of positive tendencies for legal crops and diminishing production for coca. This demonstrates that using feasible rates of variation total legal agriculture can grow up to a point where it will match total coca production in a period of 8 years. This point will require a 61% decrease in VA of coca in 8 years and a 258% increase in VA of traditional legal crops in the same period.

A third projection has been made to calculate the financial needs of the mentioned production goals. As the Project will not be in a position to cover all the financial requirements of legal agriculture a policy definition has to be made to determine what part of those requirements should it cover. A sound possibility will be to allocate Project funding only to ensure necessary marginal increases in productivity, on the assumption that normal financial resources will continue to be provided to support current levels of production and productivity.

[1]Coca leaf cultivation is not a useful measure any more. For this reason, in the following analysis in this report, the combined costs of production and market prices for coca and PBC are referred.

Chart No 2 PRODUCTIVITY FUNCTIONS IN RICE AGRICULTURE IN RELATION TO TECHNOLOGICAL LEVEL CHANGES

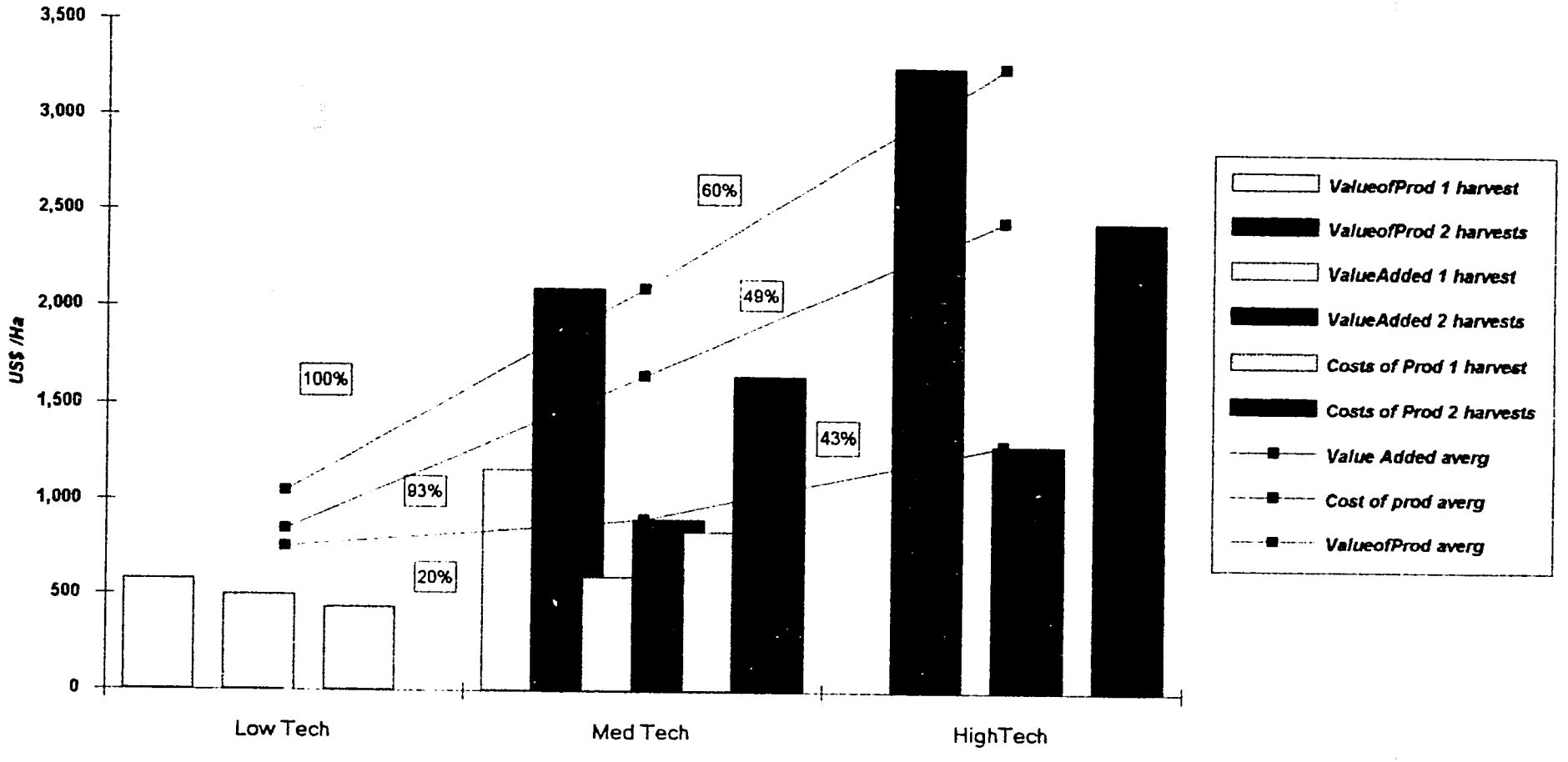


Chart No 3 SENSITIVITY ANALYSIS FOR ALTERNATIVE DEVELOPMENT A EFFECT OF COMBINED VARIATIONS IN PRODUCTIVITY (RICE) AND COSTS OF PRODUCTION (PBC) OVER NET INCOME/HA

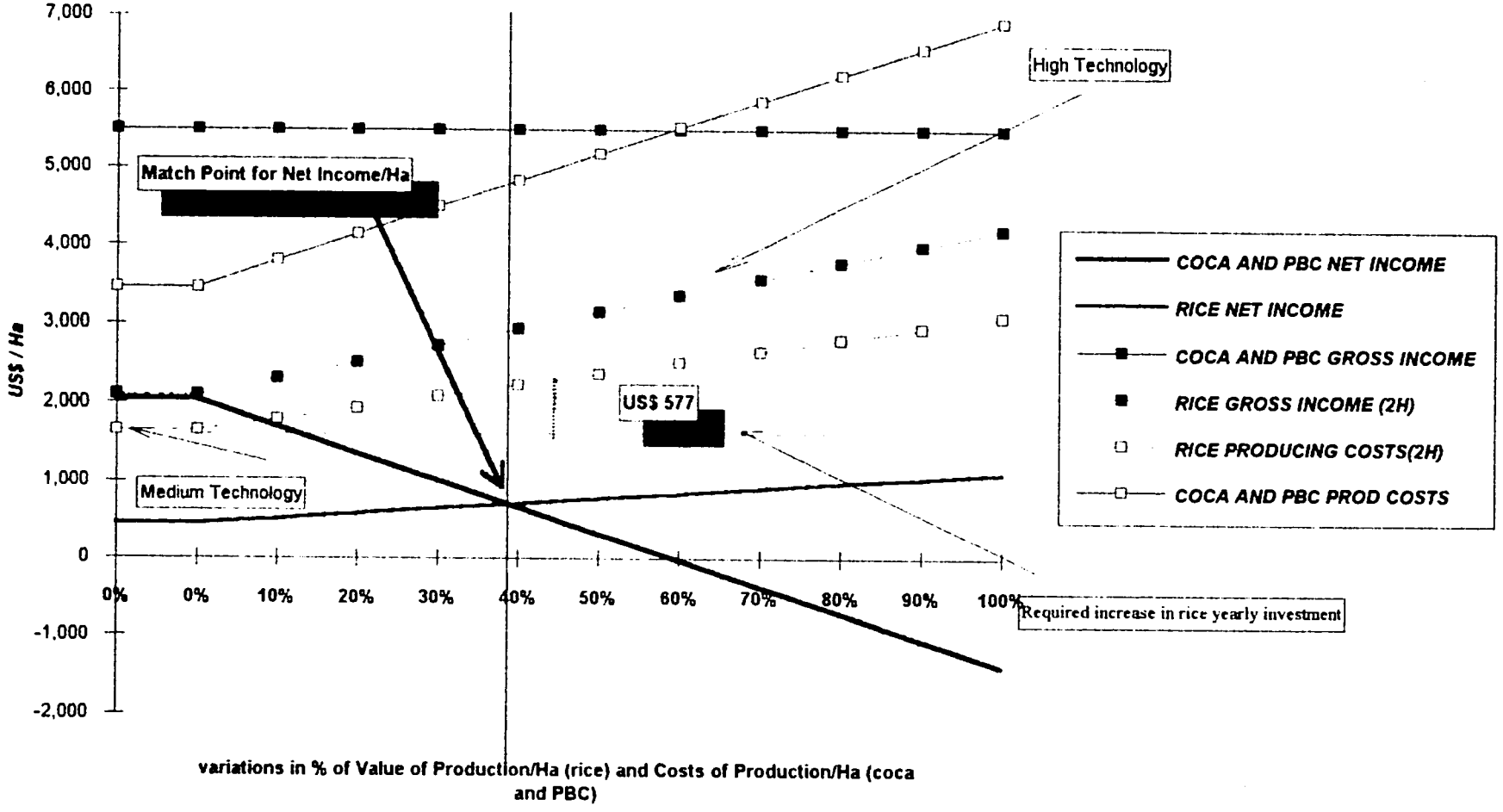
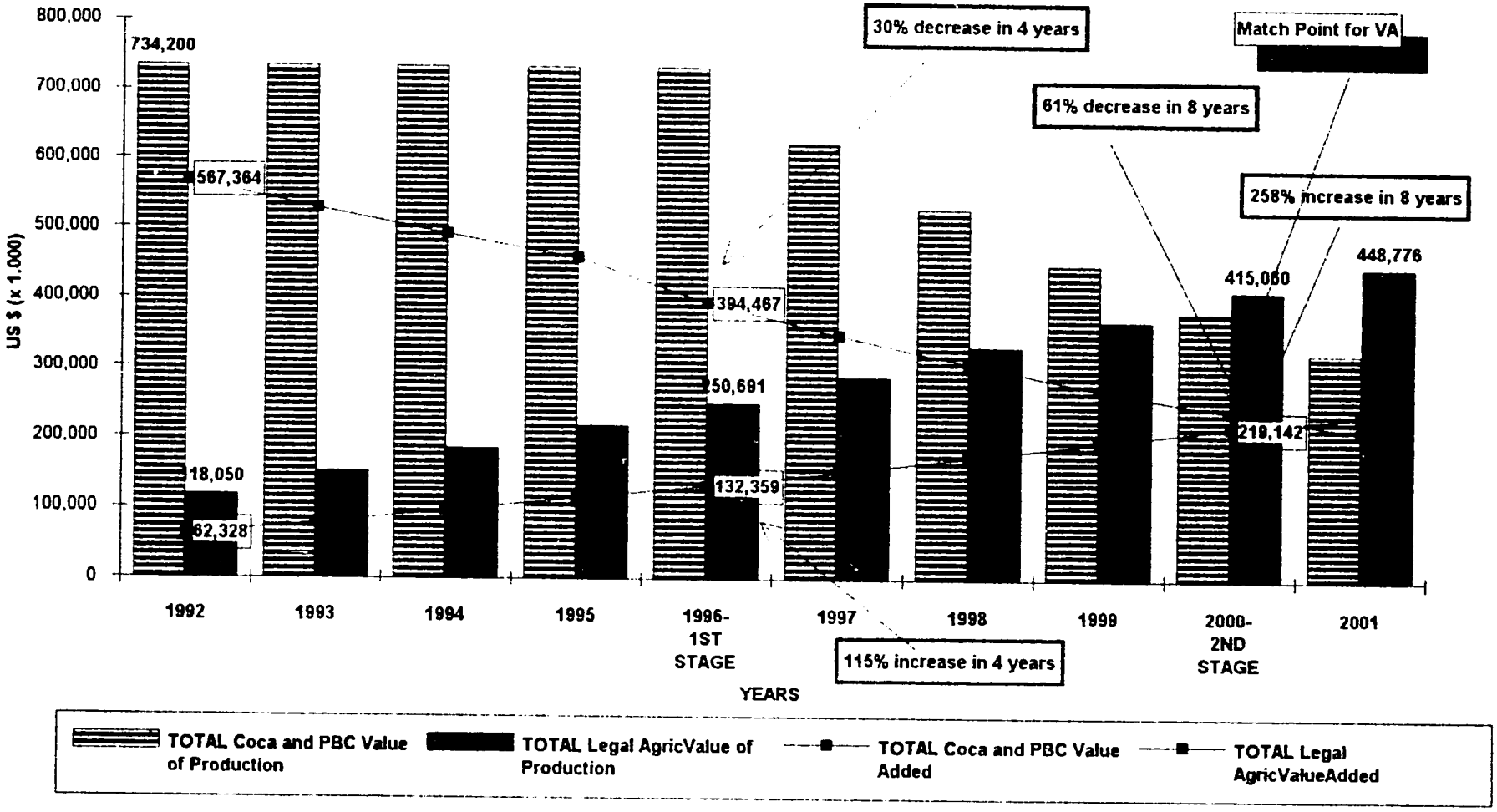


Chart No 4 SENSITIVITY ANALYSIS FOR ALTERNATIVE DEVELOPMENT B EFFECT OF COMBINED VARIATIONS IN PRODUCTIVITY AND CULTIVATED AREA OF LEGAL CROPS, AND COCA AND PBC COSTS, OVER VALUE ADDED AND VALUE OF PRODUCTION



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At the end of the first 4 year period, and considering only the marginal financing of productivity improvement, these requirements are estimated as US$ 43 million, with a return rate of 70% (see chart No 5). For the same period, and in the case of considering both productivity improvement and expansion of cultivated area, additional financial requirements will total US$ 63 million with a return rate of 104% (see Chart No 6).

A final projection has been made to measure the accumulated fresh funding requirements for the total 8 years period. (see Chart No 7). On the first 4 years this will amount to US$73 million, and at the end of the 8th year the accumulated figure will be US$163 million. Yearly requirements will be US$16 million the first year, US$ 21 million on the 4th year, and US$ 28 million on the 6th year, when it will reach its peak.

1.5 Project Implementation Statements

The new Project should, from the beginning, be based on realism and should incorporate the new approach towards development aid which is emerging in the international financing community.

Some of the strategic principles to be outlined are the following.

-Private sector institutions should be the major receptors of aid.

-All development actions and financing should be made with some kind of participation of the local democratic organizations, either private or communal.

-Capacity building for local institutions should be given priority, with the aim that all Project actions will progressively be transferred to those institutions, both in managerial and financial terms

-Funding processes should be multiple and flexible. Credit funding should be preferred to grants wherever possible. Consequently sound financial banking principles must be part of most of the project funding activities.

According to experiences with similar projects in Peru it is clear that, no matter how much planning and forecasts are made, final project results can be diverted far from the initial objectives due to unexpected events or extraneous intervention. The weaker the initial ties and commitments are made in relation to a Project the more likely that such interventions will occur.

To increase the possibility that the Project goals will be achieved in its life period, basic principles must be stated form the beginning in regard to its implementation framework and procedures. The following principles are considered critical to Project success.

Chart No 5 PROJECTION OF COMBINED INCREASES IN PRODUCTIVITY OF LEGAL CROPS AND COSTS OF PRODUCTION OF COCA AND PBC, EFFECT OVER TOTAL LEGAL AGRICULTURE VALUE ADDED AND INVESTMENT-(FIRST 4 YEARS STAGE)

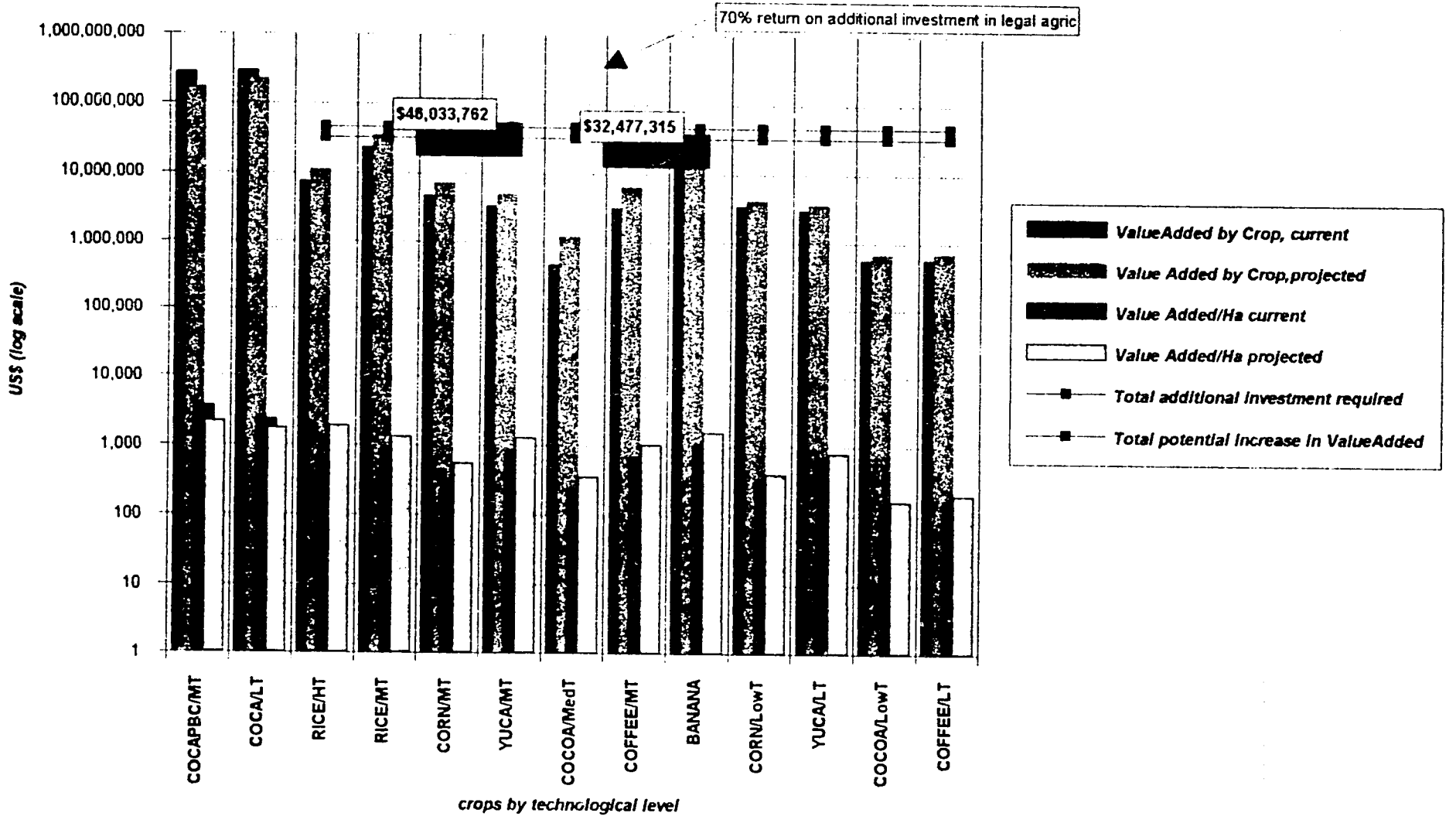


Chart No 6 PROJECTION OF COMBINED VARIATIONS IN LEGAL CROPS PRODUCTIVITY AND CULTIVATED AREAS AND IN COSTS OF PRODUCTION OF COCA AND PBC, EFFECT OVER TOTAL LEGAL AGRICULTURE VALUE ADDED AND INVESTMENT- (FIRST 4 YEARS STAGE)

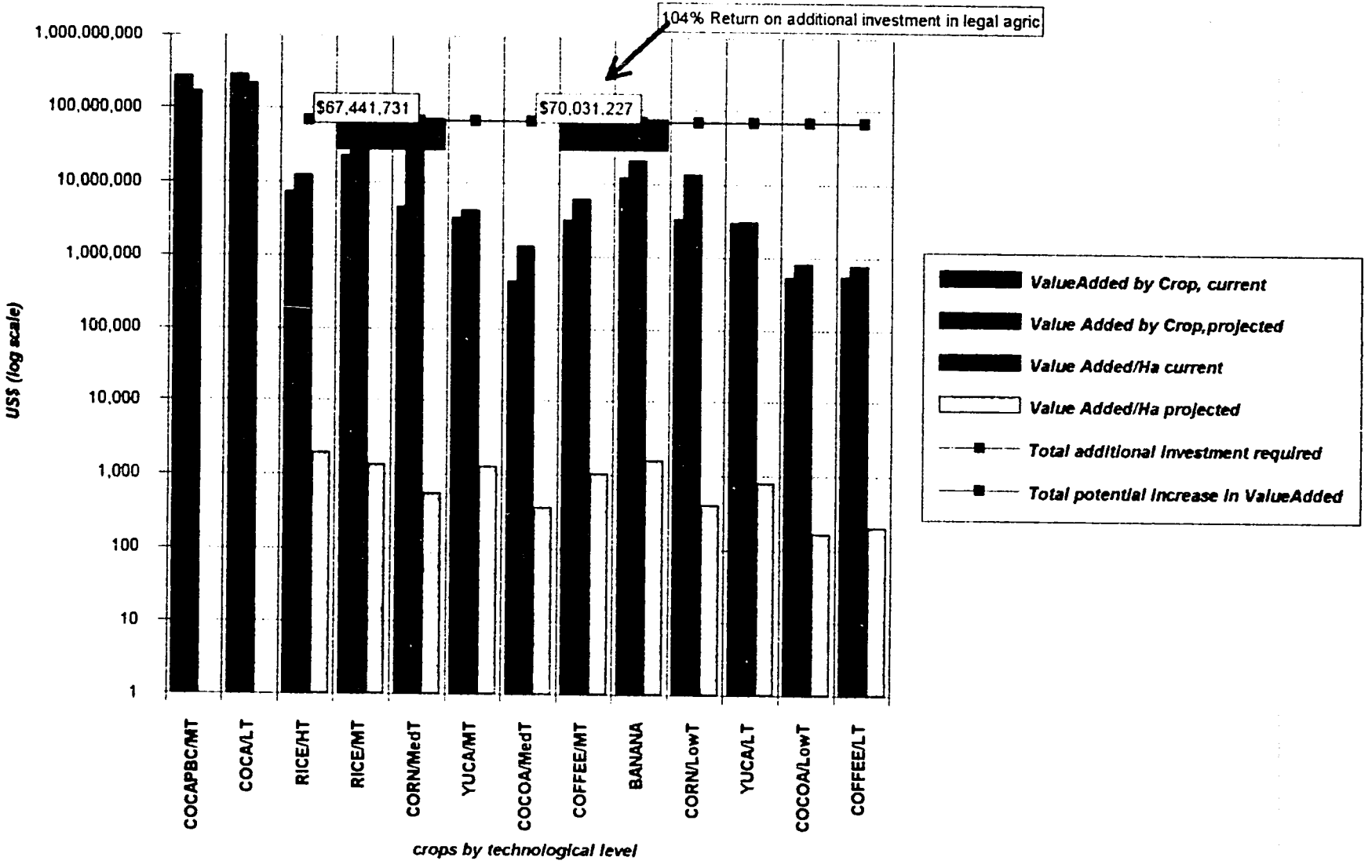
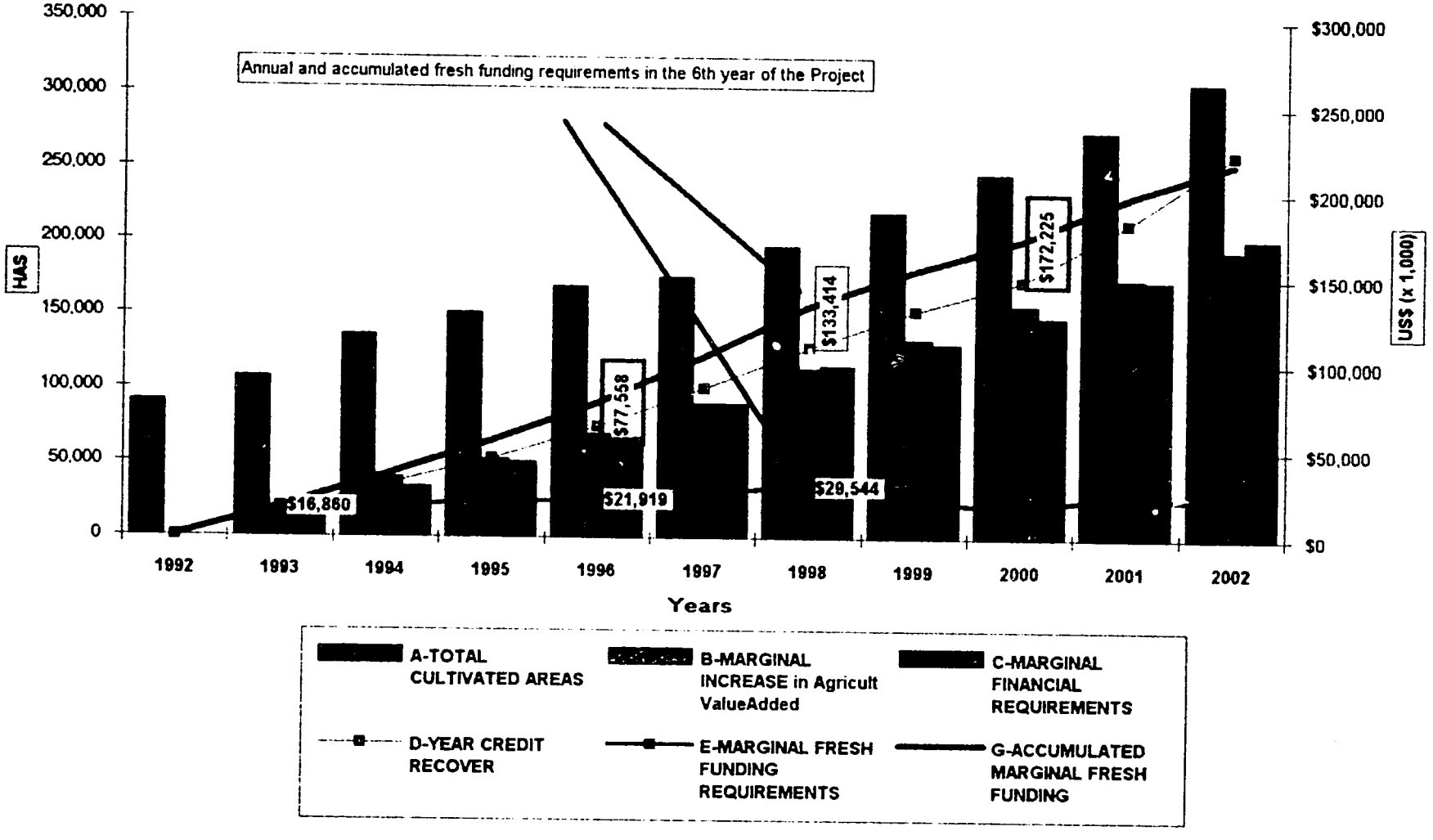


Chart No 7 PROJECTION OF MARGINAL VALUE ADDED AND YEAR CREDIT REQUIREMENTS TO TRANSFORM TRADITIONAL LEGAL AGRICULTURE INTO A SUSTAINABLE ALTERNATIVE POSSIBILITY(in thousands of US$)



Financial capacity. Resources allocated or captured through the Project, should exceed a minimum volume so as to counteract the influence of negative influences, in this case the money flowing from abroad to promote coca. As mentioned earlier financial resources should be at least US$210 million, in 6 years, just to put traditional legal agriculture in a competitive position. If the Project is not capable of directly supplying these resources, it should include the necessary actions to fill the gap and obtain them from other financial sources.

Institutional Relations. The Project should involve Peruvian institutions of the highest possible level. The experience is that if project implementation is commissioned only to second or third level institution (like Proyectos Especiales) they will be all the time under threat of political aversion and intervention. If the Project requires financial commitments from GOP, then high level financial institutions, like the Min. of Finance, should in some way be involved. In the same manner technical assistance to agriculture should require some kind of participation from the Min. of Agriculture, either directly or through the Regional Government.

Private Sector Participation. Peru is moving vigorously towards a liberal market economy, and the central government is transferring all kind of functions to the private sector. Private sector will be the driving force of any development in the valley, and the Project should use private sector institutions as much as possible in all activities.

Private Entrepreneurship Support. Private sector institutions and individuals will be the major beneficiaries of Project actions. Entrepreneurial capacity should be promoted and extended through technical assistance and training, and through sound financial and market policies.

Technological Development. Research and technical assistance will be implemented in all project activities seeking the utilization of the highest possible technological standards in all economic process.
It is clear that the only way to transform legal agriculture into an alternative activity is by raising significantly its productivity levels, and this requires important technological inputs. The same principle is applicable to related economic activities, such as agro-industry, agro-financing and marketing.

Environmental Concern. Sound environmental principles should be applied in all Project activities. Results of good environmental management should be used in the future to contrast the vast environmental degradation caused by coca cultivation and PBC production.
-Monitoring and evaluation should be a permanent task during the project implementation period. The results of such monitoring should be used to redefine the project periodically, maintaining the principle of flexibility in all project actions.

II-Huallaga Region Profile

2.1 Geographical profile

The Huallaga River jungle region is located on the northeastern slopes of the Peruvian Andes. It includes one of the Administrative Regions into which Peru is politically divided, known as Region San Martin, with 9 provinces- plus the Provinces of Leoncio Prado (Region Caceres) and Padre Abad (Region Ucayalil. The total area of the region is 65,536 sq. km., equivalent to 5.1 % of the nation's territory, and its population estimate for 1992 (not including Padre Abad) is: 618,000 people (no census since 1981), equivalent to 2.7% of the population of Peru, including Lima, and 4% of Peru without Lima.

It is important to notice that in comparison to most of the rest of the Peruvian territory, the Huallaga Cuenca Region is privileged in terms of natural resources distribution. In fact it is one of the few areas of Peru where a physically continuous human settlement can be sustained, since in most of the rest of the country geographical barriers, such as deserts in the coast, steep sterile mountains in the sierra and huge swampy areas in the jungle, limit human settlement to confined areas. As a reference, it can be mentioned that more than 20% of the territory of the Huallaga region is useful for agriculture and or cattle raising, whilst for the rest of the country that figure is only 5%.

The Huallaga region was scarcely populated until the first half of the present century, due to its physical isolation from the rest of the country, from which it was separated by steep mountains with heavy rains, and profound canyons. It was not until the 40's and 50's, when the first airports were built, that immigration started and modern economic activities were introduced. About the same time, the southernmost part of the Cuenca (Tingo Maria and Leoncio Prado province) became connected to the rest of the country with the construction of the Lima-Pucallpa highway, financed by the US government during World War II. The main purpose of the road was to obtain natural rubber supply for military use.

In the 60's, the construction of the "Carretera Marginal", connecting the northernmost part of the region with the Pacific coast brought, for the first time, the possibility of large scale agricultural production. During the 1970's and early 1980's this part of the region underwent rapid expansion of cultivated land and productivity (mainly rice and corn). A favorable combination of immigration, expanding internal demand, government subsidies, technical assistance and World Bank financed projects, transformed the area. In only a few years it moved from practically zero into the second producer of rice and first producer of corn in the country.

Meanwhile in the southern part of the region, known as the Upper Huallaga (UH), a notable expansion of a traditional crop, coca, was occurring in reply to international demand for cocaine. By 1985, the area was producing more than 60% of the world supply of coca leaves and Pasta Basica de Cocaina (PBC), the primary input for the production of cocaine. Expansion of coca occurred first in the UH, and not in the

Central Huallaga (CH) or other parts of the region, due to several reasons: first it was much closer to the sierra (Huanuco, Pasco and Junin) where poor peasants are concentrated and willing to move wherever there are opportunities, second, there were no other agricultural activities in the area as profitable as coca (coffee and cattle breeding promoted during the 50's and 60's were declining) and third the rugged topography of the area offered better environment to conceal the production of illegal crops.

Once coca cultivation reached a considerable dimension and international market linkages were established, the terrorists groups (mainly Sendero Luminoso) came to the area to obtain monetary benefits from supplying coercive security control and demanding a part in foreign currency inflow from narcotraffic. Under these circumstances the area turned into the most violent in Peru, which included a combination of illegal arms supply, mafia type and subversive terrorism, police interdiction and army counterinsurgency action.

During the 1970's and early 1980's in the northern part of the region, known as Central Huallaga (CH) and Upper Mayo (UM) areas, coca was not present yet. Farmers in this area were, for the most part, immigrants from other northern regions of Peru, and were engaged in lucrative and expanding legal economic activities, such as rice, corn and coffee cultivation.

In 1985 the Peruvian government instituted new economic policies based on non-market controls of foreign exchange, interest rates and commodity prices. Strong subsidies and direct purchasing by the central government agencies were introduced, all of which protected the legal producers, but not necessarily favored their productivity, during a short period (no more than 3 years). By late 1987 the whole system collapsed, the government was not able to pay the producers any more, production stock-piled in local deposits, banks could not recover loans, roads were abandoned and technical assistance disappeared.

In 1989 and 1990 agricultural producers from the Central Huallaga and Upper Mayo areas were in a desperate situation and they announced that if they did not receive help from the government they would start growing coca on a large scale. At that time coca was only a marginal crop in the area. When the government did not respond, the threat was carried out and now the Central Huallaga is an important producer of coca, competing with the Upper Huallaga in area but surpassing it in productivity. The Upper Mayo is just beginning to expand coca cultivated areas.

Coca grows best in the upper foothills of the tropical Andes, in an altitude between 500 and 1,500 meters over sea level, with steep soils that produce rapid drainage. In the UH these areas were previously uncultivated (mostly pristine forests), and with the coca boom poor peasants from the Sierra settled there, cleared the jungle and established small coca parcels with an average area from 0.5 to 1 has per farmer. As market prices for coca leaf were high by that time (up to $5 per kilo between 1980 and 1984), these small, low technology farms could provide incomes much higher than what peasants could normally expect, so a continuous flow of immigration and coca expansion occurred for several years.

From 1987 onwards, the market price of coca showed a declining trend in relation to the previous period, measured in terms of year averages. In recent months (1992) a notable increase has occurred. It is difficult to say whether this recent increase is due to cyclical variations or responds to more permanent factors, but researchers suggest that coca leaf prices tend to stabilize around an historical average (estimated at US$ 1.70 per kilo). On the other hand production and security costs to coca producers have increased notably in the recent years. To compensate for this situation, a large number of coca growers have started to produce PBC directly in their farms, obtaining higher incomes but resulting in increased production costs and higher financial requirements.

The combination of declining prices, increased costs, increased law enforcement actions from the police, and lethal Sendero coercion, plus evidence of declining productivity of coca plants (caused mainly by the spread of a fungus that destroys the roots) have produced a halt in the expansion of coca cultivation in the UH. Most probably, according to indirect evidence, coca cultivated area in the UH is now been reduced.

In the CH the opposite is happening. Here the upper foothills had traditionally been occupied by people with some kind of legal ownership. Agricultural producers, not exactly peasants, who previously grew coffee or corn in the same areas or in the near by valleys, are now growing coca in the lands that they possess, or they have transfer their land rights to entrepreneurs coming from the UH or from other parts of the country. As these farmers were accustomed to a modern agricultural organization, bank credits and technical innovations for many years, they have been able to adapt rapidly to the new requirements of coca production, such as the use of fertilizers and pesticides, and have been able to finance the PBC production modules with higher efficiency, thus exploiting farms that are much larger (5 to 10 has and over) than those existing in the UH

It was not until 1991 that the GOP started to implement relief actions in favor of the traditional agricultural activities of the Central Huallaga and Upper Mayo areas. Roads were rehabilitated, and consequently both time and cost of transportation have been reduced drastically, two years ago a truck was normally taking 10 to 15 days from Tarapoto to Chiclayo-in the coast- and the charge was $ 100 per MT. Now the same truck takes only 18 hours and the cost is $40 per MT.

A provisional organization (expected duration of 2 years), called FONDEAGRO, was created within the regional government to channel central government and foreign financial aid (Canadian aid funds), as credit to agricultural producers. Although available funds were small in relation to requirements, and have been supplied only to rice farmers, they have already produced a notable impact on the economy of the region, such as the incense in market prices of rice due to competition.

It is important to notice that these relief actions have been implemented by the GOP in response to regional economic and social pressures and local organizations proposals, so they should not be considered as typical governmental centrally planned actions which normally oppose reality.

2.2 Social Profile

In terms of its basic social characteristics the Huallaga region population should be especially receptive to the kind of development actions planned by SER. The most outstanding characteristics of the region's society, in comparison to most of the rest of Peru ,are:

- They are better educated; illiteracy is lower than the rest of the country.

- They are more organized than other rural sectors of the country. Nearly all adults belong to one or more basic organizations, whether of an economic, trade-union, or communal nature. These organizations are sufficiently involved that they wield national political influence (as demonstrated in the creation of the San Martin Region).

- They are permeable to change and technological innovation. A good example is the region's agricultural leap forward between 1975 and 1985 with the introduction of high technology agriculture, such as rice and corn --whereas before only primitive crop methods were practiced.

- As a whole they experience less poverty than the rest of the country. Diffusion of rural property and an abundance of land appropriate for production of widely consumed foods --such as yucca, corn, banana and pork meat-- isolates extreme poverty (defined as a total lack of food and housing) to small areas of the larger cities, whereas the great majority of the Huallaga's rural populace is relatively well off. These conclusions are easily believed by observing how much healthier the children are in the poorest areas of the Huallaga --compared to those living in the rest of Peru, including metropolitan Lima.

However, after years of violence mixed with economic and political instability, the Huallaga Valley residents have become distrustful of a normal socio-economic life and suspicious of government institutions, thus affecting all development actions. It is also clear that the people of the Huallaga are wary and hesitant to cooperate, fearing that they can be manipulated and may be the object of many ulterior motives. This attitude partly explains the failure of some State projects which originated in Lima in recent years and were formulated without local participation and public knowledge. All agencies involved in development activities should be very well informed about the legitimate representative character of rural and communal organizations, so that they can properly communicate and cooperate.

Because the people in the Huallaga region has been exposed in the last years to both, drastic changes in government policies and violent coercion from subversive and narco-traffic groups, a system of basic social organizations has developed for self defense, at least in those communities most affected. These organizations were, at the beginning, of an exclusively demanding nature. Recently they have matured and are evolving towards real economic and social representative institutions with a genuine desire of generating their own development proposals.

HUALLAGA REGION (Depto San Martin + Prov Leoncio Prado)

I Total Population

year		SAN MARTIN +LEON PRADO	PERU	LIMA-CALLAO provincias	PERU without LIMA
1,876	population	44,517	2,651,619	155,486	2,496,133
	%/ pop of Peru	**1.68%**	100%	6%	94%
	%/Peru without Lima	***1.78%***			*100%*
1,940	population	97,462	6,207,967	645,172	5,562,795
	%/ pop of Peru	**1.57%**	100%	10%	90%
	%/Peru without Lima	***1.75%***			*100%*
1,961	population	186,238	9,906,746	1,845,910	8,060,836
	%/ pop of Peru	**1.88%**	100%	19%	81%
	%/Peru without Lima	***2.31%***			*100%*
1,981	population	400,911	17,031,221	4,600,891	12,430,330
	%/ pop of Peru	**2.35%**	100%	27%	73%
	%/Peru without Lima	***3.23%***			*100%*
	annual rate 1972-1981	**4.01%**	2.58%	3.75%	
1,992	population	617,837	22,539,041	6,897,808	15,641,233
	%/ pop of Peru	**2.74%**	100%	31%	69%
	%/Peru without Lima	***3.95%***			*100%*

II Urban Population

	SAN MARTIN +LEON PRADO	PERU	LIMA-CALLAO provincias	PERU without LIMA
1,981	213,541	11,085,892	4,563,727	6,522,165
%/ total population	**53%**	65%	99%	52%

III Population in cities bigger than 2,000 hab

	SAN MARTIN +LEON PRADO	PERU	LIMA-CALLAO provincias	PERU without LIMA
1,981	150,060	9,678,187	4,440,500	5,237,687
%/ total population	**37%**	57%	97%	42%

IV Population distribution by ages

1,981	SAN MARTIN +LEON PRADO	PERU	LIMA-CALLAO provincias	PERU without LIMA
0 to 5 years	77,924	2,936,604	660,563	2,276.041
6 to 14 years	101,903	4,076,012	961,403	3,114,609
0 to 14 years	179,827	7,012,616	1,621,966	5,390,650
	45%	41%	35%	43%
de 15 a 29 años	114,640	4,743,860	1,501,827	3,242,033
	29%	28%	33%	26%

V Dependance rate

dep/econ active pop x1(	93.68	91.83	63.14
%single men	39.94%	39.30%	45.42%
people/homes	5.4	4.7	4.9

VI Inmigration

Population born outside the province

	SAN MARTIN +LEON PRADO	PERU	LIMA-CALLAO provincias	PERU without LIMA
1,961	39,009	2,279,724	889,573	1,390,151
	21%	23%	48%	17%
1,972	75,602	3,595,464	1,558,381	2,037,083
	27%	27%	47%	20%

Undoubtedly, the social organizations most important in the Huallaga are the Producers' Committees, which bring farmers together through their product lines (rice, corn, banana, etc.), and by geographical necessity --such as in the case of valley groups and those in basins, which are found along tributaries of the Huallaga River.

All the agricultural producers' committees come together in the Regional Committees, which in turn belong to a regional trade union, known as the FASMA (The San Martin Agricultural Federation). For a number of years the FASMA has been infiltrated by the political far left, causing friction with local committees, occasionally escalating to violence. Currently, the FASMA keeps a low profile, and apparently is no more influenced by political ideologies. Local producers committees keep up active, and they are represented in the that the boards of recently-formed State organizations, such as FONDEAGRO.

The SER Project must take advantage of the agricultural-production sector's current organizational structure, supporting their interests through institutions with similar purposes (such institutions as those recently created, which are supported by many small shareholders: i.e., Arrosamsa, etc.). and such as the (future) "Cajas Rurales": Rural Cash-offices (Please see the chapter, "Institutional Analysis).

In nearly all towns and communities there are non-economic community organizations, such as the Defense Committees, the Development Committees, and the Mothers' Clubs. The power and effectiveness of these organizations vary a great deal from town to town, there being little to indicate why . . . although it is supposed that the more powerful ones are guided by individuals with strong character and clear purposes (such as in the cases of local anti-terrorist groups, or groups organized to collaborate with specific ONG's in their development projects).

Since one of SER's objectives is to decrease coca cultivation through direct cooperation with community organizations, any attempt to legalize such cooperation through contracts or agreements must be done cautiously. It must be taken into account that these organizations rarely are responsible for their individual members' actions.

Even less certain is the likelihood of working personally and directly with the coca producer. The region's coca producers normally act individually, and their autonomy and isolation depends on topography of the producing area and on their production scale and technology.

The Upper Huallaga is dominated by small producers (1/2 to 2 has.), with older crops found on highly-eroded, steeply inclined plots, where little else besides coca can be cultivated. Whatever alternative-crop agreement is made to support the farmer in this zone must implicitly include, in nearly all cases, arrangements to move him to another area, possibly to the bottom of the valley, or even to another province in the same region; supposing that said farmer can abandon, even destroy his coca crop, there is no guarantee that another will not take his place, replanting the same crop. It's not clear what policy would be best applied here, but perhaps through environmental programs the State can acquire rights over abandoned land . . . returning its status to that of protected forest.

In the Central Huallaga coca producers normally conduct larger enterprises, cultivate larger areas, and are prone to employ higher technology. These farmers are at the same time owners of the valley land where traditional crops continue as a source of alternative income, and often as a legal front for their main income: coca, in which case stopping coca production does not indicate relocation, rather a redistribution of priorities among different areas and crops on the same property (even though said property is not legally defined). According to how successful alternative development will come out, these farmers will by themselves decide to give the correspondent priority to legal crops and progressively abandon coca, and in this scenario it is unlikely anyone could or would come later to replant coca in the same parcel.

The situation in the Upper Mayo is quite similar to that of the Central Huallaga, in that the farmers of both are in possession of the valley's bottom land, cultivating legal crops, with the high terraced lands devoted to coca, noting that coca has appeared only recently in the zone and is not yet widespread. In this case there is not a need for large scale eradication of coca, it is only necessary to promote, develop and improve profitability of legal crops. It will also be of great impact to disseminate knowledge throughout the community that conservation of nature is most threatened directly and indirectly by the coca industry.

Women Position in the region.

One outstanding characteristic of women's role in the region, is their active participation in the organized struggles that local society has maintained for many years to achieve better attention from central government. This participation can be observed in the emergence of women political leaders, such as the Alcaldesa of the city of Rioja, and the current president of FEDIPSAM (Frente de Defensa de los Intereses de San Martin). In a situation of violence and illegality, local women leaders have come up in defense of human rights and democratic principles.

In the smaller communities women are dominant in activities related to improving the quality of life through their participation in health control, children nutrition and sanitary conditioning.

Inside the family nucleus, wherever violence is a threat, women act as a stabilizer between conflicting interests of family members. Such is the case when some members of the family have been involved in illegal or subversive actions and try to return to normal life, finding in their mothers and sisters the only help to do it.

Age distribution shows a predominance of young women, as 45% of them are below 15 years of age, 16% between 15 and 24 years, 28% between 25 and 49, and only 11% over 49. In terms of education, 62% of women have completed elementary school, 21% secondary school and 25% university level education. Illiteracy reaches 11% of women population. Only 15% of women in working age have access to social security systems.

Women in fertile age are distributed as follows: 36% between 15 and 24 years, 48% between 25 and 39 years, and 16% in the last stage of their fertile period, between 40 and 49. Women in urban areas of the region have a total 3.7 born children during their fertile life, while this index increases to 5.8 in the rural areas. The use of anticonceptive methods is relatively well known in the region, as 53% of urban and 46% of rural women use or have used them sometime. Nevertheless the use of anticonceptives is not methodically carried out.

Marriage is frequent at early ages, 27% of women between 15 and 19 years are married. single women over 15 are only 23% of total, but many of them are single mothers. In rural areas the participation of women in agricultural activities is significant.

As paid workers they take part in cultivation and harvesting of commercial crops, such as rice, but their participation, as paid workers in coca is not important. As family workers, women participate in all stages of agricultural production, including in this case coca . As is in the rest of the rural areas of Peru, this participation is not valued in monetary terms, and it is considered as an extension of domestic duties. When the husband moves out temporally, as is the case for coca harvesting, women become fully responsible for both the house keeping and the legal agricultural activities.

Although her participation in productive activities, women are not normally present in guild organizations, such as Comites de Productores and Camaras de Comercio, and they are normally relegated to welfare committees such as Vaso de Leche, Clubs de Madres, etc.

2.3 Economic Profile

2.3.1 Macro Economic Framework

Under current national economic conditions, influenced by a radical stabilization process, and where great distortions yet prevail, all economic projections are uncertain. In this framework any predictions about the future behavior of any project such as SER are difficult to make, especially with any project purporting to change the behavior of productive sectors.

What can be done is to define proposals about the probable evolution of determined economic variables and, from these, try to predict how the region's production sectors will react. The most relevant macro-economic variables we are dealing with are:

Foreign Exchange Rate. Owing to the combined effect of a drastic recession and the constant pouring in of foreign capital from drug-trafficking, the foreign exchange rate continues depressed in relation to local currency value. Economists do not agree what a fair exchange rate would be, and estimates of the Dollar devaluation vary between 40% and 100%. If the country's economy grows anew in 1993 (as announced by the Government), the exchange rate could recuperate within 3 to 4 years --without causing big inflation (this year-1992-
a 10% revaluation of foreign currencies was hoped for).

A realistic exchange rate would undoubtedly favor agricultural production in the Huallaga region, as much for competition with foreign suppliers (who are especially competitive in rice and corn), as for improving the region's comparative advantage in export.

We should not forget that said improvement in the exchange rate would also favor production and export of coca and its derivatives. The favorable relation between these two influences, over legal agriculture and that of coca, will depend on how dynamic will expansion of national internal demand for regional products be in the future (which will determined by better market conditions, independently of prices) in relation to the simple relative improvement of export prices.

Loan Interest Rates. Real bank interest rates in Peru are currently the highest in Latin America and liberal government politics have eliminated all control over them. The reduction of banks investment, due to the recession, combined with overstaffing are producing high operating costs, all of which has generated an interest rate freeze applicable at extremely high rates on loans (15% to 20% annually in real terms), which place the country's producing sector at a marked disadvantage.

This recessive effect has proved most repressive to the agricultural sector, since said sector during many years was used to use loans at subsidized rates of interest --far below the inflation index.

There currently exists a weak move to lower the bank interest rate, and the government is committed to support this decrease through indirect control methods. It is hoped that these methods could slowly succeed, and that within two years this rate will descend between 6% and 12% annually; and that, even though it is high in current international terms, would place cultivators and the producing sector in general in a better position to compete.

It is important to note that the financing received by coca producers (from drug-traffickers), comes from foreign sources and in any case, it is calculated on the country-of-origin interest rate, which is much lower than that of Peru.

Fiscal Policy & Cost of Fuels. Peru is experiencing a successful State tax-system reform. This means that the income tax rate has gone up from less that 4% of the GNP up to nearly 9%, in a period of 2 years. However, one should note that the income tax system has improved more because of training programs in handling of taxes, than to improvement of tax structure rates.

The tax rate structure for Peruvian society continues being unfavorable to production, since the great majority of revenue collected comes from either taxes that burden the populace with consumption costs or from taxes that affect costs of production. It is unlikely that this structure will be changed while there is no significant increase in the economy --since current company profit margins, and their legal activities, are quite narrow.

The most highly taxed article on the market is fuel, which currently pays more than 150% in taxes (more than that applied to imported liquor). This heavy tax affects the productive sector not only through fuel used in industrial processes, but enters into cost of transport of products.

In the Huallaga region fuel cost is a key factor in the improvement of the local producer's competitiveness, since transportation is a major component in the final selling price, whether for regional consumption or to be shipped as much as 1,000 kilometers to main national markets.

Some producing sectors, such as the non-traditional industrial exporters, have found ultimately that the government gives them back the taxes they pay on fuel used in their own processing. One supposes that this policy will slowly go on spreading to other sectors of the economy; it is predictable that, in the Huallaga and other jungle regions, within two or three years fuel will be liberalized of all tax charges, a policy which has already been successfully applied to other sectors, and which will give a dynamic boost to the region's economy.

It is interesting to note that reduction in fuel prices would not aid coca production, or that of PBC, since they are products whose high value-for-weight-unit allows payment of transport costs, no matter how high. Reduction in fuel prices would positively influence coca only in the case of kerosene,

which is a major input in PBC production. In this case a specific policy that discourages its general use should be implemented --probably having to find an alternative to kerosene for domestic use in home kitchens (where it competes with stove wood).

2.3.2 Agricultural Production

Agriculture is the most important economic activity in the region, and it will be so in the near future as no major opportunities are apparent in other economic sectors.

In relation to the rest of the country the technical level of agricultural activity in the Huallaga valley is relatively high and with some crops can be compared to the coast, the most developed region. Nevertheless the level of agricultural technology used in the Huallaga has been declining in the last five years due to a combination of the lack of both credit and technical assistance, infrastructure abandonment, subversive coercion and coca cultivation competition. The effect of these adverse factors has some variations between the different zones of the region because of their different geographical characteristics, which are summarized in the following pages:

Upper Huallaga

Its main characteristics in relation to agriculture/livestock are:

- Land area cultivated in coca annually far exceeds that planted in legal crops -- both perennial and semi-permanent. (Coca: 140,000 has.- Principal legal crops: approx. 50,000 has.)

-Although there are studies indicating decrease in coca-exploited areas, coca continues to negatively affect legal crops (availability and cost of manual labor, profitability).

- The area with in legal agriculture is primarily planted with permanent crops, such as palm-oil, cacao, coffee, tea, and grasses; and semi-permanent crops, such as banana and yucca. With the exception of palm-oil, the remaining permanent crops have low technology and yield, owing to discouragement of investment because of product prices.

- Land appropriate to annual, permanent and grassland crops, are occupied but are apparently under-used, especially in flatlands and low terraces near valley bottoms, which are appropriate to yearly crops ("cultivos en limpio"), such as irrigated rice, and permanent crops, such as cacao, banana and palm-oil.

- Protected forest land are found to be especially compromised by coca, although there are found small plantations of coffee, tea and ready human consumption crops. These lands also happen to be the most critical in relation to the management and conservation of natural resources.

- From the point of view of alternative development, there are possibilities of short-term replacement for the development of annual crops, such as irrigated rice, especially in the Tocache zone, and in the northern part of the Tingo Maria zone; and for blond tobacco between Aucayacu and Tocache. From another point of view, there are possibilities for the medium-range development of palm-oil crops through the rehabilitation of existing plantations of EMDEPALMA S.A. and of Palma Selva S.A.; likewise, for long-range development of establishment of small and medium-sized producers. The company Palmas del Espino S.A. can become a basic entity in development of and industrialization of palm-oil.

- Permanent crops cultivation, such as cacao and coffee, is facing a notable decline in the international market prices, thus turning in most cases into a losing activity. As entire families of small producers have traditionally been employed in these crops, there is a potential that these people could direct their energies toward coca.

-Cultivation of tea --although on small, insignificant plots-- must receive special consideration because the Huallaga is one of two national production areas, and it currently faces managerial problems and declining product quality.

Central Huallaga, Upper & Lower Mayo

Its main characteristics in relation to agriculture/livestock are:

- The expansion of the cultivation of coca is a relatively recent phenomena and it has not obtained yet the negative connotations in relation to development of legal crops, as is the case in the Upper Huallaga.

- Unlike the Upper Huallaga, there is an important development of annual crops on irrigated flatland (Rice) and on high terraces and the foothills (Corn).

- The cultivation of irrigated rice and of non-irrigated corn make close to 60% of the area covered by the zone's principal legal crops. Rice has decreased slightly in recent years (12 % in 5 years),; on the other hand, corn --because of problems resulting from product price and low yields-- shows a constant decrease in cultivated surface (73% in the last 5 years).

- Non-irrigated, semi-permanent crops, such as banana and yucca, are distributed along the foothills in many low basins. Cultivated grasslands are scattered across the flatlands, with the possibility of increased cultivation; and on terraces and foothills, whose greatest use is for cattle.

- Among the permanent crops, coffee stands out with a total surface area greater than that of the Upper Huallaga; principally found in the zones of the Upper Mayo (Zone 5) and of Lamas (Zone 2). This crop is located in foothill lands with greater use capacity for permanent crops, as well as on land appropriate for livestock and forestry, involving a great number of small-production families. As in the case of the Upper Huallaga, these producers can turn their energies to coca production owing to (legal crop) low profits and low market prices.

- Livestock production, particularly bovine meat sources, has been traditional in the zone, which has declined in recent years. Porcine meat production reaches levels of 50% of that of bovine meat production, and has a more or less stable tendency; but milk and poultry meat production show a slight increase.

-In relation to alternative agriculture/livestock development, this zone offers possibilities of short-range increase of land-surface and productivity of irrigated rice crops, since it has all the favorable agro-ecological conditions; there is evidence that local producers can rapidly assimilate technological improvements, and the participation of producers' organizations in commercialization could establish more favorable conditions for them.

- Referring to the above, one critical zone is that which in the low foothills and steep hillsides, whose capacity for greater use is for permanent crops, grasslands and forestry exploitation, which currently is occupied by small farmers who in particular raise non-irrigated corn and, on a smaller scale, banana, yucca, coffee and cacao.

As for low price and yield problems, it is a zone in which small producers can orient themselves to expansion of coca production. Likewise, it is a critical zone from the point of view of adequate resource use, since the corn crop is raised on land whose greater use capacity is not appropriate for this crop.

Alternative development possibilities in relation to land zones

-Valley bottom zones contain the best flat soils for agriculture. Here it is possible to obtain short-range effectiveness with annual crops, such as irrigated rice, and effective medium- and long-range success through recuperation of existing plantations and establishment of new plantations of traditional crops, such as palm-oil. In these areas it will also be possible to establish, in medium- and long-range plans, plantations of new permanent crops, such as sugarcane and its related livestock exploitation.

- Foothill zones include land appropriate for permanent crops, grasslands, and protected forestry, where the dominant cultivations include non-irrigated corn, coffee, cacao, yucca, banana, grasses, etc. In this zone there are current problems of declining productivity, because of under usage of land surface according to capacity, low technological levels, low product price, increasing

occupation of and deforestation of marginal areas, small property and subsistence exploitation, lack of services, etc. For all these the foothills are considered the most critical zone in relation to potential coca expansion, and the area where the greater possibilities to improve the situation are present, through alternative development promotion.

- Given the magnitude of the problem --owing to the project's land-surface scope and the varied characteristics of its territory-- it is thought necessary to focus thoroughly on basins and sub-basins units to obtain significant and comprehensive results. These units will be chosen under criteria which takes into account production potential, seriousness of the current situation, and short- and medium-range potential effects.

Non-Traditional crops and Agro-industrial potentialities.

There is a series of non-traditional tropical and semi-tropical crops that have been identified as suited to the climatic conditions of the region. Some of them show apparently good external market conditions for exports. Nevertheless none of the crops are or have been cultivated in sufficient extend within the valley so as to be considered economically feasible.

In the UH there are two crops that can be considered promising as result of the advances in their experimental stage, one is Pijuayo Palm (producer of palmito) planted in terrains of Palma del Espino corporation, and the other one is Yerba Luisa, a herb promoted by PEAH. Pijuayo is a native palm from the Huallaga, whose genetic development was done in Costa Rica to produce the high valued palmito without a need of destroying the plant (as was done previously), and agriculturally speaking shows good results in the existing plantation. The exporting possibilities are apparently attractive, but require research and promotion abroad. Yerba Luisa is a herb used in tea-like infusions that has been promoted in previous coca producing terrains by PEAH; it has been exported to Europe with initial good results, nevertheless the small scale of these exports can not indicate the potentiality of expanding demand, and certainly specific research in terms producing costs and future demand is recommended.

Silk worm breeding based on "morera" cultivation (the worm's only feed) is another activity that shows apparent good potentiality for the valley. There are 10 has of morera cultivated in an experimental parcel near Tocache, promoted by CORAH, and the plants have responded with excellent results. The most interesting factor in favor of this non-traditional activities is that silk has a very important expanding world market, because of shifting world preferences for natural fibers and because of diminishing production in high labor-cost producing nations, like Taiwan and Korea. A project to promote morera and silk worm within the Huallaga valley has been presented by the "Instituto Andino y de la Cuenca del Pacifico" on basis of their good connections to facilitate foreign technical assistance and markets.

Oil Palm is not exactly a non-traditional crop in the Huallaga, as there are more than 20 years of experience with its cultivation and more than 9,000 has. planted in the region. But it can be considered as such in terms of its possibilities to be promoted in non-traditional terms between small and medium size farmers, as currently is only planted in large one-owner plantations. This will require considerable credit facilities for investment in both, agriculture (the palm needs a minimum of 5 years to become productive) and in oil processing plants.

Sugar cane although a traditional crop in Peru can be considered as non-traditional for the region. A complete feasibility study exists to promote sugar cane cultivation and industrial processing in the Central Huallaga area and apparently conditions are good not only to produce sugar and alcohol but also to produce energy and feed cattle. The crop and related industrial installations require substantial initial investment, but considering just the local deficit in sugar and energy indicates that is crop to be promoted.

In general terms the Huallaga valley region has a great variety of soils and climatic conditions that favor a large number of crops with potential external markets. Further research is needed in all cases before vigorously promoting any non-traditional crop, especially in terms of specific export markets and in cultivation and industrial processing technology. The Project should include financial and technical resources to support the private sector willing to explore non-traditional crops opportunities.

2.4 Institutional Profile

The economic crisis effecting Peru since 1988 has negatively influenced the country's institutions, especially government institutions. They suffered a drastic decrease in their operational capacities and technical personnel. It is unlikely that these institutions will reach adequate efficiency levels in the next few years --owing, among other reasons, to the Government-imposed stabilization policy, implying major restrictions in the future on salaries and on the operating costs of its institutions.

Two elements within the Government's traditional field of action have been especially effected by this institutional crisis: management and handling of development investment and, in the second place, provision of technical assistance to the population.

Keeping in mind that the two aforementioned elements are keystones in projects such as SER, it is recommended that in both of them, at least during the next few years, that government institutional participation is limited to normative functions, such as setting policies and approval of plans, and that wherever possible the carrying out of these functions be the responsibility of private organizations, whether they be Non-Government Organizations (ONG's) or private firms.

What has been just said does not decrease the importance of the participation by governmental institutions but, rather, implies only a reduction in personnel and installations to the minimum necessary to carry out their normative functions. A good example of this is a recent study made on one of INADE's Special Projects, in which it was demonstrated that its personnel would be able to be reduced from more than 400 people to only 14 --without losing efficiency, possibly even increasing it.

Central Government Special Projects

Within the Huallaga region up to three levels of public agencies (national, regional and local) are attempting to do the same job at the same time. In the first place we have the central government, represented by the so-called Special Projects, which depend on INADE, an institution which (in practice) is the equivalent of a ministry. These Special Projects were conceived to carry out multi-sector development actions, emphasizing investment in infrastructure. During recent years they have been blown by the winds of policy, which took away from them their capacity and distorted their original objectives. The current state of these Projects is as follows:

Alto Mayo Special Project- Created in 1983, whose operating area is in the high basin of the Mayo River, including the Rioja and Moyobamba provinces. Until 1988 there had been invested as much as 56 million US Dollars, by financing through the World Bank (US$30mill) and FIDA (US$9mill). The investment basically was in rural infrastructure and in agricultural credit, which succeeded in placing under irrigation nearly 20,000 has., planted primarily in rice

The technical assistance component could not be realized since, a short time after installation of the experimental station and the agricultural extension unit, a crisis arose because of severe budget cuts, withdrawal of the World Bank, and the MRTA'S terrorist activities.

Currently, the Alto Mayo Project operates at a minimum, now carrying out only administrative functions. However, the Project does possess a good infrastructure and important projects in diverse areas . . . such as: the investigation of and opening of new areas of agriculture; forestry development and environmental protection; agro/livestock credit, roadways and social infrastructure. Outstanding among project now is the irrigation Project on the left bank of the Rio Mayo, which in its first stage would include 9,000 has. of land which is ideal for agriculture/livestock.

The Central Huallaga & Lower Mayo Special Project. This was begun in 1979 for the purpose of carrying out an integral, rural development program in the basins of the Huallaga River (middle and central course) and the Mayo River (in its lower reaches); it was originally funded by AID, through an agreement for US $46 million, which was mostly carried out.

The Project received financial support in 1982 from the Spanish government, to carry out an irrigation project (Sisa irrigation) and construct a hydro-electric center (Gera River). The irrigation Project has been mostly concluded and is the largest of its kind (15,000 has.) in the Peruvian jungle. The basic hydro-electric works were finished in 1987 but, because of natural causes, were partially destroyed; restoration was concluded in 1991 and went into operation the same year. The Project administers the central hydro-electric and sells block energy to Electro-O ente (state energy company, distributing in the provinces of Rioja and Moyobamba).

In 1987 the Project began an Environment Management pilot project with the cooperation of the Dutch Government, at a cost of US $730,000, directed toward investigation of alternative management in the most devastated areas of the region. Now the PEHCAM is not investing much money, in reality only carrying out administrative functions.

The Upper Huallaga Special Project. Was begun in 1982, with the purpose of introducing into the Upper Huallaga profitable agricultural production crop alternatives to coca, promoting technical support to the farmer, taking greatest advantage of natural resources, improving road systems and communal works. Initially, AID's and foreign sources combined to contribute US $26.5 million, later increasing to US $39 million.

Despite tremendous effort, the Project's goals were not met; on the contrary, coca production has increased during the Project's existence --from 15,000 has. to 70,000 has. Many factors have discouraged the Project's intentions, but most important is terrorism (the Sendero Luminoso) which, since 1984, has allied itself with drug-trafficking.

Since two years ago the PEAH has been restoring its presence in the zone, its improvement relative to security conditions. The Project has many programs in operation, outstanding among them being those defining land rights and boundaries, soil classification, training and broadening of agriculture's presence, agricultural credit, road maintenance and community development. Nevertheless PEAH need to improve its capabilities, not necessarily increasing its staff, to cope with the new Project requirements.

Creation of a new development project (SER) which includes the entire Huallaga region and meanwhile covers the aforementioned three Projects, requires some kind of cooperation among them. But as the Project will be implemented through the regional and local governments the permanence of these projects governed from Lima (INADE) will create some incompatibilities.

Even the Special Projects' permanence within INADE is uncertain now, and there is the possibility --voiced by representatives of the central government-- that INADE's Special Projects will be disbanded. It is most probable that these projects will pass into the jurisdiction of the Regional Government of San Martin, and that a great part of their functions will be taken over by the regional government's normal administration.

Regional Government

The San Martin Regional Government began in 1991 to officially disassociate itself from the San Martin-La Libertad Region. The new regional administration has assumed the majority of the functions, personnel and equipment which the old sectorial administrations received from the central government ministries. The remarkable abilities achieved in the agricultural and transportation sectors should be especially mentioned, nevertheless the majority of the qualified personnel has abandoned the government in the last three years. The Regional Government is now administering emergency funds which the central government destined for agriculture. and in San Martin FONDEAGRO was created under the region's chairmanship, with participation by the private sector.
The regional Government has a relatively high qualified planning and programming staff in its central offices in Moyobamba which can participate as a coordinating unit in SER Project activities, and should receive some technical asistance from the Project.
It is recomended that sectorial departments from the Regional Government, especially in Education, Transportation, Agriculture and Health, should take part in the project activities, either in coordinating or exuecuting activities.

Local governments

According to law, local governments in Peru have economic and administrative autonomy and are politically independent from the two other levels of government (national and regional). In reality their autonomy is very limited as the only significant government revenues (income taxes and sales taxes) are completely absorbed by the central government leaving local governments with only marginal incomes, such as licences and land taxes.

The Municipalities are the executing agencies of the local governments. Municipal officials are elected and organized in two main levels: the Provincial Municipality and the District Municipality. A third lower level can eventually exist (Municipalidades Delegadas) when it is requested by the organized population of smaller towns that have not obtained the legal recognition as Districts (more than 500 people). There are 8 provinces and 69 districts in the Region San Martin, and 6 districts in the province of Leoncio Prado.

Owing to central budget restrictions (beginning in 1991 the Central Government cut its financial aid), the municipalities have been limited almost exclusively to administrative activities, even though by law they are entitled to cover many of the governmental functions currently executed by the central or regional governments, such as potable water supply, education, health, housing, etc.

Municipalities in the Huallaga region face the same dramatic situation as in most of the rest of the country. Their current budgets, in average, allocate 80% of their expenses to cover salaries and minor administrative costs, leaving only 20% for investments.

The operational capacity of the local governments in the Region is minimal and only some of the provincial municipalities (Tarapoto, Moyobamba and Tocache) have been able to implement technical works departments --but even these have serious limitations.
Municipalities are not entitled to receive loans, although there are no legal restrictions, mainly because of their limited revenues and also because until recently they were obliged to deposit all their cash in the national bank (Banco de la Nacion) .

The support that the Project can give to local governments would be --at least provincially-- under the condition that the Municipalities would have implemented operative Works Technical Units. In the case of the three mentioned municipalities, they would require training of their technical personnel and new equipment supply. In the rest of the provincial municipalities every thing has to be done and the support of the project has to begin by creating the capacity to implement a minimal technical unit.

At the district level it is not considered possible to create technical units, and any actions that the Project will promote or finance at this level will require some kind of intervention or supervision from the provincial level. Most of the works at this level will have to be executed by private contractors under the supervision of the provincial technical units. This will not limit the participation of the district government in the selection and approval of their projects.

Financial institutions.

One line of action which merits special attention in the case of such a project as SER, which prioritizes aid to the private production sector, is that of financing. Before (until 1990), the Peruvian Government possessed a promotional financial system, which included the Agrarian Bank, the Industrial Bank, and the Housing Bank. All these institutions have been liquidated, creating a vacuum. The private commercial bank sector is not prepared, or does not has interest in addressing the needs of the producing sector outside of Lima, neither has the capacity to work on medium term loans. The Agrarian Bank's support was especially important to the region between 1975 and 1987 in the expansion of legal agriculture; beginning this year, subsidy policies and accelerated inflation caused collapse of the government financial institutions, and in place of seeking rehabilitation of the system they were finally closed .

The only governmental financial entity which remains, and the only one in the whole financial sector with a capacity and experience to act in medium term loans, is the Financial Development Corporation (COFIDE). This organization addresses needs of several production sectors, especially the industrial. If the SER project includes resources to finance the private sector, the option of channeling them through COFIDE should be examined, considering that AID has previously worked with them. One possibility is to reach an agreement with COFIDE establishing a Trust Fund, which will operate according to sound bank principals, and which would be applied within the modality of supervised credits, using support from the region's technical assistance institutions. In that case COFIDE will have to install an agency in the region, and establish agreements with private banks to extend the Fund's capacity.

Private banks should be the principal direct credit operators in the region, but currently they are limited because of the lack of guarantees offered by the private sector. The establishment of a fluent guarantee system requires years of banking operations and private accountability generation, and this does not exists yet in the region. One possibility is to establish funds directed to create financial guarantees to potential lenders and support them in their credit applications to commercial banks. One foreign aid institution from

Switzerland and with experience in Latin America, FUNDES, has shown interest to participate in the formation of a guarantee fund specifically created to support the Huallaga region entrepreneur.

NGO Participation

In recent years Peru has acquired the presence of Non-Government Organizations (NGO's), those private non-profit organizations which cooperate with the State in technical assistance activities, training, research and general aid to community organizations, principally using financial resources from the international agencies and foreign donor governments. There are NGO's of all kinds and sizes, but it is worthwhile here to mention those with a long history in the country, having succeeded in development and promotional activities. The following are noteworthy in the agricultural sector:

> The VALLEGRANDE Center, located in the Canete River Valley south of Lima; carrying out important technical assistance activities and training within the valley's rural population. Besides bringing managerial support to farmers, they have notably improved commercial relations between agricultural producers and the industrial firms which buy their products.
> FUNDEAGRO. An institution dedicated to research and advancement of agrarian development. It has supported diverse international entities in technical cooperation to the agricultural sector of Peru, and has a highly qualified staff of professionals
> FUNDACION PARA EL DESARROLLO NACIONAL, has promoted and carried out many development projects for the rural populace in all Peru.

It is recommended that the SER Project carry out all its technical assistance and training activities through private institutions, whether they be NGO's or specialized consulting firms. For this to succeed, there should be, to begin with, an evaluation of the possibilities of working in this way with some of the aforementioned NGO's and evaluate private consulting firms from Lima.

2.5 Economic Infrastructure

2.5.1 Electric generation Infrastructure

All over the region a deficit exists in the electric generation capacity. This situation is specially noticeable in major cities as is the cases of Tarapoto, Juanjui, Bellavista, Saposoa and Picota, the exception being the Upper Mayo area where the recent entrance in operation of the Gera hydroelectric plant is supplying, with an excess capacity, energy to Moyobamba and Rioja. The only city integrated to the national power networks is Tingo Maria, in the extreme south, which is connected to the Central-North (Mantaro system) national network.

The lack of sufficient energy supply is affecting the industrial sector in its current capacity and in any future possibility. This situation is critical in the case of Tarapoto, the most industrialized city in the region and the one with the highest energy deficit.

Current demand in the region is 17.66 MW (power) and 54.79 GWh (energy), and it is growing at a rate of 7% annually, so the minimal demand for 2,010 is estimated as 56 MW and 189 GWh.

Investment plans for the region, both long and medium term, have been formulated by Electro-Peru (national electric corporation), and they contemplate the following:

-new interconnecting power lines to improve capacity
-gradual substitution of thermal generating plants by hydro-electric plants, or combinations of both

Middle term energy development plan includes the following projects:

-improve thermal units in Tarapoto and Juanjui.
-build the following interconnecting power lines:
    -Tingo Maria-Aucayacu
    -Tingo Maria-Tocache -Uchiza
    -Tarapoto-Juanjui-Saposoa
-obtain financing for EL Sauce and Shima hydro electric plants.
-feasibility studies for Tocache and Uchiza hydro plants

It is recommended that if SER Project will support electric generating capacity priority should be given to the rehabilitation of existing thermal plants. A grant could be given to the Municipality of Tarapoto (US$ 1 million in 2 years) to finance an agreement with Electro Oriente and facilitate the purchasing of new thermal generating units that have been convene with the government of Finland.

Other thermal electric generating plants in smaller towns can be financed under the same scheme with a total investment of US$ 3'390,000.

2.5.2 Transportation Infrastructure

The main existing transportation infrastructure in the region is the so called "Carretera Marginal de la Selva", a national highway which runs in the South-North direction parallel to the Huallaga and Mayo rivers course. This highway connects the region with the main national markets, located in the coast, from two points, one in the North following the upper course of the river Mayo, crossing the Andes and connecting to the coastal Panamerican Highway between Chiclayo and Piura. On the other end the carretera marginal continues the Huallaga course in direction South until it meets the Central Highway, one of the main national roads.

The extend and general conditions of this highway in the region is as follows:

	sector:	*length*	*condition*
A	Southern terminal to Puente Aspuzana	81.2 km	asphalt good
B.	Pte. Aspuzana to Pte Pizana	126.8 km	gravel poor
C.	Pte Pizana to Pta Arenas	85.4 km	destroyed
D.	Pta Arenas to Tarapoto	185.8 km	gravel poor
E.	Tarapoto to Rio Nieva	195.6 km	gravel fair
F.	Rio Nieva to Northern terminal	43.4 km	gravel fair
	TOTAL	718.2 KM	

Several feeder roads connect rural areas with the Carretera Marginal, with a total known extent of 843km, the majority build by private and communal initiatives. Both the main highway and the feeder roads where practically abandoned for several years due to a combination of terrorism and government withdrawal. Only in the last 18 months repair works have been carried on partially alleviating the physical isolation that the region was facing. Currently most of the Carretera marginal can support traffic with heavy trucks, but that situation might change rapidly with the advent of the rainy season.

The Ministry of Transportation is currently involved in maintenance and repair works in 92km of secondary roads (all around Tarapoto and Moyobamba) and 268 km of the Carretera Marginal (between Juanjui and Rioja) but with very limited resources and consequently obtaining low level results.

The Army, through its engineering division, under a contract with the Ministry of Transportation is currently involved in maintenance and repair works in the carretera Marginal exclusively.

They cover the following sectors:

Tocache-Tingo Maria	59 km
Pedro Ruiz-Rioja	140 km
Tarpoto-Juanjui	60 km
Tarapoto-Rioja	60 km

The total value of yearly contracts for these works has been US$ 2'747,000 in 1991and US$ 2"630,000 in 1992 wholly financed by the central government. The proposed budget for 1993 is US$ 9'500,000 to maintain and repair basically the same sectors of the Carretera Marginal, but this has not been included in the officially approved government budget.

An study was commissioned by USAID/PERU to a private consulting firm, and they have prepared a three year plan requiring approximately US$ 600 million in investment (825 million soles of 1992). Of this total more than 60% should be covered with external financing.

It is proposed that SER should concentrate in implementing a good maintenance service for the whole Carretera Marginal crossing the region. Total cost of the road maintenance

equipment for that purpose is estimated in US$ 7'400,000 with operational costs in the order of US$ 162,000 per month.

In order to ensure the achievement of the Project goals, the transportation system should, at least, fulfil the following characteristics:

The Carretera Marginal should be operative all year through, thus requiring maintenance and major repairs, for a total of US$ 17'250,000 in three years.

-Feeder and local roads should be build and repair. According to the private consultants study a minimal budget for the three years period will be of US$ 22.5 million.

III-Proposed Project Structure and Components

3.1 Project Scope

The SER Project will promote both **rapid and medium term impact activities** in the whole of the Huallaga Cuenca Region. It will promote at the same time legal economic activities and a notable increase in the standards of living of the population

In its implementation, SER should promote active community participation and seek to engage the wide **network of social and economic private organizations** existing in the region. In that purpose the project should maintain maximum agility and flexibility in responding to changes in opportunities and in the evolution of the different project components.

The Project will comprise four mutually supportive components: Private Sector Investment Support., Community Development, Economic Infrastructure and Technical Assistance. To avoid bureaucratic bottlenecks each of these components should be implemented as independently as possible, and funding should be channeled using different financial schemes and through different institutions. The permanent coordination and balance between the different project components could be assured with the participation of external advisors and consultants, and the presence of an effective Monitoring System.

3.2 Project Structure and Components

Component 1- Private Sector Support

From an strategic point of view this is the most important component of the Project, but it is also the most potentially conflictive. Its implementation has to take careful steps to assure that sound private financial rules are respected, such as shared risks and accountability.

The part of the Project funding allocated to this component could be consolidated in a **Trust Fund** to be managed by a development financial institution of national level and previous experience in similar projects, such as COFIDE. Other possibility is to operate through a group of private banks. In both case the financial institution will transfer resources to local intermediary agents, such as **Cajas Rurales** and existing commercial banks, under regulative agreements.

Funds will normally be transferred as loans with normal promotional rates of interest , (few points below commercial rates) not introducing subsidies. In the initial period of the Project, and because of the very critical economic situation of legal activities in the region, some transfers should be granted in the form of non reimbursable equity support funding to Cajas Rurales.

Cajas Rurales need this equity support funding to initiate their activities and obtain a legal status as normal financial institutions. It is estimated that requirements for each Caja Rural will be in the order of US$ 500,000, and no more than 6 Cajas Rurales should be promoted. The first Caja Rural to be supported is the one in Moyobamba, as is the most advanced in terms of organization and capital formation.

After the consolidation period Cajas Rurales will be entitled to obtain loans from the Trust Fund, and from other promotional lines of credit to be established by the government. This loans will be then made available to farmers under short and medium term financing conditions. Cajas Rurales, as well as commercial banks, are entitled to make loans to other productive sectors, such as small and medium size industries and commercial entrepreneurs.

Also in the initial period of the Project the newly established private marketing corporations, such as ARROSAMSA and GASAMSA, should be entitled to receive medium term loans as they are currently the sole marketing organizations in the region and share holding is in the hands of agricultural producers.

A very important line of action of the Private Sector Support component will be its contribution to the establishment of a **Credit Guarantee Fund**. This Fund will facilitate credit operations and will multiply the availability of financial resources as risks to lending institutions will be reduced. There is a possibility that such Fund could be formed with the financial collaboration of an specialized Swiss institution, FUNDES. This institution has large experience working in Latin America with small entrepreneurs and currently is analyzing the possibility of creating an special guarantee fund for the Huallaga region

Component II- Community Development

The large number and small size of community generated projects that will be attended by SER makes it necessary that a very flexible and agile organization should be settled to cope with the process of selecting and funding them.

It is recommended that a Community Development Fund should be established without the requirement of a detailed list of projects to be supported. Rather, decisions to fund specific projects, should be periodically made and review on the basis of communities applications.

The Fund will be managed by a government agency, such as PEAH, but the decision to select and give priority to specific projects should be in the hands of local committees with the participation of municipal and communal representatives. An advisory group, such as a consulting firm, must analyze all project proposals and make technical recommendations to the local committees.

Applications from communities and social organizations should be rapidly analyzed and responded. In the case of a refusal, exclusively for technical and/or economic reasons, a clear and direct explanation must be made. In the case of an approval, technical assistance should be provided to complete project design and improve its feasibility.

The lower we go in the level of communal organizations, as is the case of rural women associations and "vasos de leche", the more assistance they will need. To reach this level of organizations the collaboration of local NGO's is indispensable.

To commit local NGO's and supervise their actions a Private Technical Assistance Institution should be installed in the region. This will most probably be a branch of one of the large and experienced NGO's existing in Peru, with a strong experience in the agricultural sector.

IIa. Women Participation Promotion

SER should promote women's direct participation in all stages and activities of the Project. Special care should be taken to avoid that current limitations, such as less education and lack of time caused by domestic duties, could be used as an argument to neglect women participation.

For that purpose SER should include specific activities to attend women requirements and improve their capacity, such as:

-Special health and family-planning activities, carried and managed by women to women.
-Improvement of conditions for domestic activities, such as water and firewood supply
-Legal advisory to improve their women rights defense, as is in the case of family abandonment, physical maltreatment and children recognition.
-Participation of women in productive enterprises, small and medium scale.
-Access to technical assistance in existing activities carried on by women, such as agriculture and animal husbandry
-Credit assistance in the same areas.
-Training for improving their productive activities.
-Training to became better community leaders and promoters.

Component III- Economic Infrastructure.

The economic infrastructure existing in the region, mainly roads, was almost destroyed in the last five years as a result of a combination of government abandonment and subversive destruction. This produced a physical isolation from the rest of the country. In the last twelve months great improvements have been made with the rehabilitation of the "Carretera Marginal" from Rio Nieva (NW) to Punta Arenas (more than 300 KM), and the Tarapoto-Yurimaguas highway (connecting the CH with a river port in the Amazon).

It is considered that road rehabilitation is underway now (transportation costs have been reduced notably), and that GOP, through its army engineers corps, will continue in this activity at a normal pace. From an strategic point of view priority should be given to **roads maintenance**, as no foresight has been given to it. It is expected that in a few

months period all rehabilitation efforts can be destroyed if that activity is not implemented.

There are several options on how to operate a road maintenance system. One could be that the Project will finance the purchase of an important **Road Construction Equipment Pool**, to be used mainly in road maintenance works. The Construction Equipment Pool should be installed in several sites along the Carretera Marginal, so as to be in the capacity work more efficiently and attend both the main highway and the feeder roads.

Several options exist as to how operate the maintenance service:

-Equipment can be leased to private contractors in charge of maintenance and repair works, and responsible for the equipment.

-Equipment can be leased to private contractors in charge of maintenance and repair works, but equipment maintenance will stay under the government

-Equipment can be operated directly by a government agency, such as PEAH.

-The equipment could be transferred, by a legal agreement, to the Transportation Department of the regional government (Region San Martin), with the provision of operational funding for a period of at least three years, after which the government should be in the position of financing it directly.

In any of these alternatives it is recommended that spare parts management should stay in the hands of the executing government agency.

Another option will be to finance directly the regional and local governments so that they can contract directly construction companies, who will obtain their equipment with their own resources.

SER Project will also finance hydraulic infrastructure with two main objectives, first to promote and improve economic activities, such as irrigation and hydro-power generation, and second to introduce an economic value to the conservation of watersheds between local communities, an element until now neglected in the Peruvian Selva. The efforts that can be made in the future to conserve and recover watersheds are closely related to coca eradication, as this cultivation is the major destroyer of watersheds.

SER will finance 3 to 5 irrigation projects in the region. These projects should be selected on basis of their integrated character (they should include irrigation, potable water supply, watershed conservation and hydra-power generation).

The participation of communal and agricultural producers social organizations (Comites de Productores) in the selection and implementation of irrigation and hydro-power generation projects is considered crucial in the achievement of mentioned objectives. The technical implications of these projects requires that the construction phase should be in the hands of a government agency capable of designing and implementing such projects.

The planning phase of economic infrastructure projects should be made with the participation of a **regional planning committee**, where regional and local governments should be represented.

Component IV- Technical Assistance

Two levels of technical assistance should be implemented by the Project. In the first level an overall technical assistance should be given to all agencies and committees participating in the Project, covering technical and economic matters. Preferentially this job will be done by an experienced consulting firm which has worked previously in similar development projects.

In the second level technical assistance should be given directly to the basic social organizations and to the population in general. As mentioned previously a private Technical Assistance and Training Institute for the Huallaga Region should be created.

The Institute will cover at least six areas of activity, as follows:

1- Technical assistance and Training to agricultural producers
2- Technical and Marketing information system for agricultural producers
3- Technical assistance and Training to financial and marketing enterprises
4- Technical assistance to communal organizations
5- Environmental protection program.
6- Information management

The first two could be executed directly by hired personnel and local existing facilities, while the next two will require sub-contracting specialized organizations, like IPAE (from Lima) or local NGO's.

The environmental protection program will require a combination of direct action and local NGO's intervention. Its activities will be focused on pilot projects concentrated in specific small or medium size valleys, where a combination of environmental education, re-forestation, and watershed conservation can be combined.

3.3 Project Funding Scheme

The multiple components involved in the implementation of the Project require a clear scheme to channel funding consistently, without interference and with the greatest possible productivity in each operation. In the proposed scheme (see next Chart) a structure is suggested to allocate funding into three main lines, one for infrastructure (both economic and communal), one for technical assistance and a third one for private sector support.

Each line of funding will operate with different procedures, and necessary linkages between them are suggested in the scheme.

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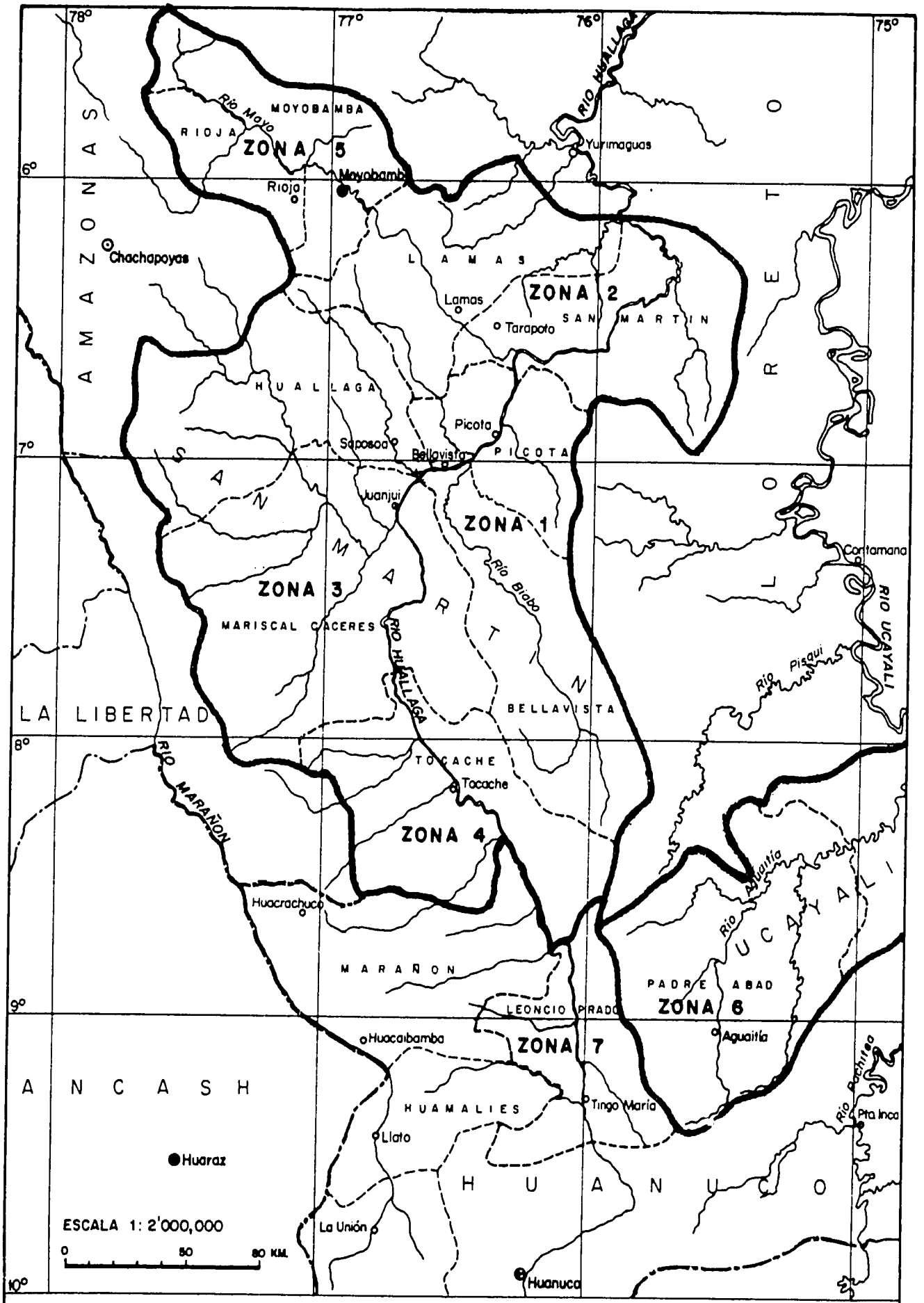


USAID / PERU

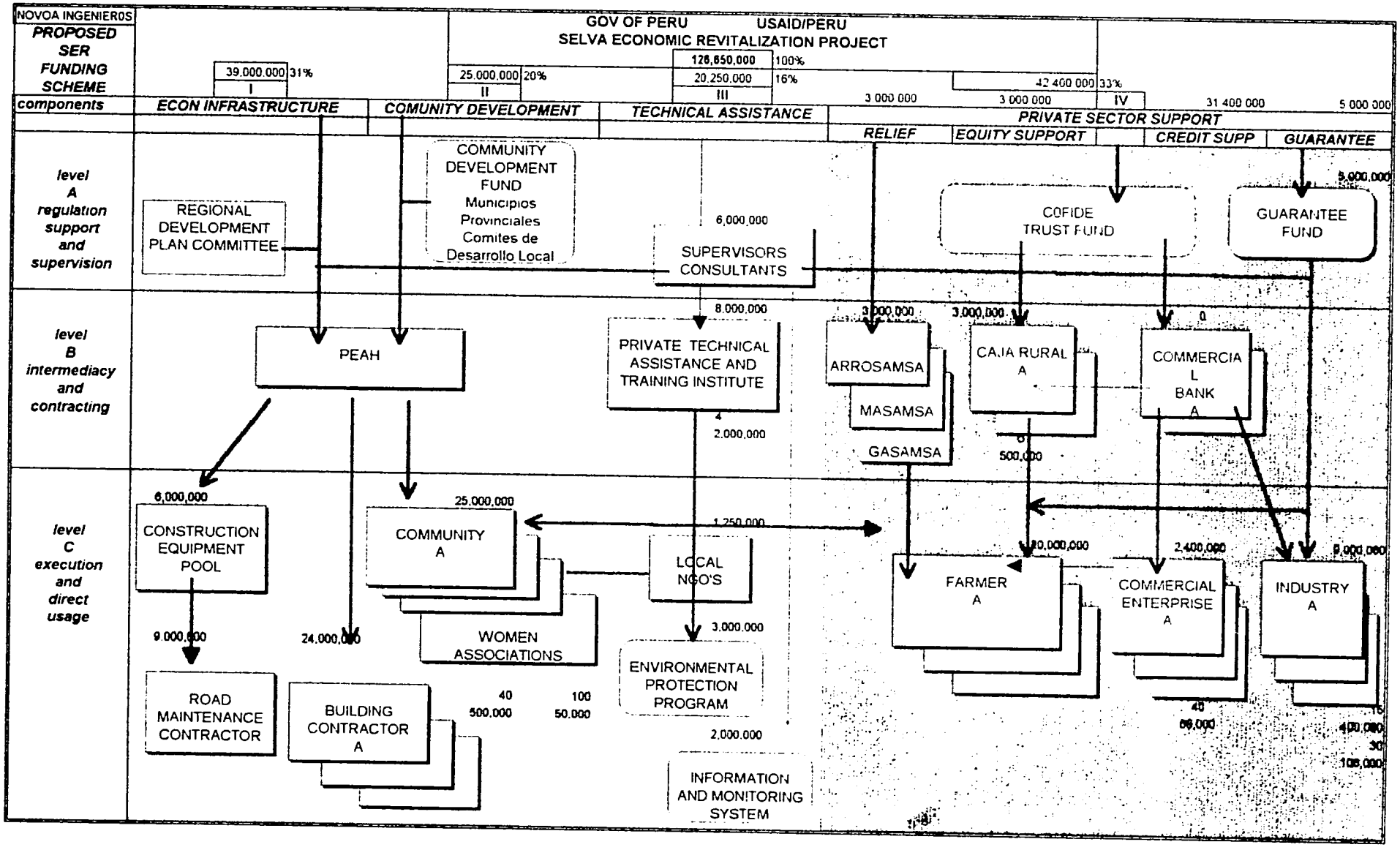
NOVOA INGENIEROS

SELVA ECONOMIC REVITALIZATION PROJECT DESIGN

ZONAS COMPRENDIDAS EN EL ESTUDIO

DIBUJO: O. Saldaña

Febrero 1993


NOVOA INGENIEROS
PROPOSED SER FUNDING SCHEME
GOV OF PERU USAID/PERU
SELVA ECONOMIC REVITALIZATION PROJECT
126,650,000 100%
39,000,000 31%
25,000,000 20%
20,250,000 16%
42,400,000 33%
I
II
III
IV
components
ECON INFRASTRUCTURE
COMUNITY DEVELOPMENT
TECHNICAL ASSISTANCE
PRIVATE SECTOR SUPPORT
3,000,000
3,000,000
31,400,000
5,000,000
RELIEF
EQUITY SUPPORT
CREDIT SUPP
GUARANTEE
level A regulation support and supervision
level B intermediacy and contracting
level C execution and direct usage
REGIONAL DEVELOPMENT PLAN COMMITTEE
COMMUNITY DEVELOPMENT FUND
Municipios Provinciales
Comites de Desarrollo Local
SUPERVISORS CONSULTANTS
6,000,000
COFIDE TRUST FUND
GUARANTEE FUND
5,000,000
PEAH
8,000,000
PRIVATE TECHNICAL ASSISTANCE AND TRAINING INSTITUTE
2,000,000
ARROSAMSA
MASAMSA
GASAMSA
3,000,000
3,000,000
CAJA RURAL
A
500,000
COMMERCIAL BANK
A
0
6,000,000
CONSTRUCTION EQUIPMENT POOL
9,000,000
24,000,000
25,000,000
COMMUNITY
A
WOMEN ASSOCIATIONS
1,250,000
LOCAL NGO'S
3,000,000
ENVIRONMENTAL PROTECTION PROGRAM
2,000,000
INFORMATION AND MONITORING SYSTEM
ROAD MAINTENANCE CONTRACTOR
BUILDING CONTRACTOR
A
40
500,000
100
50,000
20,000,000
FARMER
A
2,400,000
COMMERCIAL ENTERPRISE
A
40
60,000
9,000,000
INDUSTRY
A
400,000
30
100,000

VALUE OF PRODUCTION AND VALUE ADDED BY CROPS, 1988 and 1992

1992 PRODUCTION in US$	COCAPBC/MT	COCA/LT	RICE/HT 2 harvst	RICE/MT 2 harvst	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
Value of Production by crops,current	418,000,000	316,200,000	18,701,667	53,587,800	8,013,726	4,659,360	1,560,358	5,366,806
ValueAdded by crops, current	276,491,600	290,871,760	7,440,210	23,221,323	4,744,380	3,354,998	461,551	3,176,653
Value of production by crop/Ha, current	5,500	2,550	3,267	2,100	630	1,200	467	865
ValueAdded by crop /Ha, current	3,638	2,346	1,300	910	373	864	138	512
Net income by crop/Ha, current	2,043	1,183	813	448	93	504	-102	-180
Family income(labor) by crop,current	1,595	1,183	487	462	280	360	240	692

1992-CULTIVATED AREAS in Has	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
Region	76,000	124,000	5,725	25,518	12,720	3,683	3,344	6,204
Upper Huallaga	28,000	112,000	0	2,618	2,660	2,560	2,366	1,288
Central Huallaga	44,000	11,000	1,696	6,784	8,522	749	666	516
Upper Mayo	4,000	1,000	4,029	16,116	1,538	574	312	4,400
	COCA TOTAL		RICE TOTAL		CORN TOTAL	YUCA TOTAL	COCOA TOT	COFFEE TOT
Region	200,000		31,243		22,776	8,365	7,414	9,581
Upper Huallaga	140,000		2,618		6,850	6,399	5,914	3,221
Central Huallaga	55,000		8,480		14,203	1,248	1,110	860
Upper Mayo	5,000		20,145		1,923	718	390	5,500

1988 CULTIVATED AREAS in Has	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
Region	54,200	84,800	6,419	29,032	50,014	3,252	3,782	5,898
Upper Huallaga	19,000	76,000	0	3,357	3,169	2,114	3,058	1,698
Central Huallaga	32,000	8,000	2,390	9,559	40,570	664	420	600
Upper Mayo	3,200	800	4,029	16,116	6,275	474	304	3,600
	COCAPBC TOT		RICE TOTAL		CORN TOTAL	YUCA TOTAL	COCOA TOT	COFFEE TOT
Region	139,000		35,451		83,383	6,985	8,726	9,744
Upper Huallaga	95,000		3,357		7,922	5,286	7,646	4,244
Central Huallaga	40,000		11,949		67,617	1,106	700	1,000
Upper Mayo	4,000		20,145		7,844	593	380	4,500

1988 PRODUCTION in US$	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
Value of Production by crops, 1988	298,100,000	216,240,000	20,968,080	60,967,620	31,508,946	3,902,880	1,765,133	5,101,424
ValueAdded by crops, 1988	197,182,310	198,918,752	8,341,872	26,419,237	18,654,298	2,810,290	522,122	3,019,571

VALUE OF PRODUCTION BY CROPS in U$ in US$ x 1,000	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
1988 VP BY CROPS	298,100	216,240	20,968	60,968	31,509	3,903	1,765	5,101
1992 VP BY CROPS	418,000	316,200	18,702	53,588	8,014	4,659	1,560	5,367
1988 TOTAL COCA AND PBC	514,340	514,340	514,340	514,340	514,340	514,340	514,340	514,340
1988 TOTAL LEGAL CROPS	162,575	162,575	162,575	162,575	162,575	162,575	162,575	162,575
1992 TOTAL COCA AND PBC	734,200	734,200	734,200	734,200	734,200	734,200	734,200	734,200
1992 TOTAL LEGAL CROPS	118,146	118,146	118,146	118,146	118,146	118,146	118,146	118,146

1992 in US$	COCAPBC/MT	COCA/LT	2 harv RICE/HT	2 harv RICE/MT	CORN/MT	YUCA/MT	COCOA/MT	COFFEE/MT
Value of Production by crops,current	418,000,000	316,200,000	18,701,667	53,587,800	8,013,726	4,659,360	1,560,358	5,366,806
ValueAdded by crops, current	276,491,800	290,871,760	7,440,210	23,227,051	4,744,380	3,354,739	461,885	3,176,653
Value of production by crop/Ha, current	5,500	2,550	3,267	2,100	630	1,200	467	865
ValueAdded by crop /Ha, current	3,638	2,346	1,300	910	373	864	138	512
Net income by crop/Ha, current	2,043	1,183	813	448	93	504	-102	-180
Family income(labor) by crop,current	1,595	1,183	487	462	280	360	240	692
Costs of production by crop/ Ha,current	3,457	1,367	2,454	1,852	537	696	569	1,045

VARIATIONS IN PRODUCTIVITY (legal crops) AND COSTS (Coca and PBC)			1.52	1.52	1.52	1.52	1.52	1.52
	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MT	YUCA/MT	COCOA/MedT	COFFEE/MT
Value of Production by crops,current	418,000,000	316,200,000	18,701,667	53,587,800	8,013,726	4,659,360	1,560,358	5,366,806
Value of production by crops -projected	418,000,000	316,200,000	29,922,667	85,740,480	12,821,962	7,454,976	2,496,572	8,586,890
ValueAdded by Crop, current	276,491,800	290,871,760	7,440,210	23,227,051	4,744,380	3,354,739	461,885	3,176,653
Value Added by Crop,projected	171,395,200	223,072,032	11,309,119	35,305,117	7,211,458	5,099,204	1,224,828	6,535,467
Net Income by crop/Ha,current	2,043	1,183	813	448	93	504	1	1
Net Income by Crop/Ha, projected	660	636	1,463	806	167	907	1	1
Total additional investment required			$46,033,762	$46,033,762	$46,033,762	$46,033,782	$46,033,762	$46,033,762
Total potential increase in ValueAdded			$32,477,315	$32,477,315	$32,477,315	$32,477,315	$32,477,315	$32,477,315
Total additional invetsment by crop			6,883,326	20,656,311	3,347,191	1,324,190	931,459	3,176,963
Additional Investment required by crop/Ha			1,202	809	263	341	279	512
			49%	49%	49%	49%	49%	49%
Increase in ValueAdded	-105,096,600	-67,799,728	3,868,909	12,078,066	2,467,078	1,744,464	762,943	3,358,814
Value Added/Ha current	3,638	2,346	1,300	910	373	864	241	693
Value Added/Ha projected	2,255	1,799	1,975	1,384	567	1,313	386	1,053
			43%	43%	43%	43%	43%	43%
Value of production/Ha current	5,500	2,550	3,267	2,100	630	1,200	467	865
Value of Production/Ha projected	5,500	2,550	5,227	3,360	1,008	1,920	747	1,384
			60%	60%	60%	60%	60%	60%
Costs of production/ Ha, projected	4,840	1,914	3,656	2,461	800	1,037	847	1,557
	40%	40%	49%	49%	49%	49%	49%	49%
projected area			6,419	29,032	50,014	3,252	3,782	5,898
increase in area			694	3,514	37,294	-630	439	-307

VARIATIONS IN PRODUCTIVITY (legal crops) AND COSTS (Coca and PBC)								
	COCAPBC/MT	COCA/LT	RICE/HT	RICE/MT	CORN/MedT	YUCA/MT	COCOA/MedT	COFFEE/MT
Value of Production by crops,current	418,000,000	316,200,000	18,701,667	53,587,800	8,013,726	4,659,360	1,560,358	5,366,806
Value of production by crops projected	418,000,000	316,200,000	33,548,928	97,548,192	50,414,314	6,244,608	2,824,212	8,162,278
ValueAdded by Crop, current	276,491,800	290,871,760	7,440,210	23,227,051	4,744,380	3,354,739	461,885	3,176,653
Value Added by Crop,projected	171,395,200	223,072,032	12,679,648	40,187,145	28,354,530	4,271,312	1,385,569	6,212,298
Value Added/Ha current			1,300	910	373	864	241	693
Value Added/Ha projected			1,975	1,384	567	1,313	386	1,053
Net Income by crop/Ha,current	2,043	1,183	813	448	93	504	1	1
Net Income by Crop/Ha, projected	660	636	1,463	806	167	907	1	1
Total additional investment required			$67,441,731	$67,441,731	$67,441,731	$67,441,731	$67,441,731	$67,441,731
Total potential increase in ValueAdded			$70,031,227	$70,031,227	$70,031,227	$70,031,227	$70,031,227	$70,031,227
Total additional invetsment by crop			7,717,501	23,500,985	13,160,727	1,109,198	1,053,700	3,019,866
Additional Investment/Ha			1,202	809	263	341	279	512
Additional ValueAdded	-105,096,600	-67,799,728	5,239,436	16,940,095	23,610,150	916,573	923,684	3,035,643
Total yearly investment			23,467,503	71,462,180	40,019,352	3,372,869	3,204,108	9,182,858

BANANA 4 yr av	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT	TOTAL LEGAL	TOTAL COCA
17,556,000	4,525,110	2,689 320	759,822	725,969	118,145,937	734,200,000
12,468,445	3,365,173	2,976,181	550,603	655,060	62,412,578	567,363,560
1,500	450	600	187	215	11,480	8,050
1,065	335	664	135	194	6,490	5,984
885	88	220	3	46	2,818	3,226
180	247	444	132	148	3,671	2,758

BANANA 4 yr av	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT	TOTAL LEGAL	TOTAL COCA
11,704	10,056	4,482	4,070	3,377	91,083	200,000
9,782	3,990	3,839	3,548	1,933	34,584	140,000
1,408	5,681	499	444	344	27,309	55,000
514	385	144	78	1,100	29,190	5,000

BANANA
11,704
9,782
1,408
514

TOTAL LEGAL
91,083

BANANA 4 yr av	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT	TOTAL LEGAL	TOTAL COCA
12,904	33,369	3,733	4,944	3,846	157,193	139,000
10,093	4,753	3,172	4,588	2,546	38,548	95,000
1,914	27,047	442	280	400	84,288	40,000
897	1,569	119	76	900	34,359	4,000

BANANA
12,904
10,093
1,914
897

TOTAL LEGAL
157,193

BANANA	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT	TOTAL LEGAL	TOTAL COCA
19,356,000	15,015,960	2,239,560	922,822	826,976	162,575,400	514,340,000
13,744,618	11,168,869	2,478,446	668,721	746,202	88,572,246	396,101,062

BANANA	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT		
19,356	15,016	2,240	923	827		
17,556	4,525	2,689	760	726		
514,340	514,340	514,340	514,340	514,340		
162,575	162,575	162,575	162,575	162,575		
734,200	734,200	734,200	734,200	734,200	43%	
118,146	118,146	118,146	118,146	118,146	-27%	

BANANA	CORN/LT	YUCA/LT	COCOA/LT	COFFEE/LT		
17,556,000	4,525,110	2,689,320	759,822	630,310	118,050,278	
12,464,760	3,365,173	2,976,181	550,603	566,155		
1,500	450	600	187	187		
1,065	335	664	135	168		
885	88	220	3	20		
180	247	444	132	148		
615	362	380	183	167		
1 52	1.23	1.23	1.23	1 23		
BANANA	CORN/LowT	YUCA/LT	COCOA/LowT	COFFEE/LT	total legal	
17.556.000	4.525.110	2.689.320	759 822	630.310		
28.089.600	9 050.220	5 378 640	1.519 643	1.260 620	192.322.269	163%
12.464.760	3.365.173	2.976 181	550.603	566.155	62.327.790	
18.946.435	4 139.183	3.660 702	677.242	696.370	94.805.105	32.477.315
885	88	220	3	20		
1.593	159	396	6	35		
$46.033.762	$46.033.762	$46.033 762	$46.033.762	$46.033.762		
$32.477.315	$32 477.315	$32.477.315	$32 477.315	$32.477 315		
3 527.000	3 384.637	1 584 009	694 256	524 420	46 033 762	
301	337	353	171	155		
49%	93%	93%	93%	93%		
6.481 675	773 990	684 522	126 639	130.216	32.477.315	71%
1.065	335	664	135	168		
1.619	412	817	166	206		
43%	20%	20%	20%	20%		
1.500	450	600	187	187		
2.400	900	1.200	373	373		
60%	100%	100%	100%	100%		
916	699	733	354	323		
49%	93%	93%	93%	93%		
12.904	33.369	3 733	4.944	3.846		
1.200	23.313	-750	873	470		

BANANA	CORN/LowT	YUCA/LT	COCOA/LowT	COFFEE/LT	total legal	total coca	
17.556.000	4.525 110	2 689 320	759 822	630 310	226%		
30.969.600	30.031.920	4.479 120	1 845.644	1.438 015	267.504 831	734.200 000	
12.464.760	3.365.173	2 976.181	550.603	566.155	62.327.790	567.363.560	
20.888.995	13.735.249	3 048.489	822.527	793.259	132.359.017	394.467.232	
1.065	335	664	135	168			
1.619	412	817	166	206			
885	88	220	3	20			
1,593	159	396	6	35			
$67.441.731	$67.441.731	$67 441 731	$67 441.731	$67.441.731			
$70.031.227	$70.031.227	$70.031.227	$70.031.227	$70.031.227			
3.888.620	11.231.458	1.319 101	843.190	597.384	67.441.731		
301	337	353	171	155			
8.424.235	10.370.075	72 308	271.924	227.104	$70.031.227	104%	
11.824.580	23.308.294	2.737.489	1.749.847	1.239.733	$191.568.812		