Evaluation

of the

Chapare Regional Development Project

#511-0543

Prepared for:

USAID/Bolivia

Prepared by:

Dr. Don Bostwick, Team Leader
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November 1990

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ACRONYMS

AID	Agency for International Development (Agencia de Desarrollo Internacional)
AHV	Associated High Valleys (Asociacion de Valles Altos)
APP	Asociacion de Productores de Papa (Potato Producers' Association)
ARADO	Accion Rural Agricola de Desarrollo Organizado (Rural Agricultural Action for Organized Development)
ARD	Agriculture and Rural Development, Division of USAID/Bolivia
ASAR	Asociacion de Servicios Artesanales Rurales (Association of Rural Services for Artisans)
APT	Asociacion de Productores de Trigo (Wheat Producers' Association)
BAB	Banco Agricola de Bolivia (Bolivian Agricultural Bank)
CAE	Proyecto de Credito Agricola de Emergencia (Emergency Agricultural Credit Project)
CEDEAGRO	Centro de Desarrollo Agropecuario (Center for Agricultural Development)
CEFOIN	Centro de Formacion e Investigacion Interdisciplinaria, UMSS. (Center for Interdisciplinary Training and Research)
CERES	Centro de Estudios de la Realidad Economica y Social (Center for Rural Economic and Social Studies)
CIAPROT	Centro de Asistencia Integral a la Produccion Triguera (Center for Integral Assistance for Wheat Production)
COB	Central Obrera Boliviana (Bolivian Labor Organization)
COLODAL	Comision Local de Desarrollo Alternativo (Local Alternative Development Commision)
CONADAL	Comision Nacional de Desarrollo Alternativo (National Alternative Development Commision)
CONALID	Consejo Nacional contra el Uso Indebido y Trafico Ilicito de Drogas. (National Center against the Ilicit Use and Traffic in Drugs)
CORDECO	Corporacion de Desarrollo de Cochabamba (Regional Development Corporation of Cochabamba)
COREDAL	Comision Regional de Desarrollo Alternativo (Regional Alternative Development Commision)
COTESU	Corporacion Tecnica Suiza (Swiss Technical Cooperation)
CRDP	Chapare Regional Development Project

CRS	Catholic Relief Services
CSUTCB	Confederacion Sindical Unica de Trabajadores Campesinos de Bolivia (Labor Union Confederation of Campesino Workers of Bolivia)
DAI	Development Alternatives, Inc.
DEA	United States Drug Enforcement Agency
DESFIL	Development Strategies for Fragil Lands
DESEC	Centro para el Desarrollo Social y Economico (Center for Social and Economic Development
DS	Decreto Supremo (Decree Law)
ENDE	Empresa Nacional de Electricidad (The National Electric Company)
ESF	Economic Support Funds
ETSA	Escuela Tecnica Superior de Agricultura UMSS (Higher Technical School of Agriculture - UMSS)
FCT	Facultad de Ciencias Agricolas y Pecuarias UMSS (Department of Agricultural and Livestock Sciences UMSS)
FENACRE	Federacion Nacional de Cooperativas de Ahorro y Credito de Bolivia (National Federation of Savings and Loan Cooperatives)
FLACSO	Facultad Latinoamericana de Ciencias Sociales (Latin American Faculty of Social Sciences)
GOB	Government of Bolivia
IAT	Institucion de Asistencia Tecnica (Technical Assistance Organization)
ICI	Institucion Crediticia Intermediaria (Intermediate Financial Institucion)
IBTA	Instituto Boliviano de Tecnologia agropecuaria (Bolivian Agricultural and Livestock Technology Institute)
IDB	Inter-American Development Bank
IICA	Instituto Interamericano de Ciencias Agricolas (Interamerican Institute for Agricultural Sciences)
INC	Instituto Nacional de Colonizacion (National Institute of Colonization)
MACA	Ministerio de Asuntos Campesinos y Agropecuarios (Minsitry of Campesino Affairs and Agriculture)
MNR	Movimiento Nacional Revolucionario (Nation Revolutionary Movement)
MPC	Ministerio de Planificacion y Coordinacion (Minsitry of Planning and Coordination)
NAU	Unites States Narcoticts Awareness Unit
n.d.	No date
OAS	Organization of American States
PDAC	Programa de Desarrollo Alternativo Cochabamba (Program for Alternative Development in Cochabamba)
PDAR	Programa de Desarrollo Alternativo Regional (Program for Aleternative Regional Development)

PL480	Public Law 480
PPAC	Plan Piloto de Apoyo Crediticio (Pilot Plan for Credit Support)
PROCIPLA	Programa de Control Integrado de Plagas (Intergrated Pest Control Program)
PRODES	Proyecto de Desarrollo y Sustitucion (Project for Development and Substitution of Coca)
PRODEVI	Proyecto de Desarrollo de la Viticultura (Project for the Development of Grape Production)
PVO	Private Voluntary Organization
SARSA	Acuerdo Cooperativo en Asentamientos Humanos y Analisis de los Sistemas de Recursos Naturales (Cooperative Agreement on Human Settlements and Natural Resource Systems Analysis)
SDTB	Secretaria para el Desarrollo de los Tropicos Bolivianos (Secretariat for Development of Bolivian Tropics)
SENARP	Servicio Nacional contra la Aftosa, Rabia, y otras Plagas (National Service for Foot-and-Mouth Disease, Rabies and Other Diseases)
SNC	Servicio Nacional de Caminos (National Road Service)
SNDC	Servicio Nacional de Desarrollo de Comunidades (National Community Development Service)
SUBDESAL	Subsecretaria de Desarrollo Alternativo de la Coca (Subsecretary for Alternative Development and Crop Substitution for Coca
TRD	Tropical Research and Development, Inc.
UMOPAR	Unidad Motorizada de Patrullaje Rural ("Leopardos") (Motorized Unit for Rural Patrol)
UMSS	Universidad Mayor de San Simon (Cochabama)
UNFDAC	United Nations Forum for Drug Abuse Control
UNDP	United Nations Development Programme
UPD	Unidad de Produccion Demostrativas (Demonstration plots)
UPS SEPA	Unit of Seed Production, Potato Seed (Unidad de Produccion de Semilla, Semilla de Papa)
USAID	United States Agency for International Development
USG	United States Government

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I. EXECUTIVE SUMMARY

The Chapare Regional Development Project (CRDP) in Bolivia, begun in 1983, has as its general goal the reduction of Chapare's coca leaf production, processing and marketing. The Chapare project was the "carrot" by which coca producers were to be induced to leave off their highly profitable operations and switch to alternative crops through the use of incentives such as cash rewards for eradication, loans for financing conversion to alternative crops, research and extension to promote alternative crops, and training and infrastructure development. The "stick" was to come from a special Government of Bolivia (GOB) strike force, UMOPAR, operating with the support of the U.S. Embassy but independently of the project, or "carrot".

The enterprise began badly. The international demand for coca grew very fast in the 1980's, followed by rises in coca prices. This led to a population boom in the Chapare of farmers wishing to cash in on the soaring demand for coca. Market forces began to reign freely, with total disregard for Bolivian laws or norms. In fact, the cocaine traffickers effectively ran the Chapare as a free-trade, free-fire zone for several years. This situation was partially a result of a national political crisis, complicated by an economic crisis in the 1980's. In 1985, after only twelve months of project activity, the CRDP was all but immobilized due to "lack of GOB progress in eradication". At the same time, natural disasters were assailing the area; CRDP funding was insufficient to compete with the coca industry; and project gains were quickly overshadowed by the violence of the UMOPAR interdiction forces. The project's agricultural research and extension branch, IBTA, managed to do some work, but the rest of the project nearly stood still.

In November 1987, the project was amended to include the Associated High Valleys (AHVs) in its strategy, effectively shifting project emphasis from the Chapare to its southern districts, or <u>distrito sur</u>. Although officially approved, Amendment 7 was opposed by key functionaries in La Paz of both the Bolivian and the U.S. Governments. Together they sabotaged the project, removing PDAR, the Bolivian agency responsible for funds from the newly-arrived AHVs Advisory Team. The GOB, meanwhile, managed to reclaim control over the Chapare, so that research and extension work could proceed in most of that area. Late in 1988 the project was further amended, restoring some of its original focus on the Chapare. PDAR was restaffed, and work proceeded in both geographic ares.

The evaluation team found that the Chapare Project does have some serious problems in its design. For example, although the project's success will depend on the economic viability of alternative crops adopted by farmers, there have been no marketing studies of the markets for the proposed crop substitutes. There has never been a project agricultural economist working on marketing issues. Similarly, there is no sound economic basis for the credit allocations, in part because of the lack of a credit and marketing database and in part because credit is granted on coca eradication criteria, not economic criteria. Additionally, there is a contradiction between the coca interdiction effort and agricultural development project goals: new roads, for example, which are essential to the marketing of alternative crops in the Chapare have not been constructed for fear of aiding narcotics traffickers; lime, essential for soil preparation, is banned because it can be used in coca processing.

Although in bureaucratic terms the project is more than five years old, due to start-up problems, CRDP actually began implementation in earnest one year ago (September 1990). In the short time the project has been implemented, it has achieved some notable outputs. IBTA/Chapare, for example, has conducted some excellent research and followed up with extension to farmers to the extent possible under extremely difficult working conditions. Coca producers in the Chapare have responded to the project's "carrot and stick" approach. Voluntary elimination of coca as of September 1990 is already above the yearly target (5,000 hectares) and may, in fact, be double that figure. This development has been paralleled by an upswing in farmer interest in IBTA/Chapare's alternative crops technology.

With coca leaf at $U.S. 80 per hundredweight, and given the correctness of prices quoted in the IBTA/Chapare study on alternative production systems, it appears that pineapple, coconuts, banana, coffee, black pepper and palm heart all compete successfully with coca, while a small dairy system is about equal. Some of those systems are suitable in one micro-region and not in another, but the productivity potential of coca is likewise variable.

Project activities in the AHVs at this stage are concentrated on upgrading roads and irrigation works. Some applied research/extension on irrigated crops is being carried out by NGOs with support from PDAR and USAID. Baseline studies of the various natural resources in the High Valleys are required before a program for sustainable agriculture and forestry production can be designed. Except for a soil survey now underway, there is no evidence of significant work in that direction.

The evaluation team recommends that key project evaluation criteria should be economic. The current focus on coca eradication should be reduced. In the long-term farmers will shift away from coca production only if it is in their economic interest to do so, and the project will be sustainable only if farmers profit from project activities.

The evaluation team also recommends that additional technical assistance personnel be added to the project, including a long-term project agricultural economist, a credit specialist, water resource manager and irrigation specialist for the Associated High Valleys. The team strongly suggests that marketing studies for alternative crops begin immediately. A credit study of the PL480 credit program is also of immediate importance. It should examine why large numbers of farmers are not taking advantage of the program, and why those that do have been defaulting on interest repayments at an alarming rate. The team suggests that other studies originally recommended in the Project Paper and subsequent amendments, but never implemented, also commence.

The evaluation team was challenged by a very long and involved Scope of Work (see Appendix A), a very short time period to conduct its investigation, and a lack of hard data on project benefits and costs. Nonetheless, the team covered a great deal of territory, and the conclusions and recommendations should be helpful for the design of the Alternative Development Project, scheduled to begin in 1991. The report focuses on the project's impact in the Chapare and the Associated High Valleys as well as on the issues and constraints the project faces. The discussion of hypotheses in Chapter Seven should contribute to future project amendments.

II. CONCLUSIONS AND RECOMMENDATIONS

A. Lessons Learned from CRDP: Immediate Needs

1. Project Design Reorientation

The key purpose of this project is the eradication of coca from the Chapare. To reach this objective the project developed: a credit program, a cash reward system, the production of alternative crops and measures to prohibit coca trafficking. This strategy mixes economic criteria with other concerns which reduce the likelihood of achieving project objectives. For example, credit is granted partially based on the amounts of coca a farmer eradicates, and not solely on a viable farm investment plan. Alternative crops have been widely promoted without determining their marketability. New access roads, thought to aid narcotics traffickers, have not been built in the Chapare since 1986 even though farmers growing alternative crops, such as bananas, need roads to gain access to markets. Similar prohibitions have been placed on the construction of other infrastructure projects such as electricity generating plants. The use of certain agricultural products such as lime is also prohibited because lime may be used in coca processing. The Team believes the CRDP effort will succeed in the long run only if farmers prosper from project activities. Farmers must have an economic incentive to shift crops. Alternative crops must have markets which give farmers economic incentive to switch to them.

Some project team members think that the resources available to the CRDP are too limited to support the economic development of both the Chapare and the AHVs. In addition, these team members believe that most residents in the Chapare are there to stay. Even if development efforts in the AHV reduce migration from the AHV to the Chapare, or increase migration from the Chapare back to the AHV, labor will become available from other regions in Bolivia. In any event, AHV economic development will not contribute to the reduction of coca production in the Chapare.

> Recommendation: The main goal of the Chapare Project should be the economic development of the Chapare region. The substitution of alternative crops for coca should be one purpose or objective of CRDP, but not the primary goal by which all aspects of the Project are judged. This reorientation of the project towards traditional economic objectives would lead to a rationalization of the credit program and an increasing focus on market development activities, including small business and agribusiness development. Although we do not recommend that all conditionality provisions for coca producing farmers be

dropped, we do recommend that eligibility for project support not be limited to farmers already producing coca. Economic analysis should become the primary basis for funding project activities.

2. Analysis of Credit Issues

The Pl 480 Program became the lender of last resort for the project when all other possible lending institutions showed no interest in supplying credit to farmers. Only 10% of eligible farmers in the Chapare are using PL 480 credit, and these users are paying a 30 per cent annual rate of interest. The PL 480 program is not a licensed bank under the laws of Bolivia, does not take deposits, and therefore can have no significant impact on the mobilization of savings, or the development of a full credit system. However, within these limitations and as a stop-gap measure, the use of the Pl 480 program as a credit mechanism is working as well as could be expected.

There is very little agricultural production credit available in the Associated High Valleys (AHV). But the few cooperatives extending credit to members have good repayment histories and to a certain extent help mobilize savings. Several attempts have been made to start a credit program in selected areas of the High Valleys (Mizque and Aiquile), but these attempts so far have not been successful.

Recommendation: The Team recommends that no further action on agricultural credit be taken in the AHVs until baseline data are available and a feasibility study is conducted. It is also recommended that a qualified credit specialist be hired as soon as possible to conduct a field study of the credit use and credit needs of farmers in the Chapare. The aim here would be to correct any short-term difficulties in the existing credit program and to provide useful data for the follow-on project design team expected in January 1991.

3. Technical Assistance

In addition to the Credit Specialist described above, the following technical personnel are also needed:

Agricultural Economist

IBTA/Chapare has conducted a great deal of high quality agronomic exploration at its two experimental stations and field sites in the Chapare. No less significant is the experimentation going on in the High Valleys. However, this research should lead to the identification of crops whose production is financially and economically viable. The objective is to produce something that can return more, in terms of energy or money, than was expended in its production. Crops/products with negative returns

should not be part of any long-range production system, unless and until ways are found to lower input costs and/or to raise product yields/prices. No one should recommend a production system featuring a product for which the market and selling price are either unknown or at best uncertain. Neither should such products be eligible to receive credit assistance. Agricultural economists are skilled at addressing such marketing, financial and economic issues.

> Recommendation: The team recommends that CRDP acquire the services of an experienced agricultural economist as soon as possible and for the life of the current project. This person would collect the best available data and develop basic production budgets, working with agronomists and marketing specialists. He/she would also contribute to the recommended resource allocation studies in the AHVs, and would also supply the proposed credit specialist with production budgets required in his/her analyses.

Agribusiness Experts

A recent study on the Chapare (see section IV) concluded that there is little connection between the production and marketing system for crops. Markets had not been investigated before crops were planted. There were no connections between the packaging, transport and export segments of Bolivian agroindustry.

> Recommendation: A team of short term experts, with the help of the agricultural economist referred to earlier, should conduct a study of the processing, transport and marketing sectors as they relate to alternative crop production. These experts should work with producers and producer groups to establish appropriate production norms.

Irrigation Engineer

In order to develop the AHVs properly, a comprehensive watershed management approach must be taken. The team believes that most outmigration from the AHVs to the Chapare and elsewhere would stop if farmers had irrigated lands to farm (see section VI).

> Recommendation: Less than 23% of the land in the Mizque and Campero Provinces is under irrigation. The team believes that it would be useful to spend a portion of available project funds for Immediate Impact irrigation projects. It may be necessary to hire a junior-level engineer in PDAR to carry out this work.

4. Natural Resource Data Base

In the past Bolivia has often survived economically by exploiting its natural resources, both mining and agriculture, in ways that were not sustainable. Amendment 7 to the CRDP, which brought the Associated High Valleys (AHVs) into the broadened scope of the Project was also intended to improve the sustainable use of the area's resources. In the semi-arid climate of the High Valleys, water is the most limited and limiting element of the natural resource base. Water management should therefore be a key concern of the follow-on project.

A careful inventory of surface runoff and of the flows and recharge rates of groundwater should be undertaken immediately. This inventory should include factors which affect flow, such as lack of vegetative cover, surface compaction from grazing, gully formation, sediment loads and dissolved solids in surface and ground water. Technical descriptors must also compile inventories of grass, forb, and tree species, and their locations in the watershed; traditional stocking rates and grazing practices; and soil survey and land use classifications, especially of valley bottoms with irrigation potential. Finally, the inventory must describe existing catchment and distribution works and their status and operation.

Only with such data is it possible to arrive at logical and sustainable use resource policies. In the AHVs, water structures are now being built and renovated, surface/ground water is being distributed for irrigation use and on no basis other than habitual allocations and a bird's-eye view of relative needs and resources. The baseline work called for in Amendments 2 and 4 has not been undertaken, except for a reconnaissance soils survey now in progress. The reason given is that funds obligated for the purchase of scientific instruments needed for these resource studies were diverted to other uses.

> Recommendation: Money should be re-allocated for equipment purchase and the hiring of field assistants. Data should be gathered immediately for watershed planning. The technicians are in place in Cochabamba; all they require is financial support and practical assistance.

B. Considerations on the Alternative Development Project

1. Marketing Data

Much useful work has been initiated in exploring production possibilities in the Chapare and in the AHVs. There is a notable gap, however, when it comes to information on marketing the product, nationally or internationally, perhaps as far away as

Japan, the U.S., or the European Economic Community. Some products have promising but undiscovered markets, others have too limited a market. They have different quality and safety requirements and export regulations; proper packaging may be a cost constraint, etc.

> Recommendation: It is suggest hat the ADP management team place considerable emphasis on the marketing dimension of agricultural goods determined to be suitable for cultivation in Chapare and the AHVs.

2. Credit Program

The credit program run by the PL 480 program could be improved in a number of ways. In the past, there was little coordination between IBTA and PL 480; agronomists in the two organizations disagreed on agronomic matters. Conflicting advice confuses farmers, as does PL 480's role under the project as a loan agency. The DIRECO certification process is slow and the land titling process is difficult, cumbersome and expensive. Training requirements are sometimes cumbersome, interest rates vary from those available from other institutions, and there is confusion about repayment policies. Loans are not made based on economically and financially viable criteria; partly as a result, repayments are sporadic.

Recommendations: The first step, recommended above, is to make a comprehensive study of the credit needs in the Chapare and AHVs. The project should develop sustainable loan institutions in both the Chapare and the AHVs. At the very least, to reduce confusion, we suggest that the project establish a PL 480 funded operation and designate it "Programa de Credito de Desarrollo," eliminating "PL 480" from the title as PL 480 implies donations to farmers. This program would have a three year mandate, to be transferred to an established indigenous institution once its track record for loan disbursement and recovery could be proven.

We further recommend that all loans be made based on an assessment of economic and financial viability, and that extension services be provided to support farmer success and loan repayment.

To establish more sustainable economic development objectives for the project, we recommend that AID establish a credit line for non-agricultural purposes. This would allow farmers diversifying out of coca to invest in growth-oriented businesses and industry which serve the needs of agriculture, such as black-smith shops or transport activities. The rational for this non-agricultural credit is to lessen the region's overall reliance on exotic crops, for which markets are unproven, and to spur regional development.

Finally a case can be made for granting credit to farmers who never produced coca, and are currently ineligible for PL 480 loans. If these farmers are able to put their land into high value, permanent crops, they are less likely to ever start coca production should the price of coca rise in the future.

3. PDAR/Research/Extension

PDAR has not been a successful coordinator of research/extension activities in the AHVs. PDAR seems to be almost exclusively preoccupied with Chapare activities, even though the Project's High Valleys component has been a reality for nearly two years. The reasons for this lack of interest may be historical, political (PDAR's political alignment probably does not enhance relations with NGOs active in the High Valleys) or may be caused by the shortage of technical personnel. The high staff turnover in PDAR adversely effects the growth of technical competence within the ranks. Effective interaction among PDAR, USAID, and the Technical Assistance Team also needs improvement. (See Section IV of this Evaluation on institutional cooperation)

Recommendation: The follow-on project should pay close attention to PDAR/NGO relations and seek ways to promote better cooperation between them. It may be necessary to have IBTA/Chapare work with NGOs in the High Valleys; another positive measure might be to install separate coordinating supervisors at PDAR to deal with the AHVs alongside those presently dealing with the Chapare and IBTA activities. Finally, ways should be explored to improve working conditions of PDAR technicians.

4. Incentives and Village-level Conditionality

There is continuing disagreement over the conditionality of village-level infrastructure improvements in the Chapare. At present members of a given village must show a 30 per cent coca eradication rate in order to be eligible for infrastructure improvements. There are many problems with this conditionality. First no such conditionality exists for infrastructure improvements in the High Valleys, where there is no coca. Second, as reported by the DAI Mid-term Review Team, "Because of conditionality requirements these improvements are made in response to coca reduction, and it is extremely difficult for them to relate to or contribute to a coherent regional economic development strategy for the Chapare." (p.vi)

The Team believes that:

a. There is nothing inherently wrong with rewarding villagers for applying peer pressure to reduce coca production. The community benefits by receiving a needed school building, health post, potable water

system, etc.

b. It is hard to predict how the communities would react if this conditionality were suddenly removed.

c. Almost any addition to village-level infrastructure, in the Chapare or in the High Valleys, is welcomed and highly appreciated by the local inhabitants.

With respect to farmer incentives: we believe that the only incentive that will get a farmer into a new crop is its profitability and the certainty of being able to market the crop. Roads are required to market the crops, and training needs are dependent upon the crop or market activity.

Recommendation: The team favors maintaining the conditionality requirements but adding other criteria besides the one for coca eradication. Furthermore a village-level infrastructure fund should be created for both geographic areas of the Project. Applications for use of this fund would be evaluated on the basis of coca eradication efforts along with other criteria to be defined by village committees.

We recommend that rather than increasing monetary payments for eradication, the project increase its emphasis on identifying and supporting the development and marketing of profitable crops and businesses.

5. Migration From the AHVs

We agree that the lack of employment opportunities in the AHVs is the primary reason why inhabitants go elsewhere to earn money. If we upgrade or rehabilitate existing irrigation systems or introduce new systems we increase the likelihood that local inhabitants will remain in the High Valleys. This probably is the single most critical component of the projected AHVs role in the alternative development program.

Recommendation: The team recommends that the follow-on project focus on water as the central and most limiting factor in the search for sustainable development opportunities for the region. The project should adopt effective watershed management as its major objective.

6. Nonagricultural Business Development

We believe there is no reason to limit project activities to agricultural projects. In terms of economic development, the development of a small business or a large agribusiness is an effective alternative to coca production.

Recommendation: A new project should add loans for small non-agricultural businesses. Loans should be made based on credit needs derived from a well-thought out farm investment plan. We also recommend that large agribusinesses be supported by a separate AID-sponsored loan fund.

7. Agroforestry

Large areas of the Chapare appear to be fit only for the production of trees, not necessarily fruit or nut producing trees. So far there is little agroforestry experimentation in the Chapare and in the AHVs. An integrated watershed planning and development effort would require substantial reforestation in the upper reaches of the watersheds.

Recommendation: We recommend that the ADP design include at least two full-time positions in agroforestry, one for each of the distinct forest production areas identified.

8. Other

A number of other items should be taken into account:

a. Agrochemicals: The preparation and sale of agrochemicals in Aiquile and Mizque is currently unregulated and wasteful. Prices are questionably high; mixtures sometimes are altered; farmers are not given clear and accurate instructions for their proper use. The health risks to humans, farm animals and wildlife are serious.

Recommendation: The new project should make ARADO responsible for the distribution of agrochemicals, through its sub-organization PROCIPLA, with controls by PDAR over the training of distributors and the design of specifications for the composition and use of each product.

b. Seed Research: Research should be conducted to identify cultivars that are pest-resistant and show high potential yield under irrigated conditions. Another service in great demand is seed multiplication.

Recommendation: We recommend that PROCIPLA (ARADO) join forces with technicians from PDAR/IBTA in carrying out this research.

c. Fruit Trees: CEDEAGRO has been working with fruit trees (peaches, table grapes, etc.) in the AHVs for

several years, and has acquired valuable experience in farm-level trials and demonstrations. At present there is no mechanism to disseminate this information to farmers.

> Recommendation: We recommend that PDAR integrate CEDEAGRO research and extension into the work of IDTA and the Technical Advisory Team in the High Valleys.

d. Geographic Considerations: Technical advisors working in the AHVs have already selected certain watersheds on which to concentrate their efforts. Likewise, of the seven or more micro-regions identified in the Chapare, only three are deemed to have enough land and cropping potential for experimental purposes. The rest of the land area is suitable only for renewable tree crops, permanent pasture, or forestation.

> Recommendation: The new project should delimit at the outset the areas that will be targeted for development work. Development efforts should concentrate initially on such areas, drawing on valuable CRDP experience.

e. Transportation: Too few vehicles are available for use in the AHVs, and their procurement is a problem. Neither the NGOs nor PDAR can maintain an effective level of presence in the often remote rural areas with the current number of vehicles available to them.

> Recommendation: Additional vehicles should be made available for use in the AHV.

f. Roads in the Chapare. The absence of roads in the Chapare is hindering the marketing of crops and economic development of the region. Roads will move the Chapare toward development faster than any other investment as they will facilitate marketing crops that are becoming available as the result of CRDP activities.

> Recommendation: We recommend that conditionality be removed for roads and that AID improve existing farm-to-market roads in the Chapare that are built on grossly substandard roadbeds. This is a relatively inexpensive activity. AID has experience building good roads in the Chapare and AHVs; road building will greatly improve AID's visibility and image in the region.

III. PROJECT BACKGROUND AND HISTORY

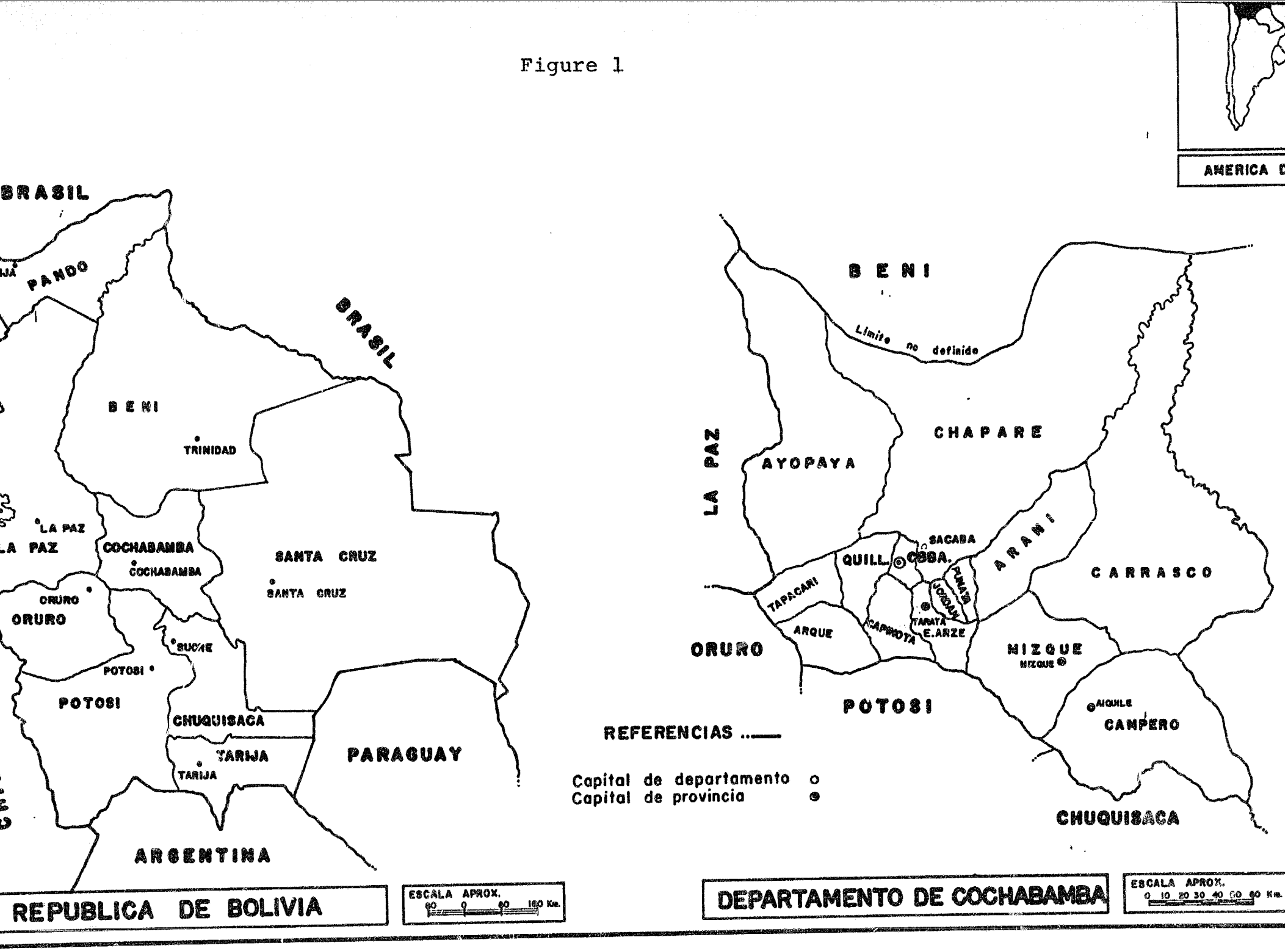
A. Chapare: a Promised Land

The Chapare is located in the Department of Cochabamba. Cochabamba is one of nine Departments into which the Republic of Bolivia is divided for administrative and political purposes. See Figure 1. Cochabamba also constitutes a well defined economic region in spite of the broad diversity of its ecology. Its 55 thousand square kilometers stretch from the Andean mountains through temperate valleys to the tropical lowlands of the Amazon basin. Its core is the densely-populated central valleys area where most agricultural and industrial activities take place. Not only the city of Cochabamba (population 320,000), but most of Bolivia's other urban centers, including La Paz, are located in this area. It is not surprising that the regional network of transportation and commercial services converge on Cochabamba. History shows that the shifting patterns of the Bolivian economy have, for the most part, lined up with the fate and location of export-led industries such as silver, tin, rubber and oil. Even though none of these resources were in Cochabamba, the region participated in the country's economic cycles by supplying food staples and a work force. With agriculture and services as its main source of income, the regional economy participated in the development of the national economy but until the 1980s, was less vulnerable to international market vagaries than other regions of the country.

The Chapare lies to the northeast of Cochabamba. See Figure 1. This tropical region was inhabited for centuries by nomadic farming groups and a few migrants who survived by hunting, fishing and cultivating rice, corn and tubers for themselves and coca for the mines. Chapare's humid, subtropical forest covers more than 40% of Cochabamba. It has a small area of piedmont and low hills with dense forest, a slightly bigger alluvial plain with high terraces and good drainage, and fertile, but unstable and acid floodplains. Rainfall reaches more than 7,000 millimeters a year along the base of the Cordillera, declining in an eastern direction toward Santa Cruz and to the northwest. Temperatures are usually above 20 degrees celsius.

Traditionally considered a reserve for agricultural expansion, as early as 1935 the GOB promoted colonization of the region to alleviate demographic pressures on the central valleys. Between 1965 and 1972 a new penetration road was built to the Chapare. The number of families migrating there immediately jumped from 500 to 5,000 a year, according to available estimates (Federico, 1988). With this road, Cochabamba's economy began its most important transformation since the peasant-led Agrarian Reform of the 1950's. Migration was the driving force of this change, and coca was the fuel that sustained it. In fact, the expansion of the agricultural frontier into the tropical lands of

Figure 1


AMERICA
BRASIL
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BENI
TRINIDAD
LA PAZ
LA PAZ
COCHABAMBA
COCHABAMBA
SANTA CRUZ
SANTA CRUZ
ORURO
ORURO
SUCRE
POTOSI
POTOSI
CHUQUISACA
TARIJA
TARIJA
PARAGUAY
ARGENTINA
REPUBLICA DE BOLIVIA
ESCALA APROX.
BENI
Limite no definido
CHAPARE
LA PAZ
AYOPAYA
SACABA
QUILL.
CBBA.
ARANI
CARRASCO
TAPACARI
ARQUE
CAPINOTA
TARATA
E.ARZE
ORURO
MIZQUE
MIZQUE
POTOSI
AIQUILE
CAMPERO
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Capital de provincia
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DEPARTAMENTO DE COCHABAMBA
ESCALA APROX.
0 10 20 30 40 50 60 Km.

Cochabamba, which increased the supply of rice, bananas, oranges and corn, could not have happened without coca. After clearing the forest, the migrant farmer would grow rice to feed his family and to reimburse relatives and friends for their help. In a second stage, he would diversify his farm with cassava, banana and coca, plus a few chickens and pigs. After two years the farm might achieve some stability with a continuous crop of coca leaves. The farmer could obtain a stable income from a crop which is easy to sell and is harvested 3 or 4 times a year rather than seasonally. The regular cash flow provided by coca production, and the availability of a high-value product to exchange with relatives in the highlands for labor and food staples, improved the welfare of the farmer and his family and consolidated their presence in the lowlands. By 1980 and 1981, coca prices had climbed significantly, attracting more colonists to the area and stimulating a more specialized farming system based on coca cultivation as the principal or sometimes the only crop.

After 1981, the coca boom attracted huge numbers of temporary migrants in search of economic opportunities. Petty trade and transportation, wage labor, shared crops or some kind of involvement with illegal coca processing were taken up by a "floating population." Their presence could have boosted the population figure up to 400,000. The current Chapare population is estimated to be around 70,000 (Rivero, 1990). In any case, there is no doubt that the rapid population growth in Chapare over the past ten years was related to the increased demand for and booming prices of coca.

It is important, however, to mention that migration was a way of life for rural populations throughout Bolivia. It has traditionally been part of a "diversified strategy" for subsistence. Before the coca-boom, Chapare was only one of several migration destinations that included regions in and around Santa Cruz, Buenos Aires and Sao Paulo. But when the demand for cocaine increased, entrepreneurs found in the tropical settlements of the Chapare an economic structure with workers looking for income opportunities and willing to migrate, as well as a solid domestic network of farmers with experience in tropical agriculture and coca cultivation. For the first time in its economic history, Cochabamba became the location of a dynamic export-led industry.

Other conditions favored the integration of Cochabamba to the international market. Bolivia's authoritarian regime was repeatedly besieged by democratic claims between 1978 and 1982. Even though violence and coercion were not enough to curb the democratic will of citizens, the political struggle did restrict the abilities of the state and society to confront an emerging economic crisis which was fueled by a burgeoning foreign debt.

This external debt problem, though at the time generally unrecognized by the media, had been significant for Bolivia since 1978. A succession of Finance Ministers tried to re-negotiate and roll over the external debt. These efforts constituted the only national economic policy until 1982. At about that time, demand for coca soared. The coca "business" came along to offer a hope chest of economic opportunities at just the right time. The political crisis seems to have eroded all traces of legitimacy in the country, even at the highest levels of government. In October 1982 a populist coalition with high expectations took charge of an impoverished and weakened nation. Social unrest spread through all the major urban and industrial centers, and the support for a democratic regime was severely constrained by economic problems. The government's resort to unlimited internal credit, increasing fiscal expenditures and a shrinking tax base paved the way for unprecedented inflation.

During 1983, when CRDP was being designed and negotiated, the Gross National Product declined by 6.5%, inflation rate reached 275.6%, external debt service absorbed 41% of total export revenues, and urban unemployment rose to 13% of the labor force. Other statistics reflect even worse conditions in 1984 and 1985 (Table 3.1). In 1985, under a new administration, the public deficit was sharply reduced, but at the price of a drastic cutback in public services and more unemployment. State controls on external and internal trade were removed and price controls lifted. On top of all this, the international tin market crashed, affecting the most important export item of Bolivia: more than 20,000 mining workers were laid off.

The nation's unemployed and its impoverished youth and entrepreneurs were drawn to the Chapare. Cars, trucks, beer, clothes, canned food, and appliances could all be found at the weekly markets, where transactions were usually handled in U.S. dollars. Although the processing and marketing of coca were controlled by international drug interests, for the first time in Bolivian history the production base of an economic boom was in the hands of small landholders.

B. War on Drugs and War on Poverty: the CRDP

In 1983, in the midst of this challenging political and economic climate, USAID/Bolivia, with the agreement of the GOB, designed and promoted the Chapare Regional Development Project (CRDP). Growing coca was not a new activity, but never before had its influence been so pervasive as to affect the very foundations of the Bolivian State. Legal concerns were not clearly pertinent since, within Bolivia, the consumption of cocaine as a final product was not widespread; thus the debate about drug control was focussed mainly on political and economic considerations. The idea that Bolivia's economic development could benefit from controlling coca leaf production was widely

discussed among government officials.

Development assistance, in effect, provided the rationale for the Project for the Development of Chapare and Yungas, or the Proyecto de Desarrollo y Sustitucion (PRODES), an activity funded by the International Bureau of Narcotics Matters, U.S. Department of State, which was traditionally committed to interdiction and repression as control measures. PRODES, a research and extension project designed to promote coca substitution by developing alternative crops, functioned between 1977 and 1981 both in Chapare (Cochabamba) and Yungas (La Paz). To a large extent, USAID/Bolivia was drawing on the PRODES experience when it organized a team to design an anti-coca development project for Chapare in the early 1980s. The Project Paper was approved in July 1983 and called for an A.I.D. financial commitment of US$ 10 millions in loans and US$ 4.4 millions in grants. The project purpose did not mention coca, stating that it was "to modify and improve the agricultural and forestry production system of farmers in the Chapare to respond better to diverse, profitable marketing opportunities provided under sustained, environmentally compatible, medium technology production models."

However, reference to the coca problem could not be omitted from the Project's strategy statement. The intent was to enhance and enlarge market demand for Chapare products, which in turn would stimulate production, thereby improving the quality of life while making farmers less dependent on coca production. The project designers recognized that "no one crop, and probably no combination of crops, will fully match the income generated from the sale of illegal coca." The sine qua non for project success was the "coca reduction and control effort," which was meant to increase the risk to the farmer of coca production, in terms of both the law and its effect on coca prices. In other words, it was expected that coca interdiction would increase economic uncertainty, thereby stimulating "balanced economic development and an enhanced standard of living in the Chapare region."

The project was to be implemented by the Secretariat for the Development of the Bolivian Tropics (a newly-created agency of the Ministry of Planning). SDBT would be responsible for coordinating and implementing activities in the fields of agriculture and forestry production, agribusiness and institutional development over a five-year period. In spite of the support for and interest in the Project among politicians and government officials, it could not get underway for another year, when the GOB sent in troops to regain control over the Chapare region. In 1985, after only twelve months of activity, CRDP was all but immobilized due to "lack of GOB progress in eradication." At the same time, natural disasters were assailing the area; CRDP funding was insufficient to compete with the thriving coca industry; and small but highly visible development activities, carried out to stimulate trust in the alternative development

program, were being overshadowed by the violence of interdiction forces.

A major Project Amendment was introduced in November 1987. With Amendment 7, project funding was doubled, and its area was expanded to include the High Valleys, a recognized source of migration to the Chapare. Project life was extended to 8 years and, in order to prevent ecological damage by opportunists and indirect benefits for cocaine traffickers, the amendment imposed severe eradication and pre-investment conditions on every proposed development action. Among others, the issue of benefitting Chapare settlers without facilitating the infiltration of cocaine traffickers has caused some controversy. For example, one proposed change, aimed at supplying electricity, was canceled in deference to the opinion that it would have worked to the advantage of the cocaine processors. Another objection was that the coca eradication contingency was not applicable to the High Valleys, yet certain advantages of Project intervention were the same for both areas.

The rationale of Amendment 7 was to establish a new agricultural pole, the "associated" high valleys (AHVs), south of Cochabamba, (See figure 1) in order to induce out-migration from Chapare while at the same time providing incentives to the High Valleys population to remain in the valleys. From this point of view, the amendment's infrastructure component was of great importance. Improvement of access roads and irrigation systems in the AHVs was considered crucial for the Project. At that time, the capacity of the Chapare to support a settled population without the income derived from producing coca was very uncertain. This meant that alternative crops could not replace income lost from eradicating coca unless the farm population were reduced to about 45,000 households. As a consequence, agricultural development in the AHVs was a critical factor for the CRDP to achieve its goals. The amendment's focus on the distrito sur was also justified by the fact that the region was receiving almost no assistance from private or public sector organizations. For that reason, the amendment also included an "investment fund" to bolster the work of NGOs and PVOs working or willing to work in the area.

Another considerable shift in the CRDP strategy was the increased attention given to small landholders and peasants. The agribusiness development component, so important in the initial design, was effectively dropped from the amendment. For all practical purposes, with more funding and a more promising working environment, the "Chapare" project became a "Southern Valleys" project. To date, $9 millions have been spent in the Chapare, exclusive of $2.6 millions of credit, and about $7-8 millions in the AHVs.

Other factors were at work on the Project evolution. In

July, 1987, the GOB created a coordinating agency, the Subsecretariat of Alternative Development (SUBDESAL), in charge of planning and overseeing alternative development and crop substitution policies and programs. During 1987 and 1988, conflicting strategies between SUBDESAL and USAID collided in the Program of Alternative Development of Cochabamba (PDAC), the former SDBT. PDAC was, in fact, formally dependent on SUBDESAL, but actually funded and overseen by USAID. The tension created by the divergent strategies of USAID and SUBDESAL almost paralyzed PDAC, both in Chapare as well as in the AHVs.

Conflicting approaches to the issue of "alternative development" reached a climax in 1988, when U.S. pressures mounted, and the Bolivian Congress passed Law 1008. This legislation introduced reforms in the judiciary system aimed particularly at drug-related crimes. But it was controversial and difficult for the GOB to enforce because it restricted areas for legal cultivation of coca and defined Chapare as a "transition area," where coca should be completely eradicated in a timeframe of about 8 years. It did, however, legalize coca production in the Yungas area, where less potent coca leaves are grown for domestic consumption (chewing, tea, medicine). In 1989, in response to farmers' complaints, SUBDESAL organized Committees for Alternative Development at national, regional and local levels to allow for social and institutional participation in alternative development activities.

The vigorous stabilization process carried out by the GOB since August 1985 and some highly-publicized interdiction efforts (such as the U.S. and Bolivian Joint Military Operation "Blast Furnace") eroded the profitability of the drug business and, in so doing, eased the way for the incentive component of the Project strategy model.

On the basis that it was an important moment in the life of the Project, an amendment to the Project Agreement was approved in July 1989, that clearly stated CRDP's goal to "reduce coca production in Bolivia" by developing alternative sources of income for people who are or were engaged in the coca business. This amendment expanded the Life of Project until 1994 and increased total funding to US$ 38 millions. (The Alternative Development Project (ADP) is expected to add another $60 millions.)

Besides giving more attention to community education and the use of the media to draw support for the Project, the previously-imposed conditionality of 70% coca eradication for any personal or community compensation was reduced to 30%, plus a formal commitment to continue eradication in the future and to refrain from re-planting coca. In short, CRDP would proceed with activities smaller in scale but larger in number, and with an expanded credit program. The major argument for Amendment 7 was

that the shortage of resources for development activities could undermine the solid foundations built so far in the control of coca: "Provision of such resources does not guarantee success; not providing the resources, however, guarantees failure."

C. Project Model

The CRDP Strategy Model reflects its attempt to influence farmers in the Chapare by generating positive reasons for reducing the production of coca, taking into account that negative thrusts are simultaneously at work for the same end. It places coca growers at the core of the pushing and pulling forces.

The agency in charge of providing coherence and coordination to the institutions associated with the pulling forces is the Program of Alternative Regional Development (PDAR), as it is now known (formerly PDAC and before that SDBT). In addition to the U.S. funded or U.S. related agencies (such as PL-480), there are also public sector (IBTA, CORDECO, SNC) and international (UNFDAC) organizations involved. Some public sector organizations, such as IBTA and SNC, also have financial support from the U.S. On the other hand, USAID/Bolivia has been able to convince UNFDAC to apply the same conditionality to their initiatives for CRDP activities in Chapare and, in so doing, has reduced duplication and resource wasting.

In order to assess the validity of the model, one must take into account not only implementation problems, such as synchronizing the pushing and pulling forces, but also the varying magnitude of the problems the model is designed to address. According to GOB estimates, coca leaves amount to 30% of the gross national agricultural product and more than 60% of that of Cochabamba. If the processing of coca leaves into cocaine base is also taken into account, it is estimated that the coca/cocaine business generates US$ 1,400 millions a year, of which between US$ 328 and 490 millions a year remain in the Bolivian economy.

If we compare these figures with the prorated yearly allocations to the CRDP, it becomes clear that most of the goals set in the Project Paper and its Amendments are overstated. In fact, CRDP investments would amount to 6.93%, and USAID funds would represent only 2.5% of the income generated by the coca economy in 1989. Certainly the model's pushing and pulling forces are playing a role in coca reduction; however, it is not clear how strong these forces are, relative to those fueling the legal and illegal coca-based economy.

The issue of conditionality has also been highly controversial in the project. In the eyes of many experts and planners, harsh conditions inhibited small farmers' natural

desire to diversify since most substitute crops require 2 to 5 years to become productive. To others, such as the members of a USAID/W and State Department team visiting the area in September 1988, any land, labor or capital dedicated to alternative crops would reduce resources available for coca production, and therefore, placing alternative crop material on the farmer's hand, "even if inter-planted with coca", would be beneficial.

IV. IMPACT ASSESSMENT

A. Impact of the "carrot and stick" strategy on coca production

The goal of the Chapare Regional Development Project (CRDP) is the reduction of coca leaf production, processing, and marketing in the area of the Chapare. The major assumption is that a combination of police intervention in the coca sub-economy, and the introduction of economically viable alternative crops will achieve the project's goal. A related assumption is that economic development in the Associated High Valleys (AHVs) will reduce migration to the Chapare and thus decrease the labor pool available for coca production.

The strategy is one of carrot and stick. The stick is a combination of police action aimed at destroying coca plantations, disrupting the manufacture of coca paste from dry leaves and stopping the export of cocaine. It is hoped that these actions will make coca growing more risky and will drive down the farmgate price of coca by creating an excess supply. The carrot is a combination of (1) payments to farmers for stopping to produce coca, (2) credit to finance the growing of alternative crops, (3) a research and extension program to identify alternative crops and (4) the construction of small infrastructure improvements.

Has the strategy worked? The goal of the project this calendar year was to reduce acreage under coca production by 5,000 ha. As of September, 1990, that goal had been surpassed. In addition, farmers are showing increasing interest in alternative crops and in the PL-480 credit. So the strategy seems to be working. It is too early to ascertain whether these gains are sustainable in the future. Part of the answer will depend on the ability of the US and Bolivian governments to maintain the same level of intensity in the use of the carrot and stick. Both components are necessary to insure reduction of coca production over a long period of time. CRDP by itself cannot insure reduction of coca production in the short-run because coca producers like any farmers, respond to many factors which are outside of the project's control such as the price of coca and the risk for farmers in producing coca. These latter factors are more under the control of the police. However police action by itself is not likely to lead to a sustainable decrease in coca production either. If farmers do not have alternate ways to earn a living in the Chapare they are likely to move to another region and grow coca or any other crop there. Or if they stay in the Chapare, they will likely become poorer and wait for the price of coca to increase or the risk associated with its cultivation to decrease, before starting to grow coca all over again. CRDP provides farmers with the opportunity to diverge their resources

to the production of other crops or to other activities that are more socially acceptable.

Sometimes there has been a contradiction in the Chapare between narcotics-control efforts through repression and those through development. Development demands lime to neutralize acid soils and make them productive, yet lime is a forbidden chemical because of its use in the narcotics trade. Development demands access roads for farmers to get their produce to market, yet roads have been blown up on the presumption of that they are used by the narcotics trade as landing strips and avenues to coca trading points. This duality and contradiction is everywhere in the Chapare, as is the preeminence of interdiction over development efforts.

B. Effectiveness of the combination of technical packages, credit and marketing opportunities for alternative crops in modifying and improving the agricultural and forestry production system of farmers in the Chapare and Associated High Valleys

Only a field survey of both regions could estimate the acreage planted by farmers in alternative crops and/or in better cultivars of traditional crops. In the absence of such data, we can only offer some general observations based on our two week field trip.

a) About 30 to 40% of the maize acreage is of a new cultivar of white maize, opoco 8;

b) No beans were produced in the project area six years ago, but now they are a regular part of the local family diet;

c) As of the last two years, all new citrus plantings have been criollo rootstock, grafted with a cultivar of Valencia.

d) Spacing for new banana plantations has been reduced from 5X5 meters to 3X3 meters. New cultivation practices are also being used.

e) Several hectares of macadamia have been planted under IBTA/Chapare sponsorship, none yet in production. An additional 150 hectares have been planted in private or community nurseries with technical assistance from IBTA/Chapare.

f) There are now 28 Producer Associations. The membership cuts across the geographically organized "sindicatos". One of these is a fluid-milk production group in Villa Tunari. The members pooled their coca reduction bonuses to buy a tractor with trailer and tank, along with a refrigerated tank in town. They intend to deliver milk to the new plant in Ivergazama financed by a UN project.

g) A short-term consultant has been engaged to help Bolivian agriculturalists improve their post-harvest treatment and packing of bananas for export.

h) Mother's clubs aimed at marketing small amounts of produce from kitchen gardens have been started and are earning petty cash from handicrafts, etc.

These few observations indicate that the strategy of crop diversification is beginning to work. However, the program's effectiveness is being jeopardized by the absence of marketing activities and the lack of a sustainable credit program.

1. Marketing

Currently market investigations are being conducted in a very uncoordinated manner. For example, several tons of ginger were produced this season, forcing a widespread scramble to find markets. While many producers were anticipating $3-4 per kilo, the ginger finally was sold at $1 per kilo and farmers were paid only after considerable delay. Recently, a group of approximately 600 farmers decided to plant a hectare each of pineapple. According to the IBTA technician this gamble will force the producers to find a market within the 18-month production period. It is assumed that this potentially large supply will interest some buyer, somewhere. This hit-or-miss testing of a product's demand is a poor substitute for a formal market appraisal.

CRDP did arrange tc bring in processors from the U.S. to look at the range of crops now being grown in the Chapare and the AHVs; and studies of marketing possibilities for several specific crops are in fact underway in the U.S. and Canada, Japan, Germany, and in Chile and Argentina. Good possibilities exist for marketing papaya, banana, and pineapple in Chile, where tropical crops are not produced. The competition would come from Colombia and Ecuador. Bolivia is closer to Chile, but Colombia and Ecuador may have a cost advantage in terms of ocean transport. There may also be a market for bananas in Argentina, especially in the west. Citrus from the Chapare was judged to be the wrong variety ("criollo") for juice, and Brazil has apparently cornered the "concentrate" market in any case.

Very little is known about the local market. The urban market is very small and is located primarily in Santa Cruz and Cochabamba. These two markets have not been adequately studied with respect to size of demand, quality requirements, or transport/packaging costs and regulations. For example, a dairy plant is opening soon in the area and would probably provide a market for Chapare fluid milk. But certain key information is still lacking such as the farmgate price, the health specifications to be required such as cooling, tests for brucellosis, etc.

It is recommended that formal market studies be carried out as quickly as possible on those crops that appear to be profitable such as pineapple, coconut, papaya, ginger, pepper,etc.. Colorants and spices offer the best opportunities for market development. Spices and colorants may also provide opportunities for small local processing plants which would dry, crush, and pack the products for bulk shipments.

Most other aspects of the marketing system are either missing or greatly deficient. One important bottleneck is transportation. There are very few all weather roads in the region. USAID halted new road construction in 1986 on directives from Washington in the belief that new and better roads would benefit coca traffickers as much or more than regular farmers. Currently USAID seeks only to improve seasonal roads to the "all-weather" category. The United Nation has upgraded 211 kilometers of roads but has only opened 7 kilometers of new roads. Without roads alternative crops cannot get to markets. If USAID is serious about improving the agricultural and forestry sectors of the region it must also improve the transportation system.

2. Credit

Almost all of the crops with good production possibilities in the region require several years between planting and the beginning of production. Considerable investment in land preparation and purchase of plant materials is required up front. Young plants must be cared for as they progress toward maturity. During that time, farmers have no other sources of income to offset their costs. Farmers need a credit program which is intermediate to long-term, with a grace period in the early years.

At one time, the Agricultural Bank of Bolivia and the Bank of Cochabamba operated very limited credit programs in the Chapare. These institutions have shut down these programs except for attempts to recover past loans due. The PL 480 Program was persuaded to set up an agricultural lending program in the Chapare, restricted to farmers who had certificates of voluntary coca eradication on at least a part of their cropland.

Eligibility requirements for loan applicants include:

a) a coca reduction certificate from DIRECO;

b) title to the relevant cropland;

c) certificates of training for the planned alternative crop from IBTA-Chapare;

d) a plan under which the alternative crop will be produced.

PL 480 loans are a function of the number of hectares of coca eradicated, the proportion of acreage eradicated versus total coca acreage, and, the capital investment required to get the alternative crop into production. Although the maximum loan amount is US$15,000, most operations are for lesser amounts. Security for loans include a mortgage on the land, liens on crops, livestock, machinery and equipment, and occasionally a co-signor (for small loans only). The applicants' credit history is investigated only to the extent of determining that he/she does not have an outstanding credit obligation to the Agricultural Bank of Bolivia, or to the bank of Cochabamba. Since yields, production costs, and product prices are largely unknown for the non-traditional alternative crops, the PL 480 loan officers do not rely on financial projections based on such data.

The PL 480 program has been hesitant to extend credit for non-traditional crops (macadamia, black pepper, pineapple, coffee, tea, ginger, a range of other spices and colorants). Recently, the program agreed to a loan portfolio of no more than 60% covering traditional crops (citrus, banana, coconut, but not subsistence crops such as rice, maize, beans, manioc). This is to leave the remaining 40% of the portfolio to finance the more exotic, and risky alternative crops. According to current estimates about 10% of farmers eradicating coca have applied for PL 480 credit. Most of those not applying for credit may be farmers who are farming Sindicato lands and whose land tiles have not been issued yet. Land was titled to farmer groups at time of settlement, and apportioned to members on a usufruct basis. It would be interesting to find out why other farmers who could qualify for PL 480 credit, do not apply.

Although the Pl 480 program filled an important void at the beginning of the project, it is limited in terms of its ability to become a sustainable source of credit in the region. PL 480 is a food distribution program of the United States Government. In the minds of many in Bolivia, it is associated with the free distribution of food. The current PL-480 credit program does not operate as a bank under the statues of Bolivia. It cannot accept deposits or issue checks. It is unlikely to become a permanent indigenous source of funds for the project. An alternative institutional scheme needs to be developed.

Another concern with the credit program is the lack of appropriate economic analysis as a basis for approving loans. The financial and economic analysis of the operation is based on pure guesswork without data on production costs, yields, and product prices. As far as we can tell, this data is available only for crops such as banana and citrus. Too much emphasis is being given to coca reduction certificate as a condition to obtain credit. In the end, credit is a financial operation and should be processed as such. The emphasis on coca reduction has

the added undesirable effect of excluding from the program farmers who never grew coca as if to penalize them for the fact.

C. Ecological considerations

The two regions face very different challenges because their ecology is very different. The Chapare is a humid, subtropical, forested area between the eastern slopes of the Andes and the rivers of the Western Amazon basin. It comprises at least seven ecologically distinct zones. The annual rainfall ranges from 2,500 mm (98 inches) in the east, and 7,000mm (273 inches) on the lower slopes of the boundary mountains, and occurs in the six months from October to March. A detailed soils map of the Chapare would reveal an intermixture of soil profiles and surface types, sometimes including no more than one hectare or two of one type of soil surrounded by other types not even remotely similar.

According to Amendment 4 (1989) project activities are expected to have a generally beneficial environmental impact on the area. But according to the environmental impact statement prepared by DAI in September 1989 the Project will adversely affect the upland watersheds and tropical forests, and will reduce biological diversity. The DAI team recommends that these aspects of the project be addressed by CRDP in order to comply with the requirements of the Foreign Assistance Act. The additional technical assistance, counterpart training, environmental education and mapping studies would cost US$ 3.5 million.

The environmental impact of new roads presents a special challenge. The United States does not use the same criteria as the United Nations in judging the environmental impact of roads. The UN standards tend to be less strict. Which standards should be applied for road construction in the Chapare? Since neither USAID nor the UN is currently building new penetration roads this problem has not been addressed yet. USAID halted new road building in 1986 on directives from Washington. Currently USAID is only improving seasonal roads to the "all-weather" category. The UN has upgraded 211 kilometers of roads but has only opened 7 kilometers of new roads.

Of further concern is the encroachment of colonists on lands reserved for the National Park, in the north of the Chapare. The success of coca eradication in the south has brought new colonists in this remote area which used to be settled only by indigenous people. These incursions have continued with no action being taken by UMOPAR or other GOB agencies.

The Associated High Valleys (AHVs) are characterized by high

mountains and relatively flat valleys. Annual precipitation is between 300 and 600 mm (12-23 inches), occurring from November to March. Frequent thunderstorms give rise to flash floods in the rivercourses. Valley floors tend to be sandy loams, and often contain river-washed stones. Overgrazing and the clearing of land for trees and brush for fuel and farming on the hillsides has led to sheet and gully erosion. In places, erosion has been so severe as to leave lower slopes deeply gullied and devoid of any soil cap. The topsoil in the lower slopes supports little vegetative cover. The soil cap higher up is deeper and supports a grass/xerophytic shrub savanna, due to the increase in rainfall with elevation. The ecology of the High Valleys is fragile and continuously threatened by the traditionally uncontrolled communal grazing.

A study of the AHVs conducted by CORDECO indicated that less than 23% of the land in Mizque and Campero Provinces is under irrigation. The amount of land effectively irrigated is even less since not all land lying below a given irrigation canal can be irrigated in any one year. For example, in one irrigation system being improved for the second year in a row with funding as an Immediate Impact project, only 12 hectares (about 5%) of more than two hundred hectares could really be irrigated with the amount of water flowing in the canal.

In 1989, 20 irrigation projects worth US$ 180,000 were funded under the Immediate Impact program. Also, the Pl 480 program funded another seven projects for a total cost of US$ 250,000. According to a DAI study, 30 Immediate Impact projects are budgeted for 1990 amounting to US $3.2 million.

On-farm irrigation sub-projects totaling US $216,000 are budgeted for 1990. An irrigation management study is being carried out by IBTA in Mizque, and GEOBOL is also carrying out a water resources study in the AHVs. US$ 750,000 is budgeted for small and medium irrigation construction. The total amount budgeted for irrigation in 1990 is US$ 1,259,390.

The single most critical factor limiting agricultural production in the High Valleys is water. Currently the strategy is to pump water using local volunteer labor to build and refurbish small water supply systems. Well construction is relatively cheap, quick, highly visible, and popular with local farmers and visitors. The current technology includes construction of infiltration galleries to tap shallow ground water in the intermittent stream beds, lining canals to reduce seepage losses and in the valley near Mizque, installation of a few hard dug shallow wells and pumps. IBTA and a few NGO's provide extension support on irrigated crops such as table grapes, peaches, onions, carrots, potatoes and alfalfa. Research and extension is underway on live fences, trees and plants for erosion control, and materials for reseeding hillside pastures.

Technicians working in this area are well aware of the need to control grazing and indiscriminane wood cutting on the dry hills. They also know to re-forest where possible, and to maximize water retention for human and crop use. The required technologies are well known, and can be adapted easily in this area . On the other hand, soil and water conservation is expensive and does not show an immediate return. So farmers are reluctant to reduce the number of animals grazing on poor lands, or to abstain from collecting firewood unless they understand why these restrictions are necessary.

A good strategy for conservation would be to begin by building and refurbishing wells. In this way one would build valuable infrastructure, and gain the trust of the local farmers. Then an educational campaign on hillside grazing and erosion control should have a better chance to succeed. It would also be useful to demonstrate reseeding, gully control, tree planting, etc. If these programs work then other agencies can build on that experience and begin more serious water and soil conservation activities.

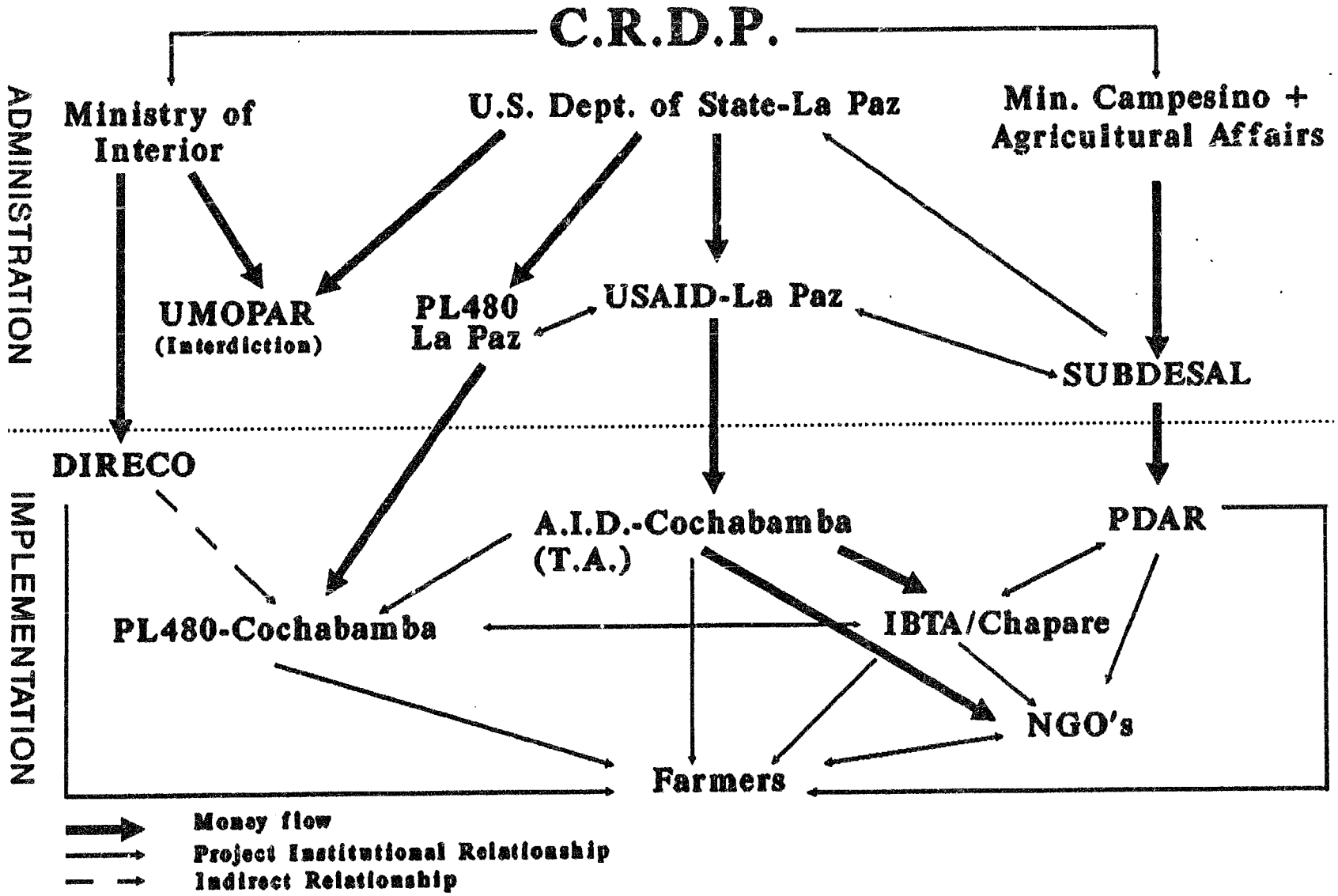
As of September 1990, not all the money in the irrigation budget had been spent, but the Immediate Impact projects budget was fully obligated. It would be useful to authorize the transfer of unspent money from the irrigation budget to the Immediate Impact budget earmarking the funds for irrigation. To carry out this work, it might be necessary to fund an additional junior-level civil engineer post in PDAR, which is implementing the Immediate Impact projects.

D. Institutional assessment

The institutional arrangements of this project are complex and still undergoing change. (See figure 2) The Ministry of Interior and the Ministry of Campesino and Agricultural Affairs are the two most important Government of Bolivia agencies for this project. The Ministry of Interior directs UMOPAR, a special drug interdiction strike force. UMOPAR is supported by State Department funds. It is the "stick" in the GOB's narcotics control strategy, and it operates independently of the "Project carrot", the CRDP. The Ministry of Interior is also responsible for DIRECO, the government organization at the project implementation level responsible for certifying that farmers have eradicated coca plots. These certificates are essential for farmers to be eligible for Project credit.

A sub-ministry of the Ministry of Campesino and Agricultural Affairs, SUBDESAL, is in charge of high-level coordination of the entire CRDP effort for the GOB. PDAR is SUBDESAL's project arm in Cochabamba, responsible for directing and coordinating the GOB's CRDP implementation efforts. PDAR, in turn, directs IBTA/Chapare, the Project's agricultural research and extension

Chapare Regional Development Project (CRDP)
Organizational Relationship



agency. Indiginous NGOs carry out project related activities and operate in the High Valleys in association with IBTA and PDAR. So far PDAR has not made sufficient use of this existing network of NGOs. USAID on the other hand has been offering small grants to selected NGOs to upgrade their office and staff and allow them to play a more important role in the region's development.

On the American side, USAID administers the CRDP from the Mission in La Paz, while Project monitoring is carried out from Cochabamba.

Improved coordination among all participating institutions is perhaps the one single factor responsible for the recent success of the project. Moving IBTA-Chapare, PDAR, and the relevant USAID staff in the same building in Cochabamba was helpful. Project personnel can communicate more informally and more easily if they are located in the same building. Formal linkages between PDAR, IBTA-Chapare and USAID are provided through regular meetings. PDAR takes seriously its coordinating role in the Chapare and in the High Valleys. It has successfully coordinated the work of technicians from USAID, IBTA, and several of the NGO's especially in irrigation structures maintenance and construction, and the establishment of nurseries.

PDAR still needs to respond more quickly to its technical assistance staff. There are still organizational turf battles between organizations in the High Valleys and CDRP is still unfamiliar with many of the NGO's who operate there. The Experience Incorporated advisors appear to work well with USAID and with IBTA-Chapare. USAID's Cochabama office is trying to accomplish a great deal with few human resources. The addition of an Administrator to it's staff should relieve some of the workload from the shoulders of the Regional Office Chief of ARD.

Coordination has been lacking between USAID and the UN at the project level. This should be improved through periodic meetings between their representatives.

The project has not always received strong support from USAID or from the Government of Bolivia. In many instances old commitments were set aside, and new ones adopted as staff turned over in the various institutions responsible for project implementation.

Right now, USAID and the GOB strongly support the project. However, USAID's support depends upon interest and support in the US Congress. As long as cocaine remains a problem in major US cities, Congress will probably continue to support actions like the Chapare Project. If this level of commitment continues the project may permanently improve economic conditions in the Chapare region.

E. Cost/benefit analysis

It is not possible at this time to conduct any significant cost/benefit analysis. The data is not there. The data is particularly deficient in the estimation of benefits. The benefits associated with this project would include primarily the net value of crops sold and the eradication bonuses. The benefits arising from infrastructural improvements (roads, irrigation and potable water systems, etc) are indirect and not easily measurable. There are no estimates of crops sold. Besides, the baseline data of economic activity before the project began does not exist. So it would be very difficult to identify only those activities that are the result of the project.

The cost data is more straightforward. According to amendments 3 and 4, AID appropriated US$ 26.5 millions through 8/31/91, of which US$ 14 millions are grants and the rest loan funds. Host country costs are estimated as US$ 34.7 millions, and those of other donors as US$ 11 millions, for a Life-of-Project total of US$ 72.247 million. These costs do not include the cost of the UMOPAR/DEA police actions. It can be argued that only AID-appropriated money should be included on the cost side of the B/C ratio, since a major part of the host country funds are recycled PL 480 funds. The team however argued that the project cost should be the money spent on the project regardless of which agency spent it. Thus, the project cost is estimated at US$ 72.2 million.

Cost benefit analyses require a large amount of data in order to be meaningful. If the mission is serious about this type of analysis it must set up immediately an information gathering unit and make it an integral part of the project.

F. Conclusions

The evaluation team believes that USAID should support an economic development project in this area of Bolivia. The new project should be oriented first and foremost toward economic development. Coca production will be reduced if there are economically viable substitute crops and improved infrastructure. We would like to see a rationalization of the credit program, the highlighting of market development activities, and perhaps the use of economic analysis in funding project activities. While the substitution of alternative crops for coca might still be a goal of USAID efforts, it should not be the primary or only goal by which all aspects of Project Design are judged.

At present, two separate technical advisory teams are providing technical assistance in addition to a number of directly hired individuals in Cochabamba and in La Paz. These arrangements were not specified in the Project design, but

happened during project implementation. From the perspective of Project Management, adding individuals to the project by hiring them directly is very expensive. The paperwork required to hire and maintain a janitor for the Cochabamba office of AID, is the same as that required for a 7-member team of technical advisors. It is not a good use of skilled administrative manpowr.

It makes sense to have a team of technical advisors assigned to each geographic area. The regions are far enough apart and their agro-climatic-geophysical characteristics and their histories are different enough. The Associated High Valleys lend themselves to a development project based upon an integrated watershed approach, and the Chapare does not. The central Project concern in the Chapare has been the search for alternative cropping systems. The concerns in the AHV's have been to develop a data base upon which integrated resource development and management can be built. Alternatives to traditional crops have been relatively unimportant.

USAID should seriously look into centralizing all technical assistance into one umbrella contract. It is more efficient to centralize hiring of consultants, and acquisition of equipment and supplies under a general contract than have USAID staff manage these functions out of La Paz or Cochabamba. Individual technicians could still be dispatched in two separate teams to each region.

V. PROJECT ISSUES AND CONSTRAINTS IN THE CHAPARE

A. Land Tenure and Land Use in the Chapare

1. Land Tenure

Land tenure and land use practices in the Chapare present two major obstacles to the achievement of CRDP's objectives and the Project's ultimate impact, namely (i) the limited size of the plots the remaining farmers, even in a reduced population, would have to work with for successful crop substitution; and (ii) the degraded condition and the varied land use potential of plots in the target area with respect to the cultivation and marketing of largely non-traditional crops.

Land tenure in the Chapare can be divided into four categories: (i) colonized land (147,000 ha.), (ii) private concessions granted by the government (200,000 ha.), (iii) the Isiboro-Secure National Park (900,000 ha.), and (iv) unassigned land, therefore "of public domain" (1,243,000 ha.) (Van Dyke, 1980, p.165). Colonized areas are mainly located in the central region of the Chapare, between Jatun Pampa northward to the limits of the National Park, and to Yapacani in the east. Private concessions, granted mostly to lumber companies, are predominantly located on the edges of the National Park, in the tropical forest to the north, bordering the Beni and Santa Cruz Departments. Lands still in the public domain are in remote areas of the Chapare and are inhabited by forest tribes such as the Yuracare, the Mozetenes, the Siriono, and the Trinitarios, among others.

The Instituto Nacional de Colonization (INC), at various times but especially in the 1970s, provided land to cooperatives, distributing an average of 15 hectares to each farmer. But with the rudimentary technology at his disposal, the Chapare farmer could only exploit 3 or 4 hectares (Rivera, 1990, p. 16). At present, there is virtually no land, within reasonable access of the roads, available for settlement by request. The source of colonized land holdings in the Chapare may be broken down as follows: 3,541 parcels (38.0%) from the INC; 2,546 from the Agrarian Reform in the 1950s (27.3%); and 3,233 parcels (44.7%) purchased from earlier colonists (Rivera, 1990, p.18).

There is a notable difference in the size of holdings from one settlement to the next. In the older settlements, for example, such as Villa 14 de Septiembre, Eteramasama, Isinuta and most parts of the northern Chapare, land fragmentation through inheritance and sale to newcomers has considerably reduced the size of parcels to the point that some farmers own only two or three hectares of tillable land. Also, colonizing areas where settlement was prohibited was common, particularly in the boom years for coca between 1980 and 1985. Migrants tried to stake out parcels of land, however small, and put them into coca

production exclusively. Other contributing factors to widespread land fragmentation included: the custom of offering a hectare or less as a wedding present to young couples; the settlement of land unsafe for habitation due to flooding; and, the settling on marginal parcels on the fringes of an established colony. The net result was the disparately-sized patchwork of holdings in the Chapare.

Land tenure parameters change significantly moving east toward Tiraque and Carrasco provinces, where the average size of a holding is 20 hectares. Parcels around Yapacani (Santa Cruz) range from 20 to 50 hectares, and it is not uncommon to find two or more parcels being operated by the same family. In a word, the smallest farms are found in the "Red Zones," where coca production has predominated.

While these small plots were adequate for growing coca profitably and year-round, they lend themselves with difficulty to the substitution of larger volumes of lower-priced, seasonal, and often less assuredly marketable alternative crops.

2. Land Use

Land use diversity throughout the Chapare must be addressed if the Alternative Development Program is to have an impact. Many Chapare colonists have multiple holdings, as many as four in different parts of the region, sometimes in their places of origin. They are able to care for these during strategically-planned visits at planting and harvesting time, which traditionally coincide with feast days and therefore with family reunions. In young adulthood, a child may oversee one parcel. This practice on the one hand provides the colonist with the income needed to sustain his family; on the other hand, the geographic dispersion gives the family access to products from the tropics and the highlands that will guarantee their food security. Usually, as part of their subsistence strategy, the crops grown by settlers in the tropical region of Cochabamba and in their areas of origin are intended for family consumption.

Farm research in the Yapacani, east of the Chapare, indicates that farmers there own an average of two parcels each, located in separate areas, but in general larger than those in the Chapare. The Yapacani farmers are engaged in medium-scale dairy production and mechanized soybean production. With the wealth accumulated over the last 20 years, they have been able to purchase additional lots of farmland. By contrast, the smaller-scale, mostly unmechanized farms of the Chapare produce tropical fruits and annuals, and dairy production has only recently taken hold.

There is a marked variation in the land use capacity in different parts of the Chapare. A survey of the soils of the

tropical region determined that "56% had potential only for forestry, livestock or tourism" (Rivera, 1990, p.19). Corn yields are higher in Chimore than elsewhere; yucca yields are higher in Ivergarsama than in Chimore, etc. In general, the land use potential in CRDP's target area in Chapare is relatively limited when it comes to generating acceptable levels of income outside of coca production.

B. Migration: A Synthesis of Findings

The material below is a synthesis of information collected through group and individual interviews by the Evaluation Team anthropologist and assistant with the Chapare settler population (the "colonos"). Thirty-eight of those interviewed were exclusively farmers, two of whom were sindicato leaders ("dirigentes") at the time of the interviews; another was a leader until recently. Four of our respondents were women, and two were former IBTA promoters.

1. Demographics

Reliable demographic data are next to impossible to obtain from the Chapare because of the remoteness of much of the area and the fluidity of the population there at any given time. This was especially true during the 1980s, the time of the coca boom. The recent CERES study, for example, was conducted soon after the coca price fall, when the "floating population" was leaving the Chapare in great numbers. It was a wildly dynamic time, and the task of CERES was especially challenging.

It was not possible in any given interview to obtain information on all categories of interest, due to the nature of the interviews. In group interviews, for example, one could not always obtain detailed information from each individual on where they were from (or their parents, for those born in the Chapare), when they arrived in the Chapare, and why. The following percentages, therefore, are based on the number of persons from whom such information could be obtained.

Where these settlers are from, when they came, and why, are answered below using percentages, which are only relative magnitudes. These percentages provide a crude demographic profile of the Chapare. The group sample was small, and although it was not randomly selected, it was not consciously stratified either. Any stratification bias would have derived largely from interviewing in areas where IBTA/Chapare had been active, and in some cases, with farmers who had participated directly in the project. But this kind of stratification should have little bearing on the particular profile constructed below.

Origin of the Settlers
(N=23)

Cochabamba (excluding the Chapare)	9	(39%)
Chapare (born in the Chapare)	7	(30%)
Potosi (usually northern Potosi)	4	(17%)
Chuquisaca	1	(4%)
Tarija	1	(4%)
Santa Cruz	1	(4%)

The fathers of at least five of those born in the Chapare are also from Cochabamba. The bulk of the settlers from Cochabamba are from either the Valle Alto (not the Valles Altos Asociados, where Aiquile and Mizque are) or from Quillacollo. And by the frequent mention of Quillacollo in the interviews, one could infer that some strong forces have operated to drive people out well before the beginning of the coca boom. The profile above also suggests that a substantial number of settlers in the Chapare were born there.

It is useful to compare this profile with the one constructed by Direccion Nacional de Reconversion Agricola (DIRECO), based on their population (numbering in the thousands; the eradication program, and hence the collection of statistics, began in about September of 1987 and is still in progress) of farmers who have eradicated at least some part of their coca plantings. Although the DIRECO universe defines only eradicators, there is little reason to believe that eradication behavior varies with point of origin. The origins of the eradication population should correspond quite closely to those of the general settler population. The DIRECO profile below, then, should give a quite reliable picture of the origins of the settler population.

Origin of the Settlers

Cochabamba (excluding the Chapare)	51%
Chapare	24%
Potosi	14%
Chuquisaca	3%
Santa Cruz & Tarija	1%
Oruro	5%
La Paz	2%

Source: DIRECO, courtesy of IBTA/Chapare

It is assumed here that the DIRECO statistics for the Chapare represent persons born there rather than the location of the respondent's last residence. One has to pursue the issue of

origins carefully with settlers, because they often give the location of their previous residence, which in many cases is some place in the Chapare (and in many cases also some place outside the Chapare, yet still not their ultimate point of origin). The interviews indicate a lot of movement within the Chapare.

Of the settlers from Cochabamba (including the Chapare), more than 16% are from Quillacollo, according to DIRECO statistics. Just above 2% are from Mizque, and fewer than 1% are from Campero (Aiquile). The breakdown by origin of settlers (descending order) from Cochabamba is as follows:

Chapare.....32.1%
Quillacollo.....16.5%
Ayopaya..... 7.9%
Capinota..... 6.6%
Punata..... 5.7%
Arani..... 5.2%
Arque..... 4.7%
Tapacari..... 4.6%
Cercado..... 4.0%
Carrasco..... 3.3%
Esteban Arce.... 2.9%
Tiraque..... 2.6%
Mizque..... 2.2%
Jordan..... 0.8%
Campero..... 0.7%

Source: DIRECO, courtesy of IBTA/Chapare

It seems that the population of coca eradicators in the DIRECO files not only defines the general settler population with regard to point of origin, but also defines the floating population according to their points of origin. For the most part, the same forces--a lack of land and water--that sent today's settler population to the Chapare before the coca boom also sent the floating population there during the boom. Extreme drought and a total collapse of the national economy merely intensified those forces during the 1980s. Such population distributions by origin can be quite useful for siting development activities to thwart the migratory tide to the Chapare or elsewhere--again, the Chapare is only incidental as a migration destination. If the development schemes outside of the Chapare are viable, they may provide incentives for settlers already in the Chapare to return to their points of origin.

For fourteen persons, excluding those born in the Chapare, approximate information was obtained on when they arrived in the Chapare (not necessarily when they arrived at their present location).

Settler Arrival in the Chapare
(N = 14)

1940 - 1950	2 (14%)
1950 - 1960	1 (7%)
1960 - 1970	6 (43%)
1970 - 1980	3 (21%)
1980 - 1990	2 (14%)

This is a small sample to generalize from, but one should recall that during the 1960s, the government improved the road system in the Chapare and promoted colonization. This decade saw the first heavy influx of highlanders into the Chapare.

Information was obtained from nineteen persons regarding the reasons they left their communities of origin to settle in the Chapare. Respondents would sometimes include insufficient land and water together as a reason for leaving home, but it would seem that the land shortage may have been the determining factor. The major force driving the settler population from the highlands before the coca boom was insufficient land, with water playing a significant role. The chronic drought of the 1980s has only intensified the water problem.

Reasons for Migrating
(N = 19)

Insufficient Land or Water, or Both	11
Insufficient Land	4
Insufficient Water	1
Flooding	1
No Work	1

It is worth noting from the interviews that many settlers have moved within the Chapare, some of them several times, subsequent to their initial arrival in the region. Also, there seems to be a "floating population" within the Chapare of "peones" and "partidarios" who do not own land there. They reside in the Chapare and do not return regularly to the uplands. There are members of this population that have "floated" for years. Indeed, many of the current settlers were formerly part of this group until they could accumulate enough capital to buy land, or else form a "sindicato" and petition for it. This population segment, numerically significant, is a part of Chapare's "floating population", which is also comprised of highlanders that work only sporadically in the Chapare.

The Evaluation team has identified six groups of farmers and workers in the Chapare.

1. "Colonos" who came before the coca era; some came as early as the 1940s, but many came during the 1960s, when the Chapare "officially" opened. And several came also in the 1970s, before the coca era.

2. Those born in the Chapare.

3 Highland migrants who enter the Chapare during the off-season there; these often own land in the Chapare and will get a crop in there as well. This migration existed before the coca era and will continue after it is gone.

4. Farmers who came to grow coca during the boom. Some of them are leaving the Chapare today because of the drop in coca prices.

5. "Floaters" who come to work coca or in coca-related activities. They are leaving because of drop in price (but will not necessarily return to whence they came).

6. The "floating population" of landless "peones" and "partidarios" within the Chapare.

In the Evaluation team's judgement, those persons with the greatest commitment to the Chapare fall in Groups 1 and 2 above, i.e., those farmers with historical ties to the area. They are quite numerous in the Chapare today. From information gathered in the High Valleys, it would seem group 3, seasonal highland migrants, is relatively small. Those in this group will continue to go back and forth as they did before the coca boom. Group 5, the floating population, has also departed. This finding emerges clearly from interviews in both the highlands and in the Chapare.

Many of those interviewed commented on neighbors who have returned to the highlands, at least temporarily. For example, according to one farmer, five families from his "sindicato" (with 45 families) left the Chapare for Cochabamba when the coca price fell. Another grower, a "dirigente", estimated that 10% of the families of local "colonias" (90 families in his "sindicato") left the Chapare in search of work when the coca price dropped. Some returned to their highland communities of origin, others went elsewhere. This farmer believed that those who had left had only departed temporarily and would be back, for they had farms in the Chapare and considered the area home. Yet another farmer said that five families of his "sindicato" (estimated at 60 families) left for their "estancias" (highland ranches with sheep or camelids) when the coca price fell, but would return. This latter group of most likely returnees are members of Group 3, the highland migrants.

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It is hard to know what is happening to Group 4, or how large it is (the table above on settler arrival would suggest it to be small--about 14%); it is almost impossible to gather numerical data on its members. Some of those recently departed settlers mentioned in the above paragraph may belong to this group. It would seem that persons in this group are largely undecided about their future and are reluctant to eradicate their coca plantings, at least on any scale (only enough to obtain money for food for the near term), because the price of coca could rise. This group is likely in a serious bind as they have no place to go, which is why they came to the Chapare in the first place. Members of this group very likely farm small holdings, on poorer soils in the remoter areas. They have few alternatives to coca. There are hungry people in the Chapare today, many of them are members of this group.

2. Coca in the Household Economy of the Chapare Settler

From the point of view of the small Chapare farmer, coca has several positive attributes. First, coca yields from three to five harvests per year, depending on the farm's conditions of soil and moisture. It can therefore provide income frequently. Second, coca will perform better than almost any other crop under poor agro-ecological conditions (which prevail over much of the Chapare); if the price is up, even low yields can provide an attractive return. Third, coca is light of weight, and so can be readily conveyed from the numerous farms far from access roads. And fourth, a small amount of coca (0.5 to 1.0 hectares) can provide a satisfactory income if the price is good. A family with little land can live from coca, whereas it could not from any other crop. And respondents were forever pointing out that there was no alternative to coca--no market for anything else.

Any one of three factors--poor agro-ecological conditions, a lack of roads, small landholdings--favor the production of coca to the exclusion of other activities. To the extent that a farm is characterized by more than one factor, the production of coca is further favored. Although numbers are not available, it is clear that the Chapare settler population facing at least one of these factors is substantial. A matrix (a model, really) could be constructed on the basis of these factors and geographic areas (or "sindicatos" and "colonias") located on it. Such a scheme to reference geographic areas of the Chapare could be quite useful in future decisions to establish research and extension priorities by geographical zones.

The scheme could also be useful to locate populations whose commitment to the Chapare is probably less, and who might be the first to respond to incentives to relocate. In the Evaluation team's judgement many of the settlers who entered the Chapare

from the late 1970s forward (during the boom years) face at least one of these limiting factors. This would include members of the nebulous Group 4 described in the "Demographics" section above.

We often asked farmers what the local price of a carga (=100 lbs. of dry leaf) of coca was. Responses ranged from 100 bolivianos to 200 bolivianos. The variation in response is attributable to at least three causes: real price variation from one area of the Chapare to another; short-term price volatility in a given area (within just over a week after the team left the Chapare, the price in one community near the Isiboro-Secure Park climbed to 280 bolivianos), so that not all farmers are aware of day-to-day price swings in the area and thus cannot quote the current price; and a relative lack of attention to price by those farmers not now producing (or selling) coca.

Because coca can yield from three to five harvests per year, depending on its location in the Chapare, maintaining a coca field can be a viable strategy even with volatile prices: if the price is low during three harvests, it may be high during the fourth, thereby contributing to family income.

Chapare settlers interviewed were asked what they considered a good price (which was sometimes interpreted to mean a price at which only costs were covered, at other times a price at which some profit could be made). Respondents quoted prices ranging from 100 bolivianos (only one case) to 300 bolivianos per carga. What one family needs to support itself is not what another one needs, and land size and agro-ecological conditions differ from farmer to farmer. Costs of production are higher on some lands than on others, for instance. It seems from these responses that a price of about 180 bolivianos per carga is a lower threshold of attractiveness for most farmers (about 3.19 bolivianos = $1.00 U.S. at the time of the interviews). To the extent that the price rises and remains above this figure, coca becomes an attractive crop.

For growers, the price for coca should remain at a stable, "attractive" level, as price volatility (of a kind that seems to be occurring with greater frequency now) deters farmers from producing coca which cannot be stored. Farmers from six interviews cited the importance of <u>price stability</u>. The issue is complex as farmers at the moment are having difficulty factoring out seasonal fluctuation from fluctuation caused by the possible success of international control efforts, which may signal longer term trends. Although the price trend since last year has been downward, the price at present is rising. However, the coca price always rises in this season, as a review of monthly averages over the past four years reveals, because coca is scarce: less moisture and lower temperatures cause lower yields.

With the bountiful summer harvests from January to March, the price typically drops.

Because of these price swings, many farmers in the Chapare today agonize over whether to eradicate their coca. According to one man interviewed, former military president Hugo Banzer told Bolivians that coca would disappear by 1972. Many in the Chapare then eradicated their coca and began to raise cattle. And then the coca price rose in the late 1970s and 1980s, so that those who had gone into cattle grew poor. Farmers, according to the one interviewed, are wary of repeating this experience.

A common strategy seems to be to eradicate a part of one's coca plantings. This partial eradication is often forced by economic necessity: a farmer cannot afford to hire the labor to harvest a large area, or else he needs the space for another crop that has some market potential. One farmer interviewed, a "dirigente", eradicated 1.5 has. of the 2.0 has. he had. Farmers in his "sindicato" who had eradicated had retained 0.5 has. as security, he said, and were waiting to see how the price would behave. He estimated that 50% of the farmers in his "sindicato" had eradicated 70% of their coca, 15% had eradicated all of their coca, and 35% had not eradicated anything. Only two farmers from the eight interviews in which the eradication issue was discussed had eradicated their coca plantings entirely.

Farmers variously said that they would not eradicate (at least all of their coca) until they were assured of a viable alternative, or until they saw what happened to a neighbor who did eradicate, or until they saw how the non-traditional crops promoted by IBTA fared both agronomically and commercially.

Three farmers interviewed discussed what they did with the DIRECO money they received from eradication, (a somewhat delicate topic). One farmer had invested the money in pastures and dairy cattle. The second farmer had three uses for his eradication money: pastures and dairy cattle investment, purchasing coca leaves for resale (as a "rescatista"), and savings. A third farmer had used half of his money to buy tree crops from IBTA and the other half to buy a house in Cochabamba so his children could attend school there.

Pasture and dairy cattle are being purchased largely in response to a project sponsored by Swedish Protestants to establish a dairy operation in the region. However, there is some question as to whether the milk-producing capacity of the Chapare will make the operation economically viable.

3. Life in the Chapare: The Settler Perspective

The settlers were asked to discuss their likes and dislikes about the Chapare. In ten of the interviews, respondents cited the productiveness of the land (as compared to other places that had not been productive for them because of drought or insufficient land). This broad assessment was often coupled by amplifying remarks such as,'You don't have to scrounge for food here','There's more money here than in Cochabamba','There's ample water here (two cases),'At least you can eat in the Chapare', or 'The Chapare is work, production, and land'. In one interview the respondents noted that in the Chapare there were fruits, fish, and wild game--something to be had year round. One remarked,'The Chapare is a paradise'. One farmer said everything was good about the Chapare (after he had cited several negative characteristics). In some cases, such appraisals seem to reflect a deep commitment to the Chapare.

The Chapare also has a down side for the settlers. Respondents from five interviews cited the presence of disease--anemia, to which children are especially susceptible, malaria, yellow fever, and parasitosis. One respondent said that families often leave their children with relatives in the highlands. Respondents in another interview said that they did not see the Chapare as a future place for their children. It is of interest that respondents in four of these five interviews had spent twenty or more years in the Chapare.

Respondents in five interviews mentioned mosquitos as a negative attribute of the Chapare, and those in four interviews cited the heat. Two older farmers, both with twenty or more years in the Chapare, were looking for lands to buy near Cochabamba to escape the heat and mosquitos of the Chapare.

Two respondents cited a lack of markets for agricultural products as a negative feature of the region. Other complaints included a lack of development in the Chapare, and a lack of roads, electricity, and good educational facilities. Respondents in three interviews cited the abusive treatment that farmers received from UMOPAR as a negative feature of the Chapare. They said: 'UMOPAR does not treat them like humans, it bullies them about, and confiscates their property and resells it'.

Several persons interviewed, all born in the Chapare, said they would leave the Chapare if they had lands and opportunity elsewhere. Another respondent, a twenty-five year resident of the Chapare, said that he would return home (to Arque) if he had land and water there.

On balance, it would seem that the Chapare is far from a paradise for many settlers. Although there are settlers committed to the Chapare at all cost, there is evidence to suggest that many others are not so committed. If there were

attractive alternatives outside the Chapare some would likely leave the area.

C. Technical Production Packages

1. Summary

The two product studies summarized here are not directly comparable. They begin with different base years, rely upon different data, and proceed by different analyses. For instance, pineapple did not figure in the Linear Programming (LP) models, but appears to be the most profitable in the second, or budget, study. In addition, there was no differentiation by farm size, no constraints upon labor availability, nor upon capital required in the budget studies.

From a production point-of-view, cropping systems developed at the two Experiment Stations in the Chapare could increase net incomes over those earned by traditional production systems. Perhaps some are even superior to the net income from coca production, if the LP results are correct.

While neither of these production system studies claims to be definitive, together they suggest a positive view of prospects for agricultural production alternatives to coca. Whilst coca production clearly had a comparative advantage over the other choices historically available, it may no longer be so clearly advantageous compared to the developing prospects for crops such as pineapple,coconut, ginger, etc.

2. Production Study

A study was done by IBTA in 1986, gathering production data from 253 farmers chosen at random from a population of about 1000. The study centered upon five colonies near Ibuelo, Chapare. Two farming systems based upon traditional land uses were defined:

a. Rice/yucca in year 1; coca in years 2 - 10; oranges in years 3-15.

b. Banana/rice in year 1; banana/orange in years 2-10; orange in years 11-15.

Five proposed production systems were constructed from the data of IBTA-Chapare at the Chimore Experiment Station, a few kilometers from the study area. The proposed systems were:

a. Beans/pepper/yuca/laurel(bay leaf) year 1; maize/cowpeas/desmodium(cover crop) year 2; pepper/laurel/desmodium years 3-10; laurel years 11-12.

b. rice/orange year 1; beans/kudzu (cover crop) year 2; orange/kudzu years 3-12.

c. Rice/cowpea/coconut year 1; maize/yucca year 2; peanut/desmodium year 3; coconut/desmodium years 4-7; maize/yucca/coconut year 8;peanut/coconut year 9; camote/coconut year 10.

d. Rice/banana/cocoa year 1; cowpea/laurel year 2; banana/cocoa/laurel years 3-4; cocoa/laurel years 5-10; laurel years 11-12.

e. Palmito (heart-of-palm) years 1-12.

The systems use annual crops whilst permanent crops are becoming established, and later as lower-story intercrops.

Four farm sizes were used to model the production systems, based upon the frequencies obtained from the survey data.

Stratum	Farm Size	% of Farms	Hectares		
			Available	Cropped	% Used
1	up to 5 Ha.	47.5	3.85	1.90	49.4
2	5.1- 10 Ha.	41.9	8.15	4.21	51.66
3	10.1-20.0 Ha.	9.5	13.85	6.82	49.21
4	over 20 Ha.	1.1	26.65	8.01	30.03

Total resources available for each of these model farms were taken from the survey data. (Table 1)

Linear programming was used to estimate the mix of these seven cropping systems that would yield the maximum net income over the periods of the systems. Annual net incomes were summed to present values, using a discount rate of 12%. The first run allowed only the quantities of resources to be used as shown in Situation 1 of Table 2. The calculated optima were:

<u>Net income receive per hectare in Bs.</u>

	Size of farms			
	(1)	(2)	(3)	(4)
Net/Ha.	1.955.39	1,908.86	1,889.54	1,887.33

The first thing to notice from this table, is that the traditional production system including coca (the leaf from which cocaine is produced) does not enter into the optimal solution for any of the four farm sizes. The second item of note is that the present value per hectare is nearly the same for all four farm sizes. In fact, it is slightly larger for the smallest farm, and slightly smallest for the largest farm. The limiting factors, as indicated by calculated shadow prices were land, for the smallest

Table 1

Availability of Total Resources of the Farms According to Farm Size

Resource	Unit	Up to 5 Ha.	5 to 10 Ha.	10 to 20 Ha.	More than 20 Ha.
Land	Ha.	3.85	8.15	13.85	26.65
Labor	m/d	447.19	563.56	607.81	725.00
Work.Capital	Bs	3,491.61	2,294.44	11,390.68	13,250.94
Invest. Cap.	Bs	2,003.76	4,663.87	7,616.15	9,583.02
Resources: Physical	Bs	4,919.09	6,199.16	6,685.91	7,975.00
Financial	Bs	5,495.37	11,958.31	19,006.83	22,833.96
TOTAL		10,414.46	18,157.47	25,692.74	30,808.96

* The labor resource was valued at Bs 11.00 per man day of labor.

Table 2

Optimal Solution: Situation 1:

Levels of Productive Activities and Value of the Objective Function, according to Farm Size.

Type of System	Size of Farm (Ha.) Up to 5.0	5.1 to 10.0	10.1 to 20.0	More Than 20
Traditional				
1	--	--	--	--
2	--	--	0.40	0.47
Proposed				
1	--	--	--	--
2	2.55	3.61	3.43	4.09
3	0.06	--	--	--
4	--	--	--	--
5	0.08	1.28	3.19	3.80
TOTAL	2.69	4.99	7.00	8.36
Objective Function	5,260.01	9,525.19	13,226.75	15,778.10
Net/Ha.	1,955.39	1,908.86	1,889.54	1,887.33

* Net income received is a combination of systems according to Size of Farm.

farm; labor in several months for the three larger farms; and investment capital for the smaller two farms.

The fourth run (Situation 4) Table 3 allowed hired labor and borrowed operating and investment capital in addition to that given in table 1. The calculated optima are shown in the following table.

Net income received per hectare in Bs

	Size of farms			
	(1)	(2)	(3)	(4)
Net/Ha.	2,463.79	3,081.45	2,650.51	1,837.43
Net Gain	508.40	1,172.59	760.97	-49.90
% Gain	26.0	61.4	40.3	- 2.6

The smallest farm uses the same amount of land in the first and last solutions, but changes the mix of cropping systems. Shadow prices indicate that land is the only limiting factor for this model farm of less than 5 hectares. The three larger farms all increase their land utilization, and their mix of production systems. The middle two sizes increase their net incomes per hectare as a consequence, while the largest size actually reduces net income per hectare by a small amount, compared to that earned in the first solution. This last result is unexplained. Labor remains a limiting factor in several months of the cropping year for the larger three farm sizes. This also is unexplained, since this solution allowed hiring supplemental labor without limit. Shadow prices indicate that land also is a limiting factor for the three larger sizes of model farm.

This exercise gives rise to several suggestions:

a) Net incomes can be improved by switching from traditional production systems to some mix of those new ones tested here.

b) Access to short-term operating credit, and long-term investment credit are the two factors that allow most of the indicated improvement in incomes.

c) Employment of short-term hired labor would increase with switches from the traditional to some mix of the proposed new production systems.

d) The mix of agricultural products would shift from coca, rice,banana,yuca & citrus, toward coconut,black pepper, citrus,palm heart, with continued production of some beans,rice,maize as annual and inter-crops. The changes in

Table 3

Optimal Solution: Situation 4 (Buying Capital and Labor)

Levels of Productive Activities and Value of the Objective Function, according to Farm Size.

Type of System	Size of Farm (Ha.) Up to 5.0	5.1 to 10.0	10.1 to 20.0	More Than 20
Traditional				
1	--	--	--	--
2	--	--	--	--
Proposed				
1	--	0.60	2.26	1.07
2	--	--	1.25	12.50
3	2.69	5.10	5.05	1.56
4	--	--	--	--
5	--	--	1.12	3.54
TOTAL	2.69	5.70	9.69	18.67
Objective Function	6,627.59	17,564.29	25,683.47	34,304.84
Net/Ha.	2,463.79	3,081.45	2,650.51	1,837.43
Net Gain	508.40	1,172.59	760.97	49.90
% Gain	26.0	61.4	40.3	2.6

* Net income received is a function of the combination of systems according to the Size of Farm.

quantities could be derived from the data of this report, but there is not time to do so for this review.

e) The smallest of the model farms, averaging about 2.7 hectares of cropland, would yield a more acceptable level of farm family income if cropped hectares were doubled to match that of the next largest model. This would put about 89% of the farms in the study area together into the second category of size, averaging about 5.7 hectares of cropland each.

3. Budget Study

In April of 1990, IBTA-Chapare published "Costs of Production of Agricultural Systems" as a guide to the selection of cropping systems in the Chapare. The technicians who prepared these data are fully aware of their necessarily subjective nature, since they are budgets, not mathematically programmed solutions.

Labor is assumed to cost $US 3 per man day (Bs 9.60), and other costs and prices were assumed at an average of those that currently obtain in the area. All budgets were prepared on the basis of US dollars per hectare. The systems are calculated over production periods ranging from four to twenty years. For this analysis, all labor was assumed to be supplied by the family. Labor and depreciation therefore constitute the non-cash costs of production, there being no data for investments required. The net family income figures shown here are therefore net of cash production costs, labor and depreciation. They are the combined return to invested capital and entrepreneurship.

The following table summarizes the estimated profitability of thirteen alternative production systems. The streams of annual net family income were discounted at a rate of 13%, which is the current interest charged by PL 480 for credit extended to farmers in the Chapare. The sum of the discounted stream of annual returns is divided by the years of the flow, giving an average income per year generated by each system.

Net Present Value per Hectare of Selected Production Systems in the Chapare

Crop	Years	present value at 13% total	per year	18%
1.Pineapple/Gandul	4	21,192	5,298	4,848
2.Coconut	12	19,916	1,660	924
3.Papaya/Ginger	4	2,325	581	381
4.Banana	6	1,968	328	260
5.Coffee	14	4,275	305	198
6.Black Pepper	12	2,656	221	45
7.Palm Hearts	20	4,370	218	122
8.Coffee/Tembe	14	3,043	217	109
9. Coca			195	
10.Dairy Cows/Pasture	6	1,163	194	183
11Achiote(colorant)	15	1,382	92	47
12.Citrus	9	715	79	16
13.Rubber	20	322	16	-75
14.Tea	15	-1,196	-80	-102

The average annual net return, discounted to present value, ranges from a high $5,298 for pineapple to a negative $80 for tea. The estimated returns for pineapple and coconut are suspiciously high. Production levels and prices should both be looked at with some care, before these systems are promoted to farmers.

A new policy may untie credit from the US dollar, resulting in a rise of interest rates to 18% or more. The last column in the table shows the effect of this discount rate upon net profit. Raising the discount rate always reduces the present value of a stream of incomes, but it hits especially hard at those crop systems that require large investments in the first year, and that require several years for production to begin.

Negative numbers in the table indicate that investments cannot be recovered, and/or that the family must work for wages less than those that obtain for hired labor in the area. Land in the predominate second-growth forest of the Chapare can be cleared for crop production at an estimated cost of about $120 per hectare. But there is little of this land left in the areas of potentially high production. The alternative is to buy land already cleared and in production, presumably in coca. The opportunity cost for such land is at least $2000 per hectare, and probably more. The interest on this investment at 13% would be about $260 per year. Only four of these production systems would allow a positive return upon such an investment.

(Production Budgets for the Second Study may be found in the Appendix.)

This exercise used detailed production budgets for coca, obtained from IBTA/Chapare. They were calculated in 1988, for an area in Sub-region 1, thought to be the most productive area in the Chapare. In this budget, cash costs include hired harvest labor, while all other labor is charged to the farm family. Prices used are $US 3 per day for labor, and $US 80 per hundredweight of dried coca leaf, delivered at the local market. Other costs are taken at prevailing local rates.

The general practice is to harvest the crop during seven or eight years after planting, after which yields decline while fixed overhead remains largely unchanged. These budget data were summarized through year 13, at which point net losses are mounting rapidly. For this comparison to alternative crops, the plants are assumed to be pulled up after year seven.

Labor for harvesting is by far the single most costly item in the budget. In year five, at the height of the production cycle, harvest labor requires 840 man/days, and drying another 104 man/days. This is a cost of $US 5866 per hectare, and is about 85% of total costs. This helps to explain the large number of transient workers who find work in the Chapare during the three periods of coca harvest each year.

Comparing this net present value of coca to those of alternative cropping systems, gives a notion of the degree to which the alternatives might be seen as a viable economic (not to say social) option for Chapare farmers. If these data are even approximately correct, they explain the large number of farmers willing voluntarily to reduce coca hectares for alternative crops.

D. Urban Centers

There are no urban centers in the Chapare as yet, for several reasons. Road communication through the Chapare from Cochabamba to Santa Cruz recently has been improved, allowing busses and freight trucks reasonably quick passage. This has led to an increase in gasoline stations and small restaurants, etc. along the road, but not in any concentrated fashion. There is an increasing demand for electricity, potable water, clinics, and improved schools to serve the population scattered in local villages.

There probably will be no development of an urban center without provision of the infrastructure. There will be few agroindustries or other small businesses locating in the region until the infrastructure is in place. Middle-level managers, technicians, and skilled workers will resist locating their families away from amenities. Technicians of the Experiment Station at La Jota, for example, live in Cochabamba. They bunk at the Station for 10 days, and then have four days off to visit

their families at home. If they could not commute, most of these technicians wouldn't work in the Chapare at all.

In a relatively free economic/social system, no one plans for the development of an urban center; one may arise out of the natural market processes. A negative influence can be exercised by denial of the necessary infrastructure to the region. This has been done to a certain degree with respect to roads and electricity in the Chapare in order to avoid aiding coca production, processing, and transport. These decisions, especially on transport limit development in the non-coca economy equally. A hundred dollars worth of dried coca can be carried on a man's back, with no roads at all. A hundred dollars worth of bananas requires a truck and a passable road for transport. This point was neglected by whoever decided that roads would help coca transporters. Even if roads initially aided the coca industry, in the longer run, roads would lead to the growth of a Chapare urban center. Such a center would aid development of the non-coca agroindustries and improve the economic potential of crops substituted for coca production.

E. Credit

1. Eligibility

Farmers who can present a certificate of eradication of coca from DIRECO are eligible to apply for PL 480 credit. Initially, the program allowed a maximum of US$ 20,000 in credit to a farmer certified to have eradicated all of his coca. One hectare was as good as ten, provided the eradication was total. In September of 1989 the formula was changed to reflect both the number of hectares eradicated, and the percentage that this represented of the total area farmed. The maximum loan remains at US$ 20,000, with the minimum loan (based on 100% eradication of a 100 square meter plot) is $2,000. The Chapare is a region of voluntary coca reduction according to Bolivian law. This means that farmers can retain the coca they had in production at the time Law 1008 was promulgated, July 19, 1988; however, new coca plantings were prohibited. If farmers choose to reduce their coca plots they are eligible for incentive payments of US$2,000 per hectare eradicated as well as certificates fulfilling one of the eligibility requirements for PL 480 credit. DIRECO is responsible for measuring and verifying the area farmers (and communities) have in coca, as well as making reduction incentive payments and providing certificates attesting to the area and percentage reduction farmers have made. Certification is done by DIRECO teams consisting of an agronomist, topographer and driver, who, in addition to measurement, conduct a short socio-economic assessment of the family and determine the age of the plants (coca less than two years old is not eligible for payment and must be destroyed). This process generally requires three

separate visits, and may take two to three months altogether. DIRECO certificates are valid for one year only, after which they must be renewed, a process requiring a follow-up visit by a DIRECO team.

Having obtained a DIRECO certificate, the farmer applying for PL 480 credit must also be able to show clear title to his land. This condition may eliminate half the farmers in the Chapare. Land titles for the organized colonization were issued to the "sindicatos", or settlement groups. Although farmers were allocated land within the group area, and have been farming it, many of them still do not have titles. Several efforts have been made to push forward the titling process, but so far without much success. A new effort is to be made in October of 1990. Farmers who bought land from original colonists, with permission from the INC (National Institute for Colonization), were issued fee-simple titles. Spontaneous settlers may also have fee-simple titles, if they have processed their claims.

The third requirement for PL 480 loan eligibility is that the applicant complete the relevant short-courses, offered by IBTA/Chapare, in the proposed cropping system. Since IBTA serves more farmers than those interested in the PL 480 program, and has limited instructors, it sometimes happens that a potential credit client cannot find the relevant course just when he needs it, thus delaying the completion of his credit application. To date some 800 farmers have taken IBTA/Chapare courses of all types.

A complication has arisen for potential clients intending to go into the small fluid milk business in the Eastern Chapare. A UN group has been working to establish a milk processing plant at Ivergarzama, and has been giving short-courses to potential suppliers there. But IBTA/Chapare has not been recognizing these courses for PL 480 certification and so, of course, neither did PL 480. An agreement has been signed recently where the two sides agreed to recognize each other's courses.

2. Terms and Interest Rates

PL 480 obtains its funds from USAID at the rate of 8% and is allowed a 5% margin to cover operating costs. Loans to farmers are denominated in U.S. dollars, but dispersed at the current exchange rate in bolivianos to the client. Principal and interest at 13% per annum must be repaid in dollars, at whatever exchange rate obtains at the time of repayment. Thus, the borrower must accept all of the risk of inflation in the local currency versus the US dollar. The maximum loan term for investment capital is ten years, with a maximum grace period of four years. For working capital the maximum loan term is two years, with no grace period.

3. Creditworthiness

The credit check of applicants consists of determining that he/she has no outstanding loans from PL 480, or from the Agricultural Bank (no longer functioning in the Chapare, but with a small portfolio outstanding). No check is made on non-institutional loans, or on other outstanding obligations. The local PL 480 loan agent makes a farm visit to determine that the applicant is a bona fide farmer, and to review the farm plan submitted as part of the credit application. The loan is based on coca reduction, but the farm plan is expected to show that loan repayment is feasible.

Farm investment plans are usually made based on model farm plans recommended by IBTA for each of Chapare's seven microregions, modified by farmer goals and the PL 480 program's concern over financing crops for which there is no local production or marketability track record. These concerns have led to a high percentage of loans going to traditional crops, such as citrus and bananas. In developing the farm plan PL 480 agents attempt to strike a balance between slow-maturing perennial crops and annual crops whose income is needed to support farmers in the interim before the perennial bear fruit. As the conditionality of the program limits the loan size according to the amount of land that a farmer had in coca and the percentage he reduced, farmers who had little in coca to start may have limited investment options.

PL 480 agents include non-farm income, if any, when estimating the likelihood of loan repayment. Prospective income from remaining coca production is excluded, as is any income from rural or urban property not in the Chapare or Cochabamba. The US$ 2000 bonus per hectare from DIRECO per hectare of coca eradicated is also excluded.

Loan processing time is minimal, averaging only ten days between the time the loan application is fielded and the time the loan is approved or rejected. The maximum time a loan application has taken to process is 15 days. To date, less than one percent of all project-related loan applications have been rejected.

4. Security

Mortgages are taken on the farm of the applicant in the Chapare, and on all urban real property owned in the Chapare and/or Cochabamba, but not outside these two places. Crop, livestock and movable property liens are accepted for smaller loans, or in combination with mortgages for larger loans. Since liens are inherently less secure than a mortgage, they require

more supervision by the loan agent. Loan guarantees by a third party sometimes are used as additional security for a loan.

5. Disbursement and Supervision

PL 480 loans are disbursed as required in the borrower's production operations, and are in-kind wherever possible. The loan officer must certify that at least 80% of a previous disbursement was used for the agreed purpose, before an additional one can be made. All disbursements are made by check drawn upon the Bank of Cochabamba in Villa Tunari, the only functioning bank in the Chapare area. PL 480 loan agents are agronomists and most have experience with agricultural credit as well. Each borrower is visited three times a year, primarily to check on the use of borrowed funds, but also to extend technical assistance and advice.

Supervision visits, where IBTA agents also provide technical advice, are now concentrating on farms where borrowers show the intention of making partial interest payments. Towards this end, agents have adopted a flexible approach to repayment scheduling which fits the income generation timetable of the newly planted crops. The lack of highly profitable annual crops whose income could cover interest payments until perennial crops start producing is one problem the lending program faces, and one which has no immediately obvious solution.

Supervision visits are turning up a substantial number of loans where borrowers have failed to make planned investments. If the IBTA agents are not able to persuade the farmers to follow through on their original planned commitments, or make alternative, acceptable plans, then the agent turns these cases over to IBTA's legal department.

Disbursements in the Chapare by Microregions

Microregion	1989 Amount	1989 %	1990 (1st Semester) Amount	1990 (1st Semester) %
1	118,222	11.6%	37,226	9.6%
2	181,822	17.9	84,800	21.8
3	301,878	29.8	125,365	32.2
4	16,353	1.6	20,200	5.2
5	25,150	2.5	23,900	6.1
6	41,810	4.1	52,344	13.5
7	327,595	32.3	45,560	11.7
Total	**1,012,830**	**99.8**	**389,395**	**100.0**

6. Program Resources

The PL 480 lending program has US$ 17.5 million assigned to it. The actual availability of money depends partly on the recovery of loans made under earlier programs. These include US $11.5 million under the Emergency Agricultural Fund (FAE); US $4 million in Small Farmer Credit under the Financial Line of Title III; and US$ 2 million in the Emergency Agricultural Credit Program (CAE). There have been repayment problems in these funds. The Operating Plan for 1990 calls for 1,800 loans totaling US$ 11.7 million in the Chapare.

7. Lending Activities

As of the end of June, 1990, 904 loans totalling US$4,781,767 had been granted. Of these, 21% correspond to the Villa Tunari office, 64% to Chimore and 15% to Yapacani. Sixty percent of the loans have gone to agriculture, 28% for livestock and 12% for buildings and machinery. Seventy-eight percent of the amounts approved have been disbursed.

Nearly 60% of loans for livestock were granted for the eastern micro-region of BuloBulo and neighboring Yapacani. The half of the portfolio in crop loans is divided about 60% for traditional crops (including banana and citrus) and 40% for non-traditional crops. Traditional annual crops (rice, corn, manioc) account for only 1.3% of the crop loans. The PL 480 program considers that these traditional crops are produced for family consumption and generate very little cash flow by which debt could be serviced. Traditional perennial crops of banana and

citrus account for nearly 58% of the crop loan portfolio. Some concern over market absorption has been raised due to an additional thousand hectares of banana and 600 of citrus that have been planted, and soon will be producing.

Nearly 54% of crop financing for non-traditional uses went to pineapple, for which no market is yet known. At most 16% went to coffee, and even less to papaya, macadamia nuts, black pepper, tea, and some exotic spices and colorants such as "achiote a"nd "tembe". Markets are uncertain for these crops as well.

The number of loans in the first semester of 1990 is 28% lower than for the same period in 1989, and the average amount loaned is down by nearly 31%. The Yapacani area, just east of the Chapare Project area in Santa Cruz, maintained average loan size and increased the number of loans dramatically, primarily for livestock. Total lending in 1990 has been about 38% of that in the comparable period last year. There are no analyses of this phenomenon. Nearly half of the decline might be accounted for by the PL 480 cut-off of farmers in Microregions where some leaders of the sindicatos were urging borrowers to treat PL 480 loans as Government grants. DIRECO has fallen behind in its certification activities, due to the high volume of eradication this year. It is also periodically short of GOB funds from which to pay the US $2,000 per hectare eradication bonus. It tends to hold up the certificates until there is cash on hand to pay the accompanying bonus. The turf fight over acceptance of UN training certificates, and scheduling problems for IBTA/Chapare training may have delayed processing of some credit applicants this year.

It may be that those farmers not already in the PL 480 program prefer to finance their switch from coca to alternative crops from other sources. PL 480 data indicate that borrowers in the first semester of 1990 eradicated 735 hectares of coca and planted upwards of 8,000 hectares to alternative crops. Of these new crops, only 39% have been financed through PL 480. The other 904 borrowers eradicated an average of 0.81 hectares of coca, and planted an average of 2.8 hectares of alternative crops, 3.45 of which were financed by PL 480. These data suggest that the PL 480 credit program is not seen by farmers to be highly advantageous.

8. Loan Repayment

As of the end of June 1990, 64.4% of all PL 480 loans in the Chapare (and Yapacani) were overdue, representing about 74% of payments on interest and 71% on the principal. This is about a 30% recovery rate, and is well within bankers' usual definition of disaster. Field interviews suggest that many borrowers misunderstood that they were required to pay interest, even though loans for permanent crops usually carried a multiple-year

grace period. A few sindicato leaders are suggesting that borrowers not repay PL 480 loans, with some apparent success. There also has been dissatisfaction with the 13% interest rate, compared to the 5% paid by borrowers in a UN Project in the neighboring Yungas. Some of the non-performing loans may just be bad loans, and should be written off. But there are no reserves in the PL 480 program to cover bad loans. As of the Annual Report of November 1989, operating costs were exceeding the allowed 5% spread by 1.7%, including some non-recurring start-up costs. This condition of near self-sufficiency would be threatened by unrecovered loans and unpaid interest.

9. Operating Issues

The credit program has incurred extra expenses recently in order to provide rapid response to loan applications. These expenses will be reduced once the initial demand for loan processing has been met. Loan application approval is slowed somewhat by the poor state of roads in the project area, which given travel times, diminishes loan agents productivity by allowing them to visit only four clients a day at best.

The computer program used for accounting is not quite satisfactory, but was written by a firm in La Paz and cannot be modified by anyone in Cochabamba. A qualified systems analyst is required to supervise the accounting and reporting systems in Cochabamba. For some reason, the credit program is not being taken up by large numbers of farmers as anticipated. A small sample survey of a hundred each of users and non-users might identify these reasons, and would be useful for marketing the credit program.

A determination must be made whether the credit program should be continued to be operated by the PL 480 program, which is not a traditional lending institution, or an indigenous banking entity. This determination hinges on the interest of Bolivian banks taking over the program, and the possibility of their running the program at a lower cost than the PL 480 program, and in a more efficient manner.

Given the slack in demand for PL 480 credit by Chapare farmers, a more aggressive publicity campaign advertising the program and its benefits may be helpful. This could take the form of radio advertisements and pamphlets distributed by project representatives and canvassers.

10. Traditional Sources of Credit

Traditional money-lenders operating in the Chapare provide an alternative source of credit to farmers. In a way they constitute the "competition" to the PL 480 program since there are no other institutional lenders. If PL 480 borrowers also

take out loans from money-lenders, such loans will take first priority in repayment and can therefore compromise what might have been an adequate debt-payment capacity of the borrower. It would be worthwhile to learn how the money-lenders are able to make good on their loans.

In addition to money-lenders, there are also "rescatistas", who pay advances against the coca crop. However, time for field work was not sufficient to investigate either type of non-institutional credit. Unlike traditional areas of Bolivia, where non-traditional sources of credit have been investigated extensively, there is little in the way of literature on this subject in the Chapare. The PL 480 program should learn more about the need for and use of non-traditional credit in the Chapare, both to improve loan recovery and to determine other financial needs of potential program participants. If needs not covered by the program could be included, it might encourage more people to participate in the PL 480 credit program. Such needs might include emergency loans for borrowers in good standing who have health or family emergencies.

F. Instituto Boliviano de Tecnologia Agropecuaria (IBTA/CHAPARE)

IBTA/Chapare is the only manifestation of PDAR and the project in the region. Few Chapare farmers know what PDAR is but many of them have heard of IBTA. IBTA/Chapare has enjoyed a very special relationship with USAID, through PDAR, and has been funded generously. Some of the best researchers in tropical agriculture in Bolivia work for IBTA/Chapare. For the past five years, IBTA/Chapare, operating out of its two research stations, Chipiriri and La Jota (in Chimore), has been the major focus of efforts to find substitutes for coca and to promote alternative development.

In the minds of many Chapare farmers and their "sindicato" leaders, IBTA/Chapare became associated with the repressive UMOPAR/DEA apparatus. To some, their extensionists were merely civilian spies of UMOPAR. Under these circumstances, these extensionists could not work effectively in the countryside. No diagnostic surveys could be conducted because farmers thought that extensionists were looking for coca. Indeed, it was dangerous to venture far from the research stations, and some IBTA/Chapare personnel had their lives threatened. The few early community "promoters" who volunteered to serve as liaisons in the communities were sometimes ostracized or even physically assaulted by local residents. The extension scheme in use by IBTA/Chapare today derives from this setting, which profoundly conditioned it.

As long as the coca price remained high and conditions in the valleys and highlands of Bolivia remained wretched, phrases like "coca substitution," or "alternative development," or

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"development of the Chapare" had a hollow ring to them. In addition to this, the ecological constraints to development alone are formidable in the Chapare. The soils tend to be low in nutrients and highly acid, and it rains continuously in large parts of the area. But soils are quite variable from one part of the Chapare to others.

Because of this variability, IBTA has divided the project area of 450,000 hectares into seven subregions (or microregions), which are defined largely by agro-ecological criteria, particularly broad soils categories. These subregional divisions guide IBTA's work. Each subregion represents a separate agro-ecological system. Each is broadly suited for certain crops and not for others. Subregions I and III have the highest potential, and so can accommodate the greatest range of crops. But the complexity does not end there. Soils vary also within subregions. There are soil mosaics whose potential is superior or inferior to the soil quality of the subregion. Thus, two neighboring farmers may have substantially different soils.

Soils are not the only varying factor in the Chapare. Communities and farms differ markedly with regard to accessibility by road. Farm size also varies substantially across the zone. Those farmers with small plots on poor soil and far from roads have few viable options. For these farms coca is the ideal crop. It generally has a high market price, provides an adequate income from a small area. Coca grows in all agro-ecological zones of the Chapare and as its leaf is light, it is easily carried to marketing centers regardless of road conditions. No other marketable crop has these characteristics, so coca substitutes are not easily found.

This is the environment in which IBTA/Chapare has operated. The recent drop in the coca price, however, has created an opening: alternative crops exist which at current low coca prices provide farmers with reasonably viable cropping alternatives, particularly in areas where there are decent roads. Furthermore, security conditions now permit IBTA/Chapare personnel to spend more time away from the experiment stations conducting activities in the target communities.

1. Research and Extension: Strategy and Process

IBTA/Chapare's broad research and extension strategy in the Chapare is to move agriculture toward viable systems involving both annual crops and perennials. The perennials, mostly non-traditional crops, and tree crops, are the key to long-term sustainability in the Chapare's tropical soils environment. In working with individual farmers, the idea is to begin by improving traditional crops, which are usually household food crops (plantains, bananas, beans, rice, taro, corn, and peanuts) and then to introduce (or improve in the case of citrus, a

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traditional perennial in large parts of the Chapare) tree crops, which can potentially be important cash crops, assuming markets can be found. The perennial include citrus, coco, macadamia, coffee, cacao, palm cabbage, and pineapple. Ornamental are also considered. And livestock (dairy cattle, swine, poultry) now also figure in some of the projected arrangements.

A viable combination of such crops (and livestock and pasture for certain zones) is sought for each subregion, or sometimes parts of subregions, always in accordance with the agro-ecological potential. Crop combinations requiring different input levels are looked at: areas with poor soils, for example, might require lime and fertilizers. Crops can be grown in the better areas (Subregions I and III, for instance) with fewer inputs. IBTA/Chapare recommendations have generally been for each subregion in general rather than for individual farms within these broad subregions.

Research over much of the project life to date has been restricted to the two research stations for security reasons. There has been some on-farm research (which with tree crops involves some special problems because of the long maturation period) since 1987, but little before that due to security considerations. In recent times, IBTA has been conducting more on-farm trials in the area, especially to compare new vegetative material in annual crops with traditional varieties. The trials are farmer-managed, with researcher supervision. Most of the research now is being conducted on local farms, with cooperating farmers (promoters and others).

When the Experience, Inc. team arrived in 1985, there had been no extension in the Chapare for two years. The first order of business, therefore, was to develop an extension system. That system, currently in operation, has been much conditioned by the small number of IBTA staff and poor security in the area.

Just under half of IBTA's forty-some professional staff today are formally working in extension. Eight or so are working in research, six in plant propagation, and five or so in administration (including the station directors). The extension agents are based on the two stations and in an extension office in Villa Tunari. For security reasons, they have not been based in the countryside, though now plans exist to open extension offices in the rural areas due to improved security.

IBTA first makes contact with a community, or "sindicato", or "Central", providing them with an orientation to the project. The community then decides whether to participate or not. If the community wishes to participate, it selects a promoter, or person to be trained by the project. These promoters, who are local farmers and are usually young, are important persons in the extension process. They are liaisons between IBTA and the

communities and through them technology diffusion is expected to occur. IBTA's training programs, all on station until recent times, focus on these individuals, who then carry ideas back to their communities.

At the time of this writing, there are eighty-four "promoters" distributed across the subregions as follows:

	Number	Per cent
Region I	20	24
Region II	9	11
Region III	18	21
Region IV	15	18
Region V	12	14
Region VI	7	8
Region VII	3	4
Total	84	100

Almost half of the "promoters" are in Subregions I and III, those areas with the greatest development potential. And a fifth of them are in Subregion IV, also with relatively high potential for growth.

Several "promoters" have gone to Costa Rica to receive further training in the cultivation of some of the tree crops, especially macadamia (there is not yet a single macadamia tree in production in all the Chapare; however in less than three months, the first trees will yield fruit on IBTA's La Jota station). IBTA's first "promoters" came from Protestant communities where little coca was produced; the Protestants were supportive of IBTA efforts.

IBTA then seeks to initiate Production Demonstration Units (UPDs) in communities with promoters. These serve a technology transfer function. They are almost always established on the land of the "promoter" who receives training and technical assistance from IBTA in the management of crops in this unit. But the promoter has to purchase the tree crops from IBTA. A UPD is built gradually, with hectares added as the promoter is able to grow. In its final stage, a UPD should exemplify the recommended mix of annuals and perennial, with perennial clearly dominating.

IBTA encourages the development of communal nurseries to eventually lower the price of the trees. The promoters also

direct activities related to these nurseries. The farmer nursery association is usually made up almost entirely of current or former promoters. According to an IBTA official, these farmers today produce the best nursery plants in the Chapare.

IBTA/Chapare also invests considerable resources in giving short courses (cursillos) to area farmers. According to IBTA statistics, about 1,600 farmers have received these courses since 1985. Whereas before all such courses were given on one of the research stations, IBTA staff are now going into the communities to give most of the courses. These courses are formally requested by the communities through their sindicatos. A formal letter with the names of interested participants inscribed is sent to IBTA (usually in Cochabamba), which then programs the course and budgets for it. The request for courses has risen enormously this year. This sudden increase is related to the fall in coca prices. The bulk of farmers, however, are not simply suddenly interested in alternative cropping education, although some may be. The number of requests is reflective of the requirement that certificates of attendance from IBTA courses are required before farmers can receive loans from the PL 480 credit program.

IBTA can effectively address present demand for courses with its current staff. However, additional extension and research staff will be required in the near future as farmers across the Chapare are investing in the production of non-traditional crops, in spite of the fact that markets for these products are uncertain.

2. Some Farmer Views of IBTA

The Evaluation team found that farmers attending IBTA's courses were generally satisfied with their content, although some genuine concerns were expressed. For example, trees provided by IBTA were thought to be too expensive, and if purchased by a loan, interest was often due before the trees would bear fruit. Farmers also expressed concern about markets for their new tree crops.

Some farmers have complained that the citrus trees purchased from IBTA had died and were not replaced by IBTA. Others feel that IBTA should have extension agents based in the countryside to make them more accessible. Many farmers would like the short-courses scheduled at night because of their daytime work commitments. Indeed, currently many of the short courses are attended by the women of the families (simply so the course certificate can be obtained) even in activities traditionally carried out by men.

G. Substitution versus Abrupt Eradication of Coca

The producers of coca leaf in the Chapare are predominantly small in scale. Maintenance of the groves, mainly weeding, is often done by family labor, while picking and initial processing is done by themselves or itinerant labor, generally small-scale farmers. Coca is a profitable compared to most other crops that farmers could produce on their land, but it does not make millionaires out of them. The relative scale of producer profits can be seen in houses with permanent walls, floors, and roofs, compared to the standard houses in the area with dirt floors, plank walls, and thatched roofs. They may have a more affluent lifestyle than other "colonos", but it is doubtful that very many coca producers have any great quantity of cash savings.

The alternatives to coca production tend to be permanent crops, and these typically require large investments in the first year, followed by lesser but still significant expenses for several more years, until there is any production to sell. Few small farmers can afford to give up their source of income for two to five years, while waiting for the replacement crop to come on line. No rational coca producer would voluntarily eradicate his entire coca plantation in one felling, in order to make room for alternative crops.

A common strategy is to eradicate a part of the coca plantation, collect the $2,000/hectare payment from DIRECO, and apply for a PL 480 loan and technical assistance from IBTA-Chapare. While the new crops advance toward maturity, the farmer still has a reduced but helpful income from the remaining coca. Most technicians working in the Chapare think that many of the small scale coca farmers will gradually work themselves completely out of the coca production business, and into alternative crops.

This procedure makes sense as a low-risk change strategy for small-scale and low-income farmers. Government pressure to eradicate coca quickly in the Chapare would not be met with enthusiasm by most coca farmers, unless the Government was also prepared to support producers and their families at current levels of consumption. This would be expensive, as well as quite unfair to other small-scale farmers who were not coca producers in the first instance. Abrupt eradication of coca in the Chapare is not viable, and cannot be recommended.

VI. PROJECT ISSUES AND CONSTRAINTS IN THE ASSOCIATED HIGH VALLEYS

A. Land Tenure and land use in the Associated High Valleys

The High Valleys extend over 3,410 square kilometers, or roughly 6% of the total area of the Department of Cochabamba. The Agrarian Reform of the mid-50's affected 26,946 properties with a total area of 31,433 hectares of land. As a result of this reform approximately 427,900 beneficiaries received land, but of these, around 102,000 still have not received titles for their land. This is important because of its direct bearing on the problem of establishing eligibility for credit, in the event that AHV farmers should have access to a formal credit program through the efforts of CRDP.

Because of the pre-revolutionary tenure structure, whereby campesinos often farmed several small plots at different elevations, inappropriately small parcels were provided to most reform beneficiaries. Nationwide, farmers have an average farm size of about 7.5 hectares per family. However, in heavily-populated areas, such as the areas near Lake Titicaca and in the Upper Cochambamba Valley, many families received titles to plots of one hectare or less (Urioste, 1987).

1. Land Tenure and Land Use in the Southern District

The Southern District ("distrito sur") of Cochabamba ranges in altitude from 700 to 4500 meters above sea level. Much of this area is not suitable for farming. For example, the Mizque Province (2,730 square kilometers) has only 495 hectares of cultivable land, of which 468 are irrigated and only 27 rainfed. Approximately 51% of farms in the Mizque area have less than 2 hectares of land, while 31% have more than 4 hectares. Finally 4.1% of households have no land. The average farm size in the Mizque is 2.5 hectares.

The most common crops in the Southern District are, in order of the areas planted: potatoes, corn, peanuts, onions, alfalfa, vineyards, peas, and sweet potatoes. Crops of lesser importance are wheat, barley, tomatoes, chirimoya, lettuce, quince avocado, apples and peaches. Livestock is also important in the family farm economy, especially sheep and cattle.

The Southern District targeted by CRDP covers 348,333 hectares, of which only 17,200 are cultivable. The remainder is natural forest and uncultivable. A total of 16,209 hectares are presently under cultivation: 11% in high value food crops, 70% in basic foodcrops, 5% in industrial crops, 5% in seed crops, and 8% in other crops. Of this land, 10,000 hectares are located at extremely high elevations and cultivable only with severe limitations. The average-sized farm, according to a recent study

by INEDER, was 3.8 hectares of cultivable land per farmer, who, on average, had an additional 3.1 hectares of pasture.

2. Land Tenure and Land Use in Esteban Arce Province

The total area of Esteban Arce Province is 1,250 square kilometers, which corresponds to 2.25% of the Department of Cochabamba. About 90% of farmers have lands divided between two or three parcels. The maximum size of each parcel is 4.2 hectares and the minimum is 0.2 hectare. Thus the average farm size in the province is 2 hectares.

As in the other High Valleys provinces receiving Project assistance, most farmers received their land through the Agrarian Reform. Land purchases and inheritance are also important sources of land holdings.

The most common crop in Esteban Arce is wheat, which accounts for 45% to 63% of the total land cropped, while corn occupies a little over one third of cropland. Other crops of importance are potatoes and fruit, particularly peaches, apples, pears, table grapes and prunes.

B. Migration: Aquile and Mizque Regions

1. Community Needs

During interviews with the Evaluation Team, AHV residents identified the lack of water as their most important problem. This problem was particularly evident in three of the six interviewed communities which were without irrigation. Women in a fourth community, also without irrigation, said they had lost all their crops to drought this year. They also expressed a need for local employment, especially for young people, so they would not have to migrate. In two of the other communities without irrigation farmers also lost their crops this year because of drought. Residents are now having to buy food--often by selling firewood, which is scarce, and ecologically problematic.

Over half the communities visited by the Evaluation Team put water on top of their lists of community needs. Most other problems are water related. Some communities worry about the lack of seeds due to a three-year drought. Other are unable to receive credit because credit will only be provided to farmers with access to irrigated land.

The communities also indicated they needs assistance with pest management and with health problems--a need for a "posta sanitaria", usually. There is also a high incidence of Chagas disease in the area.

2. Local Production, Consumption, and Income

In the three communities without irrigation, residents had lost their crops to drought and were without food. One community was cutting and gathering firewood for sale in Aiquile. Their only alternative was to migrate. In another community, people were selling off their animals and reducing the size of their herds to dangerously low levels. When the animals are gone, they will have to migrate to Santa Cruz or the Chapare.

The communities with irrigation were producing and marketing crops such as onions, corn, tomatoes, garlic, and sometimes potatoes. The crops were in almost all cases sold to truckers, "rescatistas", passing through the area. According to informed persons with local NGOs, these farmers (especially in the Aiquile area) know little about wholesale markets and prices, and thus are unable to evaluate the alternatives of farmgate sales versus transport and direct sale at the wholesale market.

The high cost of coca leaves, which are consumed by farmers and farm workers as a basic necessity is a concern. In Aiquile coca leaves cost 4.00 bolivianos/lb., versus 1.00 boliviano/lb. in the Chapare. Some people migrated to the Chapare to work to buy coca leaves. Leaves from the Yungas are generally preferred, but those from the Chapare are also consumed in the AHVs.

3. Frequency and Timing of Migration

Seasonal migration to the Chapare is a recent phenomenon. Fathers and grandfathers of current migrants did not go to the Chapare. Seasonal migration began about ten years ago and increased in the years of chronic drought (1983 and 1984), from which AHV communities have never recovered. Before that, migrants went to Santa Cruz, but there was less migration then, perhaps because there was sufficient rainfall in the AHVs.

People migrated during periods of slack agricultural activity at home. They left after the harvest, around June, and returned in October in time for the planting season. Most now go to the Chapare; others go to Santa Cruz. Migrants often make several trips to the Chapare per year. People go to the Chapare when they need money, and years of high coca prices are also years when the largest number of people migrate. An extensionist with an NGO described the Chapare as a turgid cow which upland farmers milk as they need to. During the 1980s there were many opportunities to "milk" the cow. Coca prices high and coca yields up to three or four harvests per year. The harvest is a

labor-intensive activity, requiring an average of 240 man-days per hectare per year. Currently Chapare settlers facing low coca prices do not having enough money to hire "peones". Other steps in the production process also require substantial labor input: clearing the forest, weeding, stamping leaves to make paste, transportation, etc. No other activity in Bolivia offers such opportunity for unskilled workers. A person in need of cash can work for three weeks or a month in the Chapare at almost any time of the year, live off the earnings for two or three months in the high valleys and then go back again. The highest wages are paid for stamping leaves into paste, which is done at night, is physically exhausting, unhealthy, illegal and dangerous. Harvesting wages are pegged to the price of a carga of coca leaves.

4. Rationale for Migration

The persons interviewed in the AHVs unequivocally associated migration to the Chapare and elsewhere with a lack of water and irrigation in the AHVs. Even at high coca prices, AHV residents would be unwilling to migrate if they had work which returned a reasonable income in their own areas. Adequate employment, in turn, is a function of the availability of water. Mizque, where most land is irrigated, sends fewer migrants to the Chapare than do communities without irrigation, such as those in the Aiquile area.

However, water is not everything. Crops produced under irrigation must be sold at favorable prices. When seasonal prices decline below the costs of production, people migrate in some years for a few months even from areas with secure irrigation. This happened in 1988 when the market price of onions (a major cash crop) dropped sharply. This is important to remember because large increases in irrigated lands may drive down the prices of goods produced mainly on irrigated land, and cause people to migrate.

Residents of upland communities migrate seasonally to the Chapare to survive, not to accumulate wealth. Migrants spend what they make on food and basic necessities for the family. The bulk of the migrants--the Chapare's "floating population"--live at the economic margins of society by any standards. Migration is a necessary part of their survival strategy.

5. Destination and Duration of Migration

The Chapare has received most of the migrants. This is no surprise given the opportunities there for earning income. There is some migration to Santa Cruz, where

migrants harvest rice and are often paid in kind, and a trickle of mostly young women going to Cochabamba to work as domestic servants.

If migrants are away for long periods of time, they send money back to their families. Most migrants are from younger age groups. Quite apart from the physical rigors of migration, the division of rights to land and water through inheritance often leaves too little of either for younger persons, who, therefore, have little choice but to migrate. The time migrants spend in the Chapare varies considerably, from a month or less to a year. The Chapare provides great flexibility because of the frequency of coca harvests and the chronic shortage of labor there. Migrants do a variety of jobs in the Chapare. Harvesting is the best paid occupation. It is skilled work because only selected leaves must be picked. Harvesters are paid by the "tirada", or twelve and a half pounds of wet leaf. The "tirada" is paid at a rate of 1% of the price being paid to the farmer for a carga of dry leaf. A good harvester can earn more than those engaged in other occupations such as clearing forest and weeding, which pay only a daily wage.

Migrants usually work as either "peones" or "partidarios" (sharecroppers) in the Chapare. "Peones" are laborers who work for a daily wage. They reside on the premises of the employer, who is obliged to house and feed them. They work for brief periods of time. "Partidarios", by contrast, work for longer periods of time. They work as caretakers of a property, reside on the property, and receive half of the harvest as payment for their efforts. Most of the migrants have worked in the Chapare as "peones", a few of them as "partidarios", and many of the latter buy land of their own and settle in the Chapare permanently.

6. Effects of Male Migration on the Farm and Family

The usual pattern is for men to migrate alone, not in groups, leaving the farm in the care of their women and children. When the migration is to be for an extended period of time, men may take their wives along, sometimes leaving the children with grandparents. But this does not occur frequently.

Leaving the farm with their women generally does not lead to any serious problems for the farm. However, migration often does create family tensions and other problems. Some migrants find other partners and settle permanently in the Chapare. Others return home penniless after long absences having spent their earnings on alcohol

and prostitutes. High coca prices encourage high living by those who migrate.

7. Incentives and Disincentives for Migration

After their first trips migrants often recognize that are able to work at wages which permit some saving. They also can gain access to land through sharecropping and eventually may own the land outright. Many young migrants in the past have bought a small lot of land near the farms where they worked. In the mid-eighties, many settled lands far from the roads and planted coca. Some settlers have abandoned their farms in the face of low coca prices, but others are sticking it out and are willing to switch to other crops. Those with farms in full operation are economically better off than they would have been had they not migrated. Farmers who have good lands and want to leave the Chapare have no problem finding newcomers willing to buy.

Major disadvantages reported by migrants and Chapare residents are health-related, principally yellow fever and gastrointestinal problems. Steps are, however, being taken to safeguard the health of Chapare migrants. Inoculation campaigns are underway in the Chapare. Infrastructure projects, particularly potable water systems and sanitation projects sponsored by UNFDAC and USAID have been built and should begin showing results in terms of better health. The switch from chicha, a local brew, to beer which is bottled under sanitary conditions should improve the incidence of gastrointestinal diseases.

C. Urban Centers in the Associated High Valleys

There are two historically important urban centers in the Southern District: Mizque and Aiquile. Punata, Arani, and Tarata are located closer to Cochabamba.

A substantial effort has been made to improve roads in the valleys to Mizque and Aiquile, and more work is ongoing. The re-routing of truck and bus traffic over these improved roads has improved market access.

Better roads are likely to promote the growth of urban centers such as Mizque and Aiquile. Truck and bus service are also likely to increase. Better roads cut transportation costs, improve competition among truckers, open up new marketing possibilities and improve overall access to markets in the Cochabamba area, in Sucre and throughout Bolivia.

Voluntary paving and upgrading of plazas in the towns along the way indicate that people are taking increase pride and ownership in their community. The marginal electricity generating systems in Mizque and Aiquile are also being upgraded, as are the Municipal sewerage and water supplies. Mizque and Aiquile were important urban centers a century or more ago, and may be on the way to regaining that lost status. Infrastructural improvements are preconditions for the success of small businesses there and for encouraging the establishment of agribusinesses.

D. CREDIT

1. Initial Lending in the AHVs by CRDP

As in the Chapare, CRDP had hoped to find a bank to manage the agricultural lending that development would demand. Several organizations were tested over a year or so, with small amounts of capital and limited lending programs. **Banco de la Union** received US$ 120,000 from A.I.D., which it lent to small-scale farmers in the High Valleys. All loan were recovered, due to the experience of the bank staff, careful selection of borrowers, and timely disbursement of funds. **Banco Hipotecario Nacional** received and lent just over US$ 500,000 from A.I.D. in the 1986-87 crop year. It recovered the money the first year, but in the next year loan recovery fell to 40% due to drought, frosts, and low product prices. The Asociacion Rural Agricola de Desarrollo Organizado (ARADO) received US$ 160,000 of these funds. **Banco Agricola de Bolivia** (BAB), operating through its branches in the High Valleys, made agricultural loans amounting to US$ 150,000 in the 1986-87 and 1987-88 crop seasons. The recovery rates were about 55%, and the Mizque and Aiquile branches were closed, except for attempted collections on overdue loans.

Altogether, an estimated US$ 1.1 million was disbursed by A.I.D., about 60% of it for the 1986-87 and 1988-89 crop seasons. Loan amounts ranged from $35 up to $5,000 per borrower, more than half the total being disbursed after the planting season. Loan recovery was about 50% overall; defaults were due primarily to the drought.

Federacion Nacional de Cooperativas de Ahorro Y Credito (FENACRE) had experience with short-term production lending through several member cooperatives and producer associations. This organization had problems with loan repayment and decided that henceforth it would concentrate on intermediate and long-term investments. FENACRE made agricultural loans from funds provided through PL 480, to a

total of about US$ 3.4 million in 1986-87 and 1987-88. About $2.6 million of the total was passed through several specialized cooperatives and producers' associations. Little of it was repaid, reportedly due to drought and low product prices.

The banks generally requested mortgage and lien security from borrowers, while the cooperatives and producer associations were content with personal signatures. The experience with credit shows that a good repayment can be achieved with a combination of careful borrower selection and technical supervision of the borrower during the production process.

2. Traditional Credit in the AHVs

In most communities, money-lenders are the principal source of non-institutional agricultural credit. Most of their loans are between US$ 100 and $500, for a crop season of two to four months. These loans are made mainly during the planting season, with interest rates of 3 - 10% per month, with 5% per month being the most common rate. Some lenders collect labor for their own crops as payment from borrowers. This is a common practice for farmers who do not have enough labor on their own, such as widows and the elderly. These arrangements require the repayment of capital, with interest received in kind.

Some suppliers make loans in kind, mainly in the form of pre-mixed fertilizer, especially for potato production. The lender may receive a half-share in the crop as payment for the loan, and is in a good position to buy the remainder of the crop from the farmer at a favorable price. Some truckers also make production loans at a mutually acceptable forward price, thus insuring their own supply for their wholesale customers. Friends and relatives make production loans on occasion, as do landowners who, for one reason or another, do not wish to undertake crop farming on their land.

3. Current Credit Arrangements

The agricultural credit situation in the AHVs is currently in a state of flux. Until May of 1990, the presumption was that four of the existing private credit organizations would agree to distribute the new credit. A meeting was held by the Institutional Credit Committee. The BAB, a member of this committee who had not previously showed any interest in the matter volunteered to take over the credit operations in the High Valleys. This arrangement was approved by the other organizations present at the meeting. The ABA received US$ 1.8 million at an annual

interest rate of 8% in $US, and a support grant of just over US$ 100 thousand was agreed, mainly to cover overdue loans already owed to BAB in the region. A Branch Manager was appointed, and made reconnaissance visits through the area. Computers and other equipment were purchased, and the first loan applications were received and scheduled for processing.

In late September of 1990, the IMF and the World Bank brought pressure on the Government of Bolivia which decided to close out both the BAB and the Banco de Minero. The order included a blanket remission of interest on loans incurred since 1985, on loans up to US$ 5,000 to small farmers, because of the drought. Thus, currently there is no formal agricultural lending program in the AHVs other than those small amounts provided by cooperatives and non-institutional lenders.

E. NGOs and Extension in the Associated High Valleys

The following NGOs operate in the AHVs: ASAR, ARADO (PROCIPLA, which is a part of ARADO), Radio Esperanza, and CEDEAGRO. They are currently the most effective NGOs in the High Valleys in terms of institutional solidarity and ability to respond to project needs.

Water for crops, livestock, and human consumption is the most pressing need in the region. Other needs include (i) seeds for the forthcoming planting season, since, due to the drought, people have eaten seed that had been saved for planting; (ii) assistance with agricultural pest management; (iii) assistance with health problems; and (iv) credit--to buy seeds and other necessities for the forthcoming season's crop.

The proposed PDAR subprojects show that CRDP is trying to address the most urgent needs expressed by the farming population. Credit, however, remains a problem.

1. Asociacion de Servicios Artesanales Rurales (ASAR)

ASAR is the NGO with which PDAR is the most involved in 1990. According to ASAR top management, 99% of their efforts go into PDAR activities. Although new in Aiquile, where it is now active with the Project, ASAR has worked for many years in Mizque and other areas of the Upper Cochabamba Valley. ASAR works in Aiquile and Mizque in six areas: livestock management, soil conservation, cropping systems and technology transfer, irrigation management, forage development, and production.

The production units work with women and young persons of both sexes. The idea is to search for activities to complement agricultural production and provide family income, as well as to enhance the quality of life in other ways. Activities include family gardens (in communities where there is water), sewing, health education, and candle- and soap-making.

ASAR's offices both in Cochabamba and in Aiquile appear to be well organized and to focus on their role of support to rural development activities. ASAR's project staff consists of twenty-four technicians and seven promoters (three of them women; the fourth woman on the staff is a soils extensionist). They work on the six project components listed above, supported by a staff of four in Aiquile and six in Cochabamba. The "promoters" work only on the production units component. ASAR seems to be handling the six components well. It has established a good rapport with local farmers in the communities.

ASAR promotes integrated rural development, which requires that the six components be managed as one. But PDAR is organized according to six components which makes coordination of activities difficult. ASAR has requested that the PDAR integrate its various components. It maintains that some areas, such as marketing, are not covered by any of the components.

ASAR also has a plan for improving its service delivery to local farmers. Now their extensionists are assigned to the six components, backed by component specialists. ASAR would like in the future to assign extensionists to geographic areas, where they would act as generalists charged with attending to the development needs of communities they serve. Extensionists would then call in specialists as needed. The present approach does not provide sufficient geographic coverage. Placing extensionists in charge of <u>areas</u> rather than of <u>components</u> would facilitate integrated rural development. However, it might also require the hiring of additional staff. If ASAR were to expand its geographic coverage with existing staff, the staff would need further training.

ASAR and other NGOs are not research entities but technology validation and transfer agents. To best fulfill their role, the NGOs need to maintain a continuous and close communication with research organizations to learn about new ideas and accessible sources of information. One way to strengthen ASAR is to send its personnel to seminars and short-courses elsewhere in Bolivia and abroad. Bringing in outside experts from time to time would also be useful. In

some technical areas, especially irrigation, PDAR experts can help with training.

ASAR is also requesting assistance to build office space, classrooms, and dormitories for farmers attending short-courses. Classroom space is currently rented from the local parish. ASAR also needs more vehicles; at present, all five vehicles they use are rented, and are not sufficient to maintain an effective level of rural presence with six components and two watersheds to cover.

ASAR offers short-courses of two kinds:(i) courses lasting two days which are conducted in the communities, and (ii) courses of longer duration, in Aiquile, for farmers from several different communities.

To initiate work in a community, ASAR begins by explaining what they do. Next, the technicians with specialized training in a component of interest to the community give a two-day short-course, with lecture material, supplemented by a day of on-farm practice with farmers, in their own fields. The communities select those individuals to participate in the more formal four-to-five-day courses. ASAR trains them as promoters and instructors in their own communities. When the local promoters confront a problem they cannot handle, they call in an ASAR technician. In Aiquile, ASAR has already formed a livestock association composed mostly of promoters.

ASAR is now working with "modules" for different types of farms in various ecological areas of the two watersheds, trying to introduce several components to each farm type in an integrated fashion. Farmers are selected, with the approval of both the "sindicato" and the farmer's wife, to do all the work under the supervision of an ASAR technical person.

2. Centro de Desarrollo Agropecuario (CEDEAGRO)

CEDEAGRO, which is implementing only one component of CRDP (soil conservation), has proposed several projects over the last four years, but all have been rejected by PDAR. The reason given by PDAR in each case is a lack of technical competence in the proposed subject matter. In fact political factors may also enter into PDAR decisions. CEDEAGRO has been working in the communities for three years on tree crop propagation, yet PDAR chose to work with IBTA/Mayra in this area. PDAR has very competent technical personnel, and CEDEAGRO is eager to receive training from them in irrigation and other areas. CEDEAGRO requested assistance three years ago, but received no response.

CEDEAGRO's strengths are in the organization of peasant communities. Working closely with the "sindicatos" and the local "central", CEDEAGRO helps peasants develop a vision of their future development possibilities. CEDEAGRO's areas of technical assistance include agriculture, livestock, rural construction, small irrigation systems, potable water, schools.

For example, CEDEAGRO, at the moment is concentrating on potatoes and peanuts in Mizque and provides a family with technical assistance and the necessary inputs to produce a crop. At harvest time, the family keeps half of the crop and turns the other half over to CEDEAGRO. CEDEAGRO applies 65% of its share to cover production costs and gives the remaining 35% to the local "sindicato", either in money or in materials. This arrangement emulates the traditional system of working "en compania", with CEDEAGRO playing the role normally played by the middlemen ("rescatistas"), with the difference that CEDEAGRO shares the profits with the community (the "sindicato"). In this system, CEDEAGRO also shares production and risks with the farmers.

Farmers in the Mizque area are divided politically between supporters of the government and those of the opposition. Forthcoming municipal elections are intensifying this division. Although there is only one "central", it is badly divided. This division has implications for the Project. The faction supportive of the government is disposed to work with PDAR and the Project, whereas the opposition faction has reservations about working with the Project.

CEDEAGRO is not aligned politically with the current government and has been ignored so far. CEDEAGRO and PDAR should collaborate more closely since both share the same desire for development of the local farming community.

3. Programa de Control Integrado de Plagas (PROCIPLA)

PROCIPLA operates under the umbrella of Accion Rural Agricola de Desarrollo Organizado (ARADO), which signed the Project Agreement with PDAR. But PROCIPLA reports directly to PDAR with regard to finances and programming. PROCIPLA began in 1985 as a USAID-sponsored project to develop Integrated Pest Management (IPM) technologies for the country. It is the leading pest management authority in Bolivia today. PROCIPLA constitutes a PDAR sub-project activity in itself and has in the past worked with both ASAR and CEDEAGRO.

PROCIPLA began working with CRDP in September of 1988. Since then it has worked in thirty-five communities of the

Aiquile and Mizque area and in part of the Tarata area. Its technical staff functions as a team, with specialists in plant pathology, entomology, and cropping systems. PROCIPLA actively promotes an awareness among farmers of the dangers of pesticide use. It attempts to use local plants to develop alternative forms of pest control.

PROCIPLA does most of its research on farmers' fields and sets up demonstration plots in the communities. It conducts one day courses in the communities, trying to schedule them to coincide with the more predictable pest invasions. It has also identified a need for research in pest-resistant varieties of onions and peanuts. ARADO, with its experience in improved potato seed, might be able to assume this task. This problem was brought to the attention of PDAR a year ago, but so far has not been resolved.

Another concern of PROCIPLA is to place agrochemical supply houses in both Aiquile and Mizque which, unlike the present ones, would sell safe and unadulterated agrochemical products. For a whole year, no action has been taken on this urgent problem. PDAR is said to be looking for a reliable private sector supplier. If one cannot be found, perhaps ARADO could fill the gap.

4. Radio Esperanza

After a period of discussions which started three years ago, PDAR and Radio Esperanza entered into an agreement whereby Radio Esperanza would broadcast daily news bulletins on PDAR activities in the Aiquile and Mizque areas. At present, PDAR has financed two subprojects being implemented by Radio Esperanza: one in radio broadcasting and organization, and the other to promote community participation in reforestation. The reforestation activity includes broadcasts on the subject and community activities by Radio Esperanza promoters trained by PDAR in community forestry.

According to a recent study, 71% of farmers in the Mizque-Campero area had radios, and 69% listened to Radio Esperanza. Its broadcasts cover the Mizque-Aiquile area. Although its transmissions can be picked up in the Chapare, it does not have a large audience there.

Radio Esperanza is owned by the Catholic Church and maintains an independent editorial position. PDAR has not always been happy with Radio Esperanza's neutral position.

F. Conclusions

Perhaps the major challenge facing PDAR and the Project today in the AHVs is the lack of coordination, both within PDAR, and among PDAR and the various NGOs working in the area. At the community level, this lack of coordination creates confusion among farmers, undermines their responsiveness and is detrimental to the achievement of overall project objectives.

There is also the need for more effective interaction among PDAR, USAID, and the Technical Assistance Team. With respect to its pest management function, PROCIPLA has probably reached the limits of available technology for some crops; what is needed now is the introduction of disease-resistant varieties. No organization is now handling this necessary task. One candidate is ARADO, with its experience in making improved potato varieties available to Upper Valley farmers. ARADO could likewise be enlisted to oversee the sales, composition and application of agricultural chemicals in the region. This could be done with an agrochemical supply house, perhaps farmer-owned, to provide chemicals of the standards being recommended by Project agronomists.

An insufficient number of vehicles, as well as their timely procurement, is a problem. Neither the NGOs nor PDAR can maintain an effective presence in these often remote rural areas with the current number of vehicles available to them.

CRDP has overemphasized agronomic solutions and has failed to employ and make use of expertise from the social sciences. Other sections of this report cover the past and present needs for sound economic analysis, expertise on credit, and market studies of both the Chapare and AHVs crops. DAI's team now includes a marketing specialist, a long-overdue addition to the Project's Technical Assistance Team. There is also a clear need for making better use of staff expertise in sociology and anthropology. The failure to understand the needs of prospective beneficiaries can ultimately lead to the waste of Project resources. One example of waste was the building of the Cochabamba Farmers' Market (which has become a "white elephant") against the recommendation of the SARSA anthropologist.

PDAR has an excellent irrigation staff; it should be used to train those NGOs with some experience in this area, since the number of small Immediate Impact irrigation projects needed by communities in the area goes beyond PDAR's ability to carry out all these projects by direct administration. The hiring of an additional civil engineer and related support staff is definitely warranted.

The Chapare Regional Development Project and PDAR have yet to coordinate its broad range of activities. For this reason, it is premature to speak of extending PDAR activities over a larger geographical area. CRDP should concentrate on consolidating its activities and gaining institutional experience.

VII. TESTS OF HYPOTHESES

The Scope of Work for the CRDP Evaluation lists eleven "hypotheses" to be tested with respect to the following five questions:

1. What evidence is available for testing each Project Hypothesis?
2. What is the best definitive conclusion regarding each hypothesis in light of available evidence?
3. How much uncertainty remains with regard to each hypothesis? What is the nature of the uncertainty?
4. How can the uncertainty be removed?
5. What are the implications of each hypothesis test for future project design and management?

There are a number of questions listed after each hypothesis in the scope of work. These were treated as suggested lines of inquiry for the Evaluation Team, and are not addressed individually in this report.

A. Project Hypothesis on Geographic Concentration of Effort

> "If project efforts are concentrated in the Chapare and the High Valleys then significant alternative employment for former coca growers and workers will result."

Former coca growers are likely to stay in the Chapare and grow alternative crops, as long as the coca price remains relatively low and the interdiction pressure high. None of the alternative crops requires as large a labor force as that needed for coca harvesting. So any coca substitution would reduce significantly the demand for hired workers in the Chapare. There has not been time yet for much development in the High Valleys, so the number of ex-coca temporary or seasonal laborers that might gravitate there is unknown.

B. Project Hypotheses on Agricultural and Economic Focus

1. "If individual farmers replace coca with a combination of non-traditional crops and livestock, then the income they derive from coca can be replaced."

The data to test this statement is available as a detailed production budget for coca, and a series of linear programming (LP) solutions for some twelve cropping and livestock systems, all developed by IBTA/Chapare. One doesn't know the yields or prices used in the LP's, but assuming they are reasonable, the farming systems which grow a combination of pineapple, coconut,

banana, coffee, black pepper and palm hearts have annual average net incomes per hectare greater than those farms that grow coca. The present value of annual farm income was calculated at a 13 per cent discount rate and the stream of net income was summed and divided by the number of years involved. Coca ended up with an annual average of $US 195 per hectare, at a price of $US 80 per dry hundredweight of leaf. A five-hectare dairy cow farm netted $US 194 per hectare. These data do not reflect sufficiently the differences between the ten micro-regions, but they indicate that alternative crops probably are competitive with coca at current.

2. "If nontraditional crops are produced in quantity and quality, then markets for them can be found in time for farmers to recoup their investment."

This is a statement of faith that cannot yet be tested due to a lack of market information. It is not a sound approach for any crop other than those used for subsistence. It certainly is not a reasonable approach for crops that have not previously been produced in the Chapare, and for which no market data exist.

3. "Productive infrastructure and improved technological packages will increase traditional agricultural yields sufficiently to discourage potential migrants from leaving the High Valleys, and will attract migrants to Chapare back to the High Valleys."

The first part can be answered yes. Present agricultural production can be raised by upgrading production technology, certainly, and an increase in irrigated hectares through infrastructural works will also lead to an increase in production and incomes. It is doubtful if these increases of income in the High Valleys would attract very many people back except for the recent and short-term migrants. The gains will probably go to present land holders in the High Valleys, with a slight increase in hired labor as the only inducement to reverse migration.

4. "An intermediate-sized urban center with developed social infrastructure,services, and industry will provide alternative sources of employment for potential migrants to the Chapare from the High Valleys and other contiguous areas."

There are no data to test this proposition. Infrastructural improvements and service/industries can provide employment in the Chapare. At this time it is impossible to tell how likely will service and agroindustries settle in the Chapare.

C. Project Hypotheses on Credit Arrangements

1. "The credit scheme adopted by the Project stimulates alternative economic activity to coca."

The answer is yes, but with qualifications. An estimated 10% of farmers in the Chapare who have eradicated coca have used PL-480 credit to finance alternative crops. So it would appear that credit is less important than other factors in the stimulation of alternative crops. Although formally separate from this Project, the police actions to disrupt the local coca market is partly responsible for the eradication progress made so far.

2. "The credit scheme adopted by the project will result in acceptable repayment of loans."

The question cannot be answered yet because the loan program is less than two years old, and many of the loans were for permanent crops with several years of grace on principal repayment. However, the evidence at hand is that a third or less of borrowers are current with respect to both interest and principal payments due.

3. "The credit scheme adopted by the project stimulates reduction in coca."

We repeat that credit by itself has a very limited impact on coca reduction. The credit program was designed as a part of the reward package, but has not been taken up by the majority of farmers who have eliminated coca. Lacking a careful analysis of farmer reasons for participating or not participating in the credit program, it is not possible to give a definite response to the hypothesis.

D. Project Hypotheses on Extension Arrangements

1. "The Research/Production/Extension/Promoter/Farmer approach adopted by the Project is appropriate to the Chapare."

The short answer is **yes**. The approach adopted by the project was developed when IBTA/Chapare personnel could not work in the countryside for security reasons. During that time the Promoter was very important as the only reliable farmer-contact person. Now that security is less an issue, IBTA/Chapare personnel are visiting farms and carrying out on-farm research trials. The Promoter is still an important part of the system, but the burden now is shared with the research/extension

technicians. With the recent increase in demand for research/extension, the current staffing level is inadequate. If IBTA/Chapare is to continue to serve all seven Micro-regions, the Promoters must play a more important role and more staff must be hired.

2. "A participative approach to extension, which uses community elected Promoters, is more cost-effective than a more direct approach."

There is no data to support or refute this statement. A participative approach is probably **less** costly but may be also **less** effective than the use of trained technicians working directly with farmers in their fields.

3. "Substitution of coca through diversification to other crops is more effective than requiring coca growers to leave coca production abruptly."

We assume that the expression "more effective" include social as well as economic considerations. As has been discussed in the report, most of the crops being substituted for coca require several years between planting and the beginning of production. All producers in the Chapare are small, and few appear to have savings that would carry their families over the years between planting and first harvest. Abrupt eradication of coca would cause much economic hardship, and no doubt would provoke considerable resentment, if not unrest, in the farming population. The short answer to the hypothesis is **yes**.

E. Project Hypothesis on Institutional and Management Arrangements.

1. "A combination of PDAR as coordinator, IBTA as the technical assistance arm, PL-480 as the credit manager, and assorted GOB organizations and NGO's is the appropriate organizational mix to solve the coca substitution problem."

There is nothing obviously wrong with the current organizational mix, though some of the organizations could be made more effective. PDAR appears to be doing a reasonably good job in the Chapare, but has not yet expanded its coordinating role in the High Valleys. The shortcomings of PDAR are that it is highly politicized (compared with, e.g.,IBTA/Chapare), and it operates as if the job required only engineers and agronomists. It needs to learn to use the inputs of marketing, credit, and production economists as well as other social scientists. Whether this added expertise should be located within PDAR, within one of the teams of Advisors, or with USAID, is an open

question, so long as the expertise is located somewhere in the system.

IBTA/Chapare has done a superb technical assistance job in the Chapare. Consideration should be given to expanding its role in the High Valleys, where it would have several NGOs with which to work, especially in extension and on-farm trials. Three or four of the NGOs in the High Valleys appear to be competent at what they do, and are willing to work with Project entities to expand their activities. PDAR should act as the coordinator between the NGOs, IBTA and the technical advisors.

USAID is in transition between micromanagement from La Paz, and local management from Cochabamba. The major decisions affecting Project strategy, contracts, and major expenditures will continue to be the responsibility of the USAID staff in La Paz. More of the day-to-day project management will be shifted from La Paz to the contracted manager in USAID at Cochabamba.

The PL-480 program has been forced to provide credit to farmers who have eradicated coca in the Chapare. It does not yet take applications from the minority of farmers in the Chapare who, for one reason or another, have no coca to eradicate. For these, there is no effective source of institutional credit at all. Currently, there is no institutional credit in the High Valleys, other than that supplied in small quantity by one or two cooperatives. A credit program will be a useful addition to the Project, to the extent that development in the High Valleys includes the addition of new irrigated cropland, by surface or ground water.

2. The credit scheme adopted by the Project:
   1] stimulates alternative economic activity to coca;
   2] will result in acceptable repayment of loans;
   3] stimulates reduction in coca.

The answer to the first part of the hypothesis appears to be yes, in large part because of low coca prices, which may have been the result of police actions primarily. Whether or not the credit scheme will result in an acceptable level of loan repayment, can only be known over time. None of the loans made for permanent crops are due yet, so repayment history is too short. The third part of the hypothesis is uncertain. To the extent that credit is available only to farmers who have reduced coca production, then it is part of the reward system. Farmers who do not have clear title to their land are not eligible for credit, even if they have reduced coca production. In addition, some of the farmers who have reduced their coca production have not applied for credit. One doesn't know their reasons, but one can conclude that, for these people, the reward system provided by the credit scheme is not an adequate incentive.

3. Substitution of coca through diversification to other crops is more effective than requiring coca growers to leave coca production abruptly.

Farmers who have significant plantations of coca have been reducing the size of their plantations but have not stopped producing entirely. The alternative crops take several years from planting to production. It makes sense for the farmer to hedge his bets by keeping on producing some coca and ensure that he will receive some income to carry him and his family over those early years when there are expenses but no income from the alternative crops.

4. A combination of PDAR as coordinator, IBTA as the technical assistance arm, PL-480 as the credit manager, and assorted GOB organizations and NGO's, is the appropriate organizational mix to solve the coca substitution problem.

As far as we know, there are no NGO's operating in the Chapare with measurable impact on coca substitution. IBTA-Chapare has not operated much in the High Valleys as yet, though it has done a superb job in the Chapare. PL-480 although burdened by some nonsensical constraints in the Chapare, appears to be doing a good job of credit placement so far. There is no credit system yet in the High Valleys, except for a small one operated by one of the NGO's. In spite of these limitations, it appears that the above organizational mix is working.

F. Hypotheses on Extension Arrangements:

1. The Research/Production/Extension/Promoter/Farmer approach adopted by the project is appropriate to the Chapare.

This scheme emerged when IBTA personnel could not work in the countryside for security reasons. Then, the promoter became very important. Now that security is no longer an issue, IBTA personnel are able to work in the countryside and conduct research there. Although the promoter is still important, IBTA should be interacting more directly with farmers.

2. A "participative" approach to extension, which uses community elected promoters, is more cost-effective than a more direct approach.

A "participative" approach is less costly, but also less effective. See "A" above.

3. Substitution of coca through diversification to other crops is more effective than requiring coca growers to leave coca production abruptly.

There is no effective way to require coca growers to leave coca production abruptly. If the coca price is high, there is no viable income-matching substitute. If the price remains low, as it has been in recent months, Chapare farmers will diversify and will become interested in profitable crops and livestock alternatives.

G. Questions for Testing the Hypotheses:

1. Is the Station/Field ratio in terms of personnel and investment appropriate?

The current ratio dates from the years before the coca price fall, when IBTA/ Chapare activities were largely confined to the stations. But with the price fall and the current heavy demand for IBTA services, the number of extensionists, and perhaps researchers as well, must be increased, particularly if IBTA is to serve all seven subregions of the Chapare. In the past IBTA had concentrated its efforts to a large degree in the more favorable areas around its research stations.

2. How adaptable has experimental station technology been to farmers' operations?

Farmers have shown considerable interest in adopting IBTA/Chapare offerings of both traditional (food crops--annuals, largely) and non-traditional (tree crops, mostly) crops. Their interest has increased because of the drop in coca prices. Some of the improved varieties that IBTA has introduced require chemical inputs for the higher yields to be achieved. Farmers may not have the resources to purchase those inputs

For farms on the better soils, near roads, the issue is more one of marketability of new crops rather than of adoption of new technology.

3. Has there been sufficient adaptive on-farm research.

IBTA has increased its on-farm research substantially in recent times. Most of IBTA's research now seems to be conducted on area farms.

4. What functions can extension agents perform satisfactorily?

Chapare farmers want IBTA to provide more on-farm assistance to solve their immediate problems in adopting new crops and making investment decisions.

5. What functions can the promoters perform satisfactorily?

The promoters job has been described in other parts of the report. They perform their duties well. The Chapare interviews suggest that the promoter's job is much easier now that the coca price has dropped.

6. Is supervision and quality control by extension agents of the promoters' work adequate?

It would seem to be, but this is a minor issue compared to the issue of coca prices and availability of markets for perennial. With guaranteed markets, new crops and technologies will be adopted by farmers with larger plots on good soils and near access roads. Extensionists and promoters will not need to work nearly as hard.

7. What are the pros and cons of promoters having their own nursery for crops introduced by the project? Do cost-reduction advantages outweigh loss in quality control?

The idea of promoters having their own nursery is to make the trees available to farmers at a lower cost. The current high cost of IBTA trees (and a lack of guaranteed markets for their produce) is a major problem for the project at present. IBTA personnel interviewed certified that the quality of the promoters' trees was high. They are sold at a reasonable price, and are widely accepted by area farmers.

8. How can the "cultivos" (agricultural practices) component be more directly coordinated with the irrigation component in the High Valleys?

The hiring of an expert in Farming Systems Research should help to address this need.

H. Technology Transfer Questions:

1. What is the technological level of the farmers? What skills do they have and not have? (By region of origin?)

The farmers who have been in the Chapare for many years have adapted to the environment and manage their agricultural activities with relative efficiency.

Recent arrivals face harder times. Most start as workers (in coca and other crops) before share-cropping or buying their own land. Not all new arrivals succeed. Many abandon their land and choose other occupations.

2. What tropical crops are easy for farmers from arid

regions to cultivate? And which crops are difficult?

The agricultural system in the Chapare is of the slash-and-burn variety. It is very different from that practiced in the highlands. In the Chapare the big problem is the control of weeds. Farmers from arid regions do not seem to attach much importance to this question. No one related the matter of ease or difficulty of cultivating crops to that of origin.

3. What are the most critical factors that influence farmers' selection of different alternative crops--i.e., marketability, knowledge and experience with crops, promotion by extension agents, input or labor costs?

Marketability is the principal factor although input and labor costs are also very important.

I. Change Agents within the Chapare community:

1. What is the potential role of growers associations? In relation to the farmers' "sindicatos"?

In a period of declining coca prices, there is clearly an interest in alternative crops and how to produce them. There is also an interest in finding markets. This interest in production and marketing is a sound basis for promoting producer associations, which is what IBTA does. The sindicatos have little control over the market price of coca, and declining coca prices have undercut their authority.

The policy of the current government is one of "union busting." In a recent statement to the press, Jaime Paz (the president of Bolivia) declared that the "sindicato" era was over in Bolivia, that now Bolivians must think of production. However, the unions are not likely to disappear because they provide real and necessary services to the community.

Shades of this "union busting" mentality exist within IBTA/Chapare but IBTA is also cooperating closely with many of the "sindicatos." Short-courses are requested by farmers through local "sindicatos", and "sindicatos" usually select the community promoters. There is at least one case of a "sindicato" functioning as a producer association. In fact, under present conditions, IBTA and the sindicatos have little choice but to work with each other. Most of the friction surrounding the "sindicatos" seems to exist at the level of the Federations, of which five are active in the Chapare, competing for the allegiance of the "Centrales" and member "sindicatos".

The sindicatos will remain strong in the Chapare as long as markets for the products of Chapare farmers cannot be found. If

this situation persists those sindicato leaders who have opposed coca eradication efforts and project efforts will be vindicated. Development of the Chapare will then be largely out of the hands of IBTA/Chapare and USAID.

It should be noted, however, that the Evaluation team discussed alternative development issues with labor leaders at both the sindicato and federation levels. Even leaders identified as very radical are willing to accept other crops if they are as profitable as coca.

2. Is there evidence that the promoters employed by the project are turning into an entrepreneurial class? What new business ventures have they launched?

It is too early to know. IBTA/Chapare has relied heavily on the promoters in its extension activities. Promoters tend to be young, literate, and ambitious. IBTA has helped them attain their present positions in producer associations. How entrepreneurial they become will probably depend more on future opportunities in the region and the possibility of profitable markets for the products of Chapare farmers.

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Evaluation

of the

Chapare Regional Development Project

#511-0543

Appendices

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November 1990

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APPENDIX A

III.B. QUALIFICATIONS FOR EVALUATION TEAM INTERVIEWS

The CRDP evaluation team shall include two Bolivian interviewers, an agronomist (ing. agronomo) and a sociologist/anthropologist, who will assist with the fieldwork portion of the evaluation. Both must have extensive field experience in rural areas and must be able to speak Quechua. They shall aid the other members of the evaluation team in designing and conducting individual, focus group, and community interviews, and focussed informal surveys. They will also be responsible for assisting the other team members in tabulating and analyzing the data gathered during their fieldwork. In addition to these general tasks, each interviewer will be responsible for conducting interviews, especially with monolingual Quechua speakers, on topics covered by their respective areas of expertise.

The agronomist must have experience eliciting information from campesinos about their farming practices (including technology, labor arrangements, and land use patterns). He/she must also be able to question farmers on the comparative advantages or disadvantages of new and old practices in terms of cash expenditures, labor intensity, available outlets, and household consumption needs.

The sociologist/anthropologist must have experience in the use of rapid appraisal methods for eliciting farmers' opinions and perspectives on development programs. He/she must also be able to gather data on diversified production and migration strategies of small-farmer households, including such issues as land tenure, division of labor by age and sex, non-agricultural income sources. Additionally, the sociologist should have some experience interviewing rural women on the particular production, health, and consumption problems they face.

III.D. SCOPE OF WORK

A. Tasks, Methodology, and Schedule

Week One: Evaluation Assignments, Analysis of Secondary Data, Agreement on Tentative Outline for the Evaluation Report (In Cochabamba)

Division of labor and evaluation assignments must be undertaken with care, and will be carried out with assistance from Ms. Deborah Caro of USAID/Bolivia. Testing of broad Project Hypotheses will generally require collaboration among team members.

USAID Bolivia, under the direction of Ms. Caro, will provide the team with all available documents and secondary data for measuring project progress toward objectives, testing the Project Hypotheses, and answering the Evaluation Questions.

Secondary data analysis will require assessment of the extent to which evaluation questions are already answered, and design of primary data collection to fill in gaps.

A rough outline for the Evaluation Report should be agreed on before undertaking field work. The Project Hypotheses and Evaluation Questions may serve as a tentative outline for large portions of the report.

Weeks Two through Five: Primary Data Collection (in the Chapare and the High Valleys)

Answering the Evaluation Questions will require data collection through observation, interview and local data sources. Weeks two and three will be spent collecting primary data in the Chapare, and weeks four and five will be spent in the High Valleys.

Given the large scope and complexity of the project, the need to cover a large geographical area, and the importance of beneficiary response to the incentives and interventions of the project, the team will use rapid survey methods to gather information directly from a cross section of the population in both the Chapare and the High Valleys. It is suggested that the evaluation team take advantage of community meetings and smaller focus groups of both participants and non-participants in the project.

Weeks Six and Seven: Data Analysis, Hypotheses Testing, Explanation of Results, and Report Writing (in Cochabamba and La Paz)

Data analysis shall involve tabulating observations and questionnaires, and relating them to secondary data, Evaluation Questions and Project Hypotheses.

Hypotheses testing shall of course be undertaken to an extent by individual team members. In a formal, definitive sense, however, hypothesis testing shall take place in a one-or-two day meeting attended by the evaluation team. The meeting will also be attended by selected Bolivian experts who the team feels have particular information and insight.

Each of the Project Hypotheses presented shall be considered one by one. All meeting participants shall present 1) their answers to relevant Evaluation Questions, and 2) Other evidence. Then the meeting participants shall make the judgments below. <u>The judgments resulting from the Hypotheses Test meeting will form the core of the Evaluation Report.</u>

1. What evidence is available for testing each Project Hypothesis?

2. What is the best definitive conclusion regarding each hypothesis in light of available evidence?

3. How much uncertainty remains with regard to each hypothesis? And what is the nature of the uncertainty?

4. How can the uncertainty be removed? Two alternatives are: 1) by means of project monitoring systems; and 2) through special studies carried out by the Alternative Development Project Paper team.

5. What are the implications of each Hypothesis Test for future project design and management?

B. <u>Evaluation Questions and Issues</u>

PROJECT HYPOTHESIS ON GEOGRAPHIC CONCENTRATION OF EFFORT:

If project efforts are concentrated in the Chapare and the High Valleys ("distrito sur"); then significant alternative employment for former coca growers and workers will result.

<u>Migration Data Questions for Testing the Geographic Concentration Hypothesis</u>:

1. How many of the coca farmers and workers in the Chapare come from High Valleys ("distrito sur")?

2. What percent of the people in the high valleys migrate? What percent of the emigrants from the high valleys go to the Chapare? Where else do they go?

3. How many of the coca farmers and workers in the Chapare, under low coca price conditions, are returning to the High Valleys?

4. How many of coca farmers and workers have lived most of their lives in the Chapare?

5. With regard to the above questions, are there differences among land-owners, renters, squatters, season workers, and service providers?

6. Of the decision makers with regard to coca (people who can respond to project incentives to get out of coca), how many are from Chapare, and how many are from the high valleys and elsewhere?

Rapid Survey Question for Testing the Geographic Concentration Hypothesis:

1. How do the current package of project incentives affect people who neither have long-term interest in the Chapare

2. What are major push and pull factors that prompt migrants to leave their home areas?

3. How many of the coca farmers and workers say they will stay in the Chapare no matter what?

4. How many of the coca farmers and workers in the Chapare want to return to the High Valleys?

5. What economic and non economic incentives and would attract people from the Chapare back to the High Valleys?

6. What has happened to the migrants who left the Chapare after the fall in coca prices?

Agriculture, Economic, and Environmental Questions for Testing the Geographic Concentration Hypothesis:

The above issue is broad, and it is up to the evaluator to divide it into its component parts which include: current agriculture, new agricultural possibilities, agricultural processing, manufacturing, services, etc.

1. Without coca, what is the level and type of economic investment, and per capita income at which the Chapare population could be stabilized? Consider: 1) amount of arable land available; 2) how much income can available land generate given crops and markets introduced by the project.

2. Do land titling, land selling, land renting and tenure arrangements in the High Valleys permit arrival of new people, and establishment of new farms and businesses?

3. Will the cultivation of the alternative crops and economic activities contemplated for the Chapare, and for the High Valleys cause serious environmental damage?

4. will increased population in the High Valleys cause serious environmental damage?

5 What is the impact of different project interventions (e.g. new agricultural practices, roads, irrigation, resource management) so far on income distribution?

6. The above two questions require extrapolation on the basis of past experience in Chapare and the High Valleys.

7. What are the effects of out-migration and reverse migration on women and children in the high valleys? How do subprojects address their needs?

PROJECT HYPOTHESES ON AGRICULTURAL AND ECONOMIC FOCUS :

<u>The Chapare</u>

1. If individual farmers replace coca with a combination non-traditional crops and livestock; then the income they derived from coca can be replaced.
2. If non-traditional crops such as macadamia, pepper, ginger, maracuya are produced in quality and quantity; then markets for them can be found in time for farmers to recoup their investment.

<u>Questions for Testing Agricultural and Economics Hypotheses for the Chapare</u>

1. Based on current production in the Chapare, what are the production costs, transport costs, cost competitiveness, internal marketability, national marketability, process potential, export potential, and profitability of the following crops:

   Spices: pepper, ginger, cardamom
   Long-term investment: macadamia
   Tropical fruits: maracuya, pineapple, guanabana
   Livestock: chickens, cattle (including milk), pigs
   Traditional cash crops: bananas, citrus, Traditional subsistence crops: beans, yucca

2. What is the economic viability of the diversified farm models being developed by the project? a. What is the matrix of farm models being introduced and used? b. What are the technical coefficients? c. What markets can reasonably be assumed?

   A "model farm" consists of approximately 10 hectares distributed as follows:

2 hectares citrus
1 hectare non-traditional
5 hectares annuals
1-2 hectares livestock chosen from:
500-1000 chickens, or 4-5 cattle, or 10 pigs

3. How do potential earnings from the "model farm" compare with earnings from coca production?

4. If all Chapare farmers adopted the "model farm", how many families could the Chapare support a) without opening new land, and b) opening new, accessible land?

5. What is the potential of the "Viveros Chapare", which have been set up with project help to provide quality sapling to farmers at low cost, to become a viable businesses?

The Associated High Valleys (AHVs)

3. Productive infrastructure (e.g. irrigation and terracing), and improved technological packages will increase traditional agricultural yields sufficiently to discourage potential migrants from leaving the AHVs, and will attract migrants to Chapare back to the AHVs.

4. An intermediate- sized urban center with developed social infrastructure, services, and industry will provide alternative sources of employment for potential migrants to the Chapare region from the AHVs and other contiguous areas.

Questions for Testing Agricultural and Economics Hypotheses for the Associated High Valleys (AHVs)

1. How much can yields of traditional crops be increased through improvements in productive infrastructure, natural resource management and improved technological packages?

2. What is a realistic estimate of the population that improvements in traditional agriculture can support?

3. Are there alternatives to traditional crops that are adaptable to the ecological and socio- economic conditions of the high valleys. What are their production costs, labor requirements, and marketability?

4. Are the present agricultural extension, natural resource management, and agricultural infrastructure subprojects the optimum approaches for increasing productivity and production in the high valleys?

5. What are the non-agricultural employment opportunities under consideration?

6. What efforts have been made to identify and develop non-agricultural sources of employment?

7. How many jobs can the new non-agricultural employment opportunities be expected to generate? With coca? Without coca? What kind of skills will workers who occupy these positions need have?

8. How does the expected income per capita from increased production of traditional crops and from new job opportunities compare with potential earnings in the Chapare?

9. How will new urban-based jobs complement or conflict with on-farm labor requirements?

PROJECT HYPOTHESIS ON CREDIT ARRANGEMENTS:

The credit scheme adopted by the project:
1) stimulates alternative economic activity to coca,
2) will result in acceptable repayment of loans, and
3) stimulates reduction in coca.

<u>Questions for Answering the Credit Arrangement Hypothesis</u>:

1. Has the credit been invested in alternative economic activities to coca?

2. How do interest rates compare with commercial rates?

3. According to borrowers, what factors inhibit credit repayment (e.g. interest rates)?

5. How sound are criteria used by PL480 to approve loans?

6. What are the chances that farmers investing in crops without firm markets yet will repay their loans?

7. Do debtors understand the terms of their loans?

8. What attempts are made by PL480 to encourage loan repayment?

9. What has been the effect on loans of changing the individual coca reduction requirement from 70% to 10%? Quantity of loans?, type of applicant, type of investment?

10. Has the inter-institutional coordination of PL-480 credit been effective?

Advice on Prospective New Credit Arrangements:

11. On the basis of the above, give judgments and recommendations regarding the following prospective elaborations to current credit arrangements:

12. A several-year grace period on repayment on capital for investment in perennials that do not produce for four or more years.

13. A guaranteed market and price fund for non- traditional crops for which firm markets have not yet been found.

14. Calculating credit authorized on the basis of the income necessary to replace coca eradicated. Are there too many unknowns for this to be a feasible approach?

Evaluate the above credit arrangements from:

1) Effectiveness in encouraging alternative economic activity to coca; and 2) Risk to the credit fund.

PROJECT HYPOTHESES ON EXTENSION ARRANGEMENTS:

1.
The Research/ Production/Extension/Promoter/Farmer approach adopted by the project is appropriate to the Chapare.

2.
A "participative" approach to extension, which uses community elected promoters, is more cost-effective than a more direct approach.

3.
Substitution of coca through diversification to other crops is more effective than requiring coca growers to leave coca production abruptly.

Questions for Testing the Extension Approach Hypotheses:

1. Is the Station/Field ratio in terms of personnel and investment appropriate?

2. How adaptable has experimental station technology been to farmers' operations?

3. Has there been sufficient adaptive on-farm research?

4. What functions can extension agents perform satisfactorily?

5. What functions can the promoters perform satisfactorily?

6. Is supervision and quality control by extension agents of the promoters' work adequate?

7. What are the pros and cons of promoters having their own nursery for crops introduced by the project? Do cost-reduction advantages outweigh loss in quality control?.

8.How can the "cultivos" (agricultural practices) component be more directly coordinated with the irrigation component in the High Valleys?

Technology transfer questions:

1. What is the technological level of the farmers? What skills do they have and not have? (By region of origin?)

2 What tropical crops are easy for farmers from arid regions to cultivate? And which crops are difficult?

3. What are the most critical factors that influence farmers' selection of different alternative crops--i.e marketability, knowledge and experience with crops, promotion by extension agents, input or labor costs?

Change agents within the Chapare community:

1. What is the potential role of growers associations? In relation to the farmers' "sindicatos"?

2. Is there evidence that the promoters employed by the project are turning into an entrepreneurial class? What new business ventures have they launched?

PROJECT HYPOTHESIS ON INSTITUTIONAL AND MANAGEMENT ARRANGEMENTS:

A combination of PDAR as coordinator, IBTA as the technical assistance arm, PL480 as the credit manager, and assorted GOB organizations and NGOs is the appropriate organizational mix to solve the coca substitution problem.

Questions Regarding PDAR:

1. How well does the current PDAR organizational structure support the efficient planning, financing, implementation, and evaluation of the project?

2. How can PDAR be strengthened to take on more responsibility for planning and financial decisions?

3. How well are the objectives of the project served by the disciplines represented by the DAI, SARSA, USAID, and Experience Advisors, and the current PDAR technical staff?

4. Do they need others? - e.g. planning/ administrative, marketing advisors?

5. What steps need to be taken to develop a system for generating, designing, assessing feasibility, approving, and managing (supervising) subprojects?

6. Will greater job security and stability of the PDAR staff improve continuity in implementation of the project? How can this be achieved?

7. What are the benefits and disadvantages of PDAR continuing to design and implement (rather than coordinate) projects?

8. What are the benefits and disadvantages of PDAR coordinating project-specific activities and other development efforts in the High Valleys? Why has PDAR shied away from invitations by the Italians to coordinate donor activities?

9. How many of the NGOs implementing projects, or scheduled to implement projects, are capable of doing so independently?

10. Under what conditions and in what technical areas are PVOs or IBTA more qualified to design and deliver improved agricultural technologies?

11. To what extent do implementing agencies and PDAC respond to beneficiary needs and priorities?

12. To what degree does PDAC have to help implementing agencies to design subprojects and to fit these into an overall project strategy?
What project efforts have been made to strengthen NGOs? Who has taken on this role? Who should take on this role?

13. What special agreements among PDAR, USAID, and BAB or organizational arrangements are necessary for the BAB to administer the credit program?

<u>AID's Role</u>

1. Is AID paper work required of PDAR and other organizations involved in the project necessary? Excessive? How can it be reduced without doing damage to project control and quality?

2. What is the chain of command in USAID vis a vis the project? Whose job is it to set and adjust overall objectives and strategies, to choose or approve implementing agencies, to write off on large expenditures, to represent project to the GOB, to collaborate with interdiction people, to manage contractors, and to approve technical packages and approaches?

IMPACT ASSESSMENT QUESTIONS AND ISSUES TO BE EXAMINED:

The evaluation report shall contain a separate section, preferably in the front of the report, which clearly discusses the impact of the Chapare Regional Development Project. This section shall follow A.I.D. guidelines for Impact Evaluations. Specifically, the CRDP evaluation should assess the impact of the project on reducing coca production in the Chapare.

The evaluation shall answer the following management level questions:

1. Does the current strategy of a regional focussed development project like CRDP represent the best of currently available options for reducing coca production and coca-related economic activities in Bolivia (assess the assumptions upon which the current strategy is based, responsiveness of the beneficiary population, and the effectiveness of current institutional arrangements). If interdiction leads to a permanent fall in coca prices, what are the development needs of Chapare farmers, merchants, and migrant laborers? Does the current strategy meet those needs?

2. Is an alternative crops approach in the Chapare a necessary component of a strategy for reducing hectareage under coca production (assess effectiveness of the combination of technical packages, credit, and marketing opportunities for alternative crops vis-a-vis changes brought on exclusively by a fall in coca prices)?

3. Does development of economic opportunities and alternative employment in depressed areas of Bolivia discourage potential migrants from going to the Chapare (assess impact of AHVs components of CRDP on migration to the Chapare, including adoption of technical packages for agriculture and natural resource conservation, increased development of small industry, improvements in productive and social infrastructure, and increased access to markets)?

4. Assess the success of the project in achieving the purpose of "modifying and improving the agricultural and forestry production systems of farmers in the Chapare and Associated High Valleys to respond better to diverse, profitable marketing

opportunities provided under sustained, environmentally compatible medium technology production models". Explain any failure to meet the objects and highlight any unexpected positive and negative outcomes. Account for any quantitative differences in numbers of outputs expected and those achieved.

5. What have been the costs and benefits of the project to date (assess the level of investment vis-a-vis achievement of the project purpose and outputs). If the comparison is not satisfactory, explain why.

6. What changes should be made in the current strategy for any future Alternative Development efforts in Bolivia (assess the conditions impeding success of the current strategy and identify ways to eliminate, alter, or adjust to these constraints and make recommendations)?

Given the many political and institutional vagaries experienced by the project over the last seven years, the following background information should be included in the evaluation report:

1. A summary of the history of the Chapare Regional Development Project, and predecessor crop substitution projects including changes in the objectives, strategy, institutional arrangements, technical packages, technical assistance, and farmer incentives. Inventory and compilation of Chapare regional and all predecessor project financed activities, including surveys, studies, analyses and other evaluation related materials.

2. A summary of the findings, lessons learned, and recommendations of the 1988 Pool et al evaluation, and other related project and predecessor project documents.

3. A summary of the redesign of the amended project set forth in Project Paper Amendment 2 and the roles different institutions were to play in implementing this revised approach.

4. A summary of the development assistance (training, credit, technical assistance, identification of markets, and infrastructure) to be provided by the project.

5. An analysis of currently available data on migration to the Chapare, the difficulties encountered in collecting more accurate and up to date information, and the minimum requirements for additional information needed for the design the new ADP project.

6. An assessment of the project's progress to date in implementing the proposed strategy, and a summary of the actions being taken by different T.A., executing, and coordinating institutions to address problems that have risen.

7. a) A quantitative comparison of expected and actual outputs under the project components of research and extension, credit, marketing and agroindustrial development, product administration, community infrastructure, and rural roads and electrification.

ARTICLE IV - REPORTS AND DELIVERABLES

The final report shall present: 1) evaluation objectives and methodology, 2) a summary of project progress toward objectives, 3) answers to the Evaluation Questions, 4) results of the Impact Assessment 5) results of Project Hypothesis testing, 6) Recommendations for future "Alternative Development" efforts, and 7) critical factors that should be tracked in an on-going M & E system.

The quality of evaluation shall be judged, not only on technical competence and insight, but also on rigor in making distinctions among: 1) data-based answers to empirical evaluation questions, and 2) expert judgments based on personal experience rather than data. The evaluation team has the right to express judgements based on past experience, but such judgements must be distinguished from conclusions based on data.

A draft of the evaluation report must be turned in two days before team departure from Bolivia, and will be the subject of at least one meeting with USAID/Bolivia officials. Ten copies of a final version of the report shall be submitted to USAID/Bolivia within two weeks after departure of the evaluation team from Bolivia.

Summary of Issues to be Included in the Impact Evaluation Section of the Report

In assessing the overall impact of the project, the evaluation team shall look critically at the following issues.

1) The quality of technical assistance in terms of its appropriateness to ecological conditions, beneficiary needs, and whether it has provided the right kind of incentives to convince farmers to grow alternative crops.

2) The viability of alternative crops developed to-date, and whether they have been adopted and marketed by farmers?

3) GOB commitment to the project and alternative development in general. How have the policies and institutional arrangements affected implementation of the project?

APPENDIX B

Appendix B

Evaluation of Log Frame. CDRP 1983-1988	Achieved/No.

I. Chapare Project, 1983

Goals:

a. Income of Chapare residents to equal median for Bolivia by 1988;

b. Increased production of non-coca crops and livestock.

1. Agricultural and Forestry Production:

a. Research & extension in Chapare to promote and increase production in diversified farming	yes
Complementary private sector research & extension	no
Diffusion of Technical Packages	13
Marketing system in place	no
b. Self-sustaining credit system including savings mobilization	no

2. Agribusiness:

Information clearing house	no
Means of identifying, testing feasibility & financing agribusiness in Chapare	no
Commodity processing & marketing systems established	no

3. Administration:

Adequately organized structure	yes

4. Coca reduction:

Control plan for reduction	yes
System to diversify non-coca production	yes

Amendment #2, 1988 Frame: 1983-1990

Goals:

a. Economic development to increase standard of living in the Chapare and the AHV's, and coca farmers directed toward legitimate economic activities;

b. Income of Chapare residents equal Bolivian median by 1988.

1. Agricultural & Forestry Production:

a) Research & Extension

Applied research & extension capacities established in: Chapare		yes
AHV's		no
Complementary private sector work (Chapare)		no
	AHV's	yes
Diffusion of technical packages	Chapare	13
	AHV's	no
Marketing system in place		no

b) Credit:

Self-sustaining credit system including savings mobilization	no

c) Natural Resource Management:

Protection of Fragile lands & ecological systems in the AHV's	no
Improved land use capability through conservation measures	no

2. Agroindustry

Marketing information clearing house established	no
Agroindustry evaluation capacity	no
Marketing systems established	no

3. Infrastructure

Irrigation increasing production in AHV's	yes
Improved water management practices	yes
Road improvements leading to reductions	

in cost & time	yes
Improved market access	no
Water & electricity sytems	no

4. Investment Fund
System to evaluate farmer assistance projects in Chapare — yes

5. Institution Building
Organizational structure for managing delivery of inputs & coordinating with coca control program — yes

III. Amendment #4, 1988 Frame: 1983-1994

Goals:

a. Reduce coca production in Bolivia
b. Eradicate 33,000 hectares by 1994.

1. Agricultural & Forestry Production

a) Research & Extension:

Capacity in Chapare to promote improvements in production & diversification	yes
Agricultural & Forestry Technical Packages	yes
Marketing system in place	no

b) Natural Resource Management:

Protection of fragile lands & ecological systems in the AHV's	no
Improved land use capability through conservation measures	

2. Rural Industries & Marketing

Information clearing house	no
Agroindustrial development system	no
Commodity processing & marketing system	no

3. Infrastructure

Irrigation in AHV's leading to increased farm productivity: Improved water management practices	no
Decrease in cost through rural roads improvements	yes
Improved market access	no
Potable water & electricity systems	yes
Improved social infrastructure	no

4. Investment Fund:

System to identify proposals for farmer assistance in AHV's	yes

5. Institution Building (unchanged) yes

6. Credit:

Self-sustaining credit system including savings mobilization	no

APPENDIX C

INTERVIEWS-CHAPARE

James C. Jones

Interview Procedure

The following interviews were conducted between the fourth and eighth of September, 1990, by myself and a Bolivian colleague, Lic. Rhinda Calla Gutierrez. I have organized material from my interviews and presented it in English in the indicated categories (which can only be approximate in the case of informal, open-ended interviews). Lic. Calla has done the same, but in Spanish. We conducted the interviews in Spanish (which posed few problems among the settler population of the Chapare, though by far most of them seem to be Quechua speakers), working separately, either in the same or different communities, in order to cover a greater social and geographic space.

Some of the interviews to follow were group interviews, others were individual interviews. In the Chapare, I would have preferred to have individual responses to many of the questions, which were intended to probe into individual circumstances. But a lack of time did not permit us to arrange, or search for, ideal interview conditions. There was often no way to control the number of persons in an interview, since upon arriving at a farm household, or a field, two or three adults or more were sometimes present, and it was usually not feasible to request only one or two of them for an interview and ask the others to leave. To do this, I felt, would likely have created suspicion among the respondents (not to mention those asked to leave), thereby compromising rapport and adversely conditioning responses.

Establishing confidence among farmers in the Chapare has posed enormous problems for IBTA/Chapare. That confidence today is only incipient, is sometimes tenuous, and is more manifest in certain subregions (or parts thereof, or sindicatos therein) than in others. In some cases, "confidence" may not be the most appropriate term to describe an opening in communications between farmers and IBTA. The quick drop in the price of coca, and the resulting desperation on the part of many Chapare farmers, would seem alone to account for the opening. This is not to disparage the efforts of IBTA to establish confidence among farmers. Indeed, through hard work and often great personal risk and sacrifice, IBTA personnel had established working relationships with many farmers before the great coca price fall.

In conducting our interviews, Lic. Calla and I availed ourselves of IBTA's confidence base with farmers (and also of a farmer receptivity clearly attributable to the fall in coca prices). Several of the farmers we interviewed (but not all) were recipients of IBTA technical assistance, or at least had had dealings of one sort or another with IBTA. Since an IBTA extension agent accompanied us to the field, helped us select farmers to be interviewed, and introduced us to those farmers (but kindly absented himself from the interviews), this was inevitable. We also interviewed a few sindicato leaders (often farmers as well) and others of sundry occupation who appeared to have information relevant to our interests. Those interviews are included as well.

The bulk of our interviewees is from the Chapare's settler population (the colonos). The colonos who settled in the Chapare before about 1980 went there intending to make it their home. It is my sense that many of the colonos who entered after 1980 (pushed out of the highlands by a coincidence of chronic inflation and chronic drought) are more equivocal with regard to long-term committments to the Chapare.

But it must be recalled that the settlers are not the only persons in the Chapare. At any given time, there is a so-called "floating population" (perhaps better termed a human flotsam because of their desperate plight to survive as castaways during the 1980s) of mostly highlanders in search of short-term employment as peones or partidarios or pisadores or carriers. During the 1980s, this population reached enormous numbers in the Chapare. With the fall in coca prices, their numbers declined substantially. Since the persons I interviewed in the high valleys of Aiquile and Mizque belong to this population, we made no effort to interview them furtner in the Chapare. And then there are the merchants and itinerant traders and truckers that flow and ebb with the economic tides. Numerous in the area during the 1980s, they, too, have since largely abandoned the Chapare.

We originally wanted to stratify the settler sample by highland origin and time in the Chapare as well as by ICTA's subregions. But this proved infeasible given our constraints of time and resources. But we feel the interviews nevertheless represent a good mix with respect to these characteristics.

We visited and interviewed in IBTA's seven project subregions (sometimes called microregions). IBTA's work in the Chapare has turned fundamentally on these subregions, which are defined by agoecological criteria (largely soils). There is a very substantial difference in agroecological potential from one subregion to another. Or perhaps better put, most of the subregions are suitable for some crops and not for others (but, alas, coca, with its high plasticity, performs admirably in them all). A wide variety of crops can be grown over much of Subregions I and III, the zones with the greatest potential for development. These agroecological differences among subregions emerge clearly in the interviews to follow. The subregions (or sections of

them) also differ markedly with regard to accessability by road, to when they were first settled, to whether the colonizations were spontaneous or directed, and to when the bulk of the migrants arrived.

Lic. Calla and I are much indebted to IBTA/Chapare and their technical advisors from Experience, Inc. for making transportation and extensionists available to us during our stay in the Chapare. We could not have done the work without their generous help and splendid cooperation.

The interviews to follow are presented in the order in which we visited IBTA's seven subregions. As a preface to interview material from each subregion, I include comments about that subregion based largely on information I obtained verbally from its IBTA extensionist just prior to visiting it. However, more detail is available in a brief IBTA publication on farm types in each subregion ("Tipos de Finca en el Chapare: Primera Aproximacion," by Dr. Alfredo Alvarado and Ms. Daniel Sanchez, March, 1990, Cochabamba) and in a PIDYS document (SUBDESAL, 1989), which providetechnical description of each subregion.

The exercise of interviewing farmers may be thought of by some as a survey. But I prefer to think of the material from each interview as a case study. Good case studies provide vigorous pictures of life "in the round," whereas the best survey data can only portray life as "flat."

Subregion III

Subregion III, along with Subregion I, are considered to have on average the most agroecological potential (suitable soils and moisture, permitting a wide range of crops) of the seven Subregions, and thus the most potential for development.

Subregion III is divided by the Cochabamba-Santa Cruz highway, with the towns of Villa Tunari and Chimore lying at the extremes of the subregion. One of IBTA's two Chapare research stations, La Jota, is in the zone. Both spontaneous and directed colonization are found in Subregion III, with the better soils tending to lie in the areas of directed colonization (the sendas area). Coca has been the predominant crop in the area of spontaneous colonization (Alvarado and Sanchez 1990), whereas citrus and plantains have dominated in the area of directed colonization.

By one report, many of the coca farmers of the spontaneous colonization area have moved into forests near (or even in) the Parque Isiboro-Secure, on the Beni-Cochabamba border, where sindicatos have obtained lands. This began when UNOPAR made its base in Chimore, which was once an important center of commercialization for coca paste.

The zone also has a small agroindustrial infrastructure --sawmills, rice-hulling operations, processing plants for tea and lemon grass (paja cedron) (Alvarado and Sanchez 1990).

Basic Data: Interview two farmers (males) simultaneously, which I identify in my field notes as "1" and "2." But I will handle them here as separate interviews, denoting them by No. 1 and No. 2. But they should probably be read as a unit/Date of interview: Sept. 4, 1990, at an small outdoor restaurant near Chimore.

The Community, Project Activities

These farmers are evangelistas; the directed colonization of which they are a part was organized by an evangelical church (which they call the OSE) for its members from several highland areas. These farmers do not grow coca, and little was ever grown in their community, they say. And as I learned during the interview, they neither chew coca nor drink chicha, the consumption of both being against their religion. Neither they nor their community are typical of the Chapare.

Migration: History and Circumstances

He arrived in the Chapare in November of 1970, from northern Potosi (Province of Charcas). He resides in Chimore and has 20 hectares of land in Senda B. About 19 has. are cultivable, he says, the rest being taken up by branches (arroyos).

He came directly to the Chapare from Potosi and has never lived elsewhere, he says. He's never lived in a city. Three families (including his) left his community in Potosi to come to the Chapare, but the others left before he did.

He considers himself a Chapare resident, plans to stay in Cochabamba Department; there's no land anymore in northern Potosi, he said. He left because there was no land for him. And there's no water there: people must carry water from two kilometers away, and there's no grass for the animals because of the drought. There's not even water to drink. (I was in northern Potosi two years ago and witnessed the grimness of things there. Nobody would return to such conditions.)

He goes back to northern Potosi about once per year and owns a half-hectare of land there.

I ask him why he chose to come to the Chapare rather than go elsewhere. Because the OSE (the Protestant church to which he belongs) got land for all its members (hermanos) in Bolivia.

He has an older brother (blood brother, not church brother) who came to the Chapare about 10 years ago with his family.

He's searching for land near the city of Cochabamba, something with irrigation. I ask him why he wants this. For two reasons, he replied: first, he's been in the Chapare a long time, and there are lots of diseases here, he says. And second, the heat and mosquitos weaken one. I ask what diseases he refers to: anemia and malaria. I ask him to describe anemia: you become skinny, you don't feel like working, your skin turns yellow.

I asked him how he made the transition from farming in northern Potosi to farming in the Chapare, a vastly different world from the heights of Potosi. You don't plow here and use oxen, he said, and it took him a few days to learn to use a machete. But there were highlanders already here who knew how to do things, and we practiced ayni (a pre-Hispanic system of labor exchange where neighbors gather to build a house or to engage in another activity), where 30 or 40 neighbors would gather to help each other work. When the colony began, there were colonization leaders (jefes de colonizacion) to give instruction. And there were also social promoters (promotores sociales), but these had left the scene when he arrived. But then colonization leaders retreated to their offices, for people learned how to do things.

Local Production, Consumption, and Income

He dedicates himself exclusively to agricultural activities.

Plantains are what he most sells and what's most sold in the community; truckers come in to buy them (I see three large trucks parked nearby). Trucks come from Potosi, Tarija, Cochabamba, and La Paz. Sometimes six or seven trucks per day load up and leave. Farmers here typically have 5-10 hectares of plantain. Second in importance is citrus--oranges and mandarines. Rice is for household consumption, and likewise yuca, corn, and gualusa (taro). A few farmers have cows and pigs, but these don't count for much.

Farmers in the area have not had to use fertilizers until now. He has harvested plantain from the same plot for twenty years, he said, and has never added fertilizer. But now the land is getting tired. He hopes to improve his yields with fertilizer. His citrus trees have also been yielding for twenty years--some of them for thirty, he adds, after reflecting. And without fertilizer.

He does not use fertilizer for domestic crops such as rice, yuca, corn, and gualusa.

In order, he plants rice, then corn, then soybeans or frijol or yuca. I ask him how long he can continue this cycle on a single plot. If you continue, he says, the weeds get so bad you can't deal with them. He cultivates a plot for about three years before returning it to fallow for about three years (during which time low growth, or chume--a Quechua term universally used in the area--returns).

Coca in the Household Economy

He estimates that maybe 30% of those belong to the sindicato planted coca when the price was high. He further estimates that they have reduced about half of that. And now, a government decree prohibits the sowing of coca; you can't make the seedbeds now, he says. And he adds that we're brothers (hermanos) here and don't chew (Note: farmers suck the coca quid more than they chew it) coca. The sindicato belongs to the church.

Seasonal Migrants

The peones who come here, he says, are usually from northern Potosi; they come here to work, where they have family. We know them, he says; they spend two or three months here to earn money, then return.

I ask him what kind of work these peones do. They weed the plantains and clear the forest; these jobs take time, so we give work by the "contract" (as opposed to paying a daily wage). It requires a person more than a month to clear in high forest (to clear one hectare, I infer).

Those who come to work are between thirty and forty years old, they don't have any money and there's no way to earn money in northern Potosi. On their return, they often stop off in Cochabamba to purchase necessities: clothes, tools, sandals, sugar, and rice...

I ask if he's heard the workers express views or sentiments regarding the Chapare. They like to work here, he says, but sometimes they return to find that others have taken possession of their animals in their absence.

Farmer Perspectives on Life in the Chapare

Although he considers the Chapare home, he's searching for land near the city of Cochabamba, something with irrigation. I ask him why he wants this. For two reasons, he replied: first, he's been in the Chapare a long time, and there are lots of diseases here, he says. And second, the heat and mosquitos weaken one. I ask what diseases he refers to: anemia and malaria. I ask him to describe anemia: you become skinny, you don't feel like working, your skin turns yellow.

I ask him what he likes most about the Chapare. There's production here, you don't have to scrounge for food every year as you have to in northern Potosi. Corn matures in three months, rice in four; but before planting these you plant plantains.

Sindicatos and Associations

There are three associations in the area: for tea, for bananas (he says bananos--banana and plantain are sometimes used interchangeably here, but they are different plants--but I think he means platanos since this is what they sell), and for telapia (a fish raised for food; the university in Cochabamba has a telapia project here, I think). There are also Clubs de Madres (Mothers Clubs), he adds. He estimates that 70% of the sindicato members belong to one of the above associations.

I ask how such associations are viewed by sindicato leaders. There is no problem in his sindicato, he says, but in other communities sindicato leaders are jealous of the associations. The leaders feel that the associations detract from the sindicatos. Associations, he says, are usually formed around projects, and some sindicato leaders think the projects should be run through the sindicatos. They're jealous.

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

I ask him how he thinks IBTA might improve on the work it does in the area for farmers. He says that IBTA is very practical, not theoretical. IBTA is now showing them how to fertilize plantain and citrus.

Basic Data: Interview two farmers (males) simultaneously, which I identify in my field notes as "1" and "2." But I will handle them here as separate interviews, denoting them by No. 1 and No. 2. But they should probably be read as a unit/Date of interview: Sept. 4, 1990, at an small outdoor restaurant near Chimore.

The Community, Project Activities

These farmers are evangelistas; the directed colonization of which they're a part was organized by an evangelical church (which they call the OSE) for its members from several highland areas. These farmers do not grow coca, and little was ever grown in their community, they say. And as I learned during the interview, they neither chew coca nor drink chicha, the consumption of both being against their religion. Neither they nor their community are typical of the Chapare.

(Note: IBTA is promoting the planting of macadamia, pepper, coco, citrus, guanabana, and maracuya--pasion fruit --in old platanales.)

Migration: History and Circumstances

He came directly to the Chapare in 1967, also from northern Potosi (Chaiyanta Province). He's never lived in a city or any place else. He considers the Chapare home, but does return every two or three years to northern Potosi, where he has a small land inheritance. Like farmer No. 1, he also wants land near the city of Cochabamba. It's hot in the Chapare, and the children get sick, he says.

This man left northern Potosi because there was little land apt for cultivation, only mountains and ravines (mucha quebrada, serranias solamente).

First, his father came to the Chapare when he heard that there was lots of water here, and that one could harvest three times per year. His parents and brothers have all come to the Chapare.

Local Production, Consumption, and Income

This man devotes himself exclusively to farming. He says that residents of the community are extending their plantain plantings this year in areas where they have reduced their coca plants.

I inquire about his swidden cycle. He first slashes the low growth with a machete, then plants plantains. The trees are then felled with an ax. The slash and fallen boles are left to dry for about a month, then fired (the fire does not damage the

plantains, he says, but rather makes them vigorous). Within three days (before the weeds can enter), he sows rice with corn planted in rows (this is basically a rice field, with an occasional row of corn). The corn matures in two to three months (tender ears--choclos--are harvested at two and a half months), the rice in four months. After the rice is harvested, the corn and rice stubble is cut back; the plantains meanwhile are gaining height. Most farmers, he says, then plant another corn crop (before the plantains begin to leaf and shade the ground), and some of them also cowpeas and beans (the carioca, or black bean).

He plants a small patch of yuca elsewhere; yuca is only for household consumption. At the end of a year, the plantains mature and the area becomes a platanal. Such a platanal will yield for more than twenty years on his soils, he says. (Note: I used plantain as an indicator crop when talking to farmers; the duration of a platanal is a crude indication of agroecological potential.) Old platanales are cut back and the land left fallow for three or four years, until the low growth returns. Then they can be used again. Sometimes, farmers plant macadamia trees in old platanales.

One also has the option of cutting back the platanal, burning the debris and again planting rice and corn (corn is for domestic consumption). The plantains are renewed by the fire and return.

The swidden clearing begins in June, and the crops (rice, corn) are sown in October and November. The usual practice is to take one rice harvest per year and two or three corn harvests.

He has a total of 18-19 cultivable hectares, 9 of them in plantains. I asked about the market for citrus. The price is low, he said; only recently have we begun planting citrus.

Coca in the Household Economy

Seasonal Migrants

Farmer Perspectives on Life in the Chapare

Like farmer No. 1, he considers the Chapare home, but he also wants land near the city of Cochabamba. It's hot in the Chapare, and the children get sick, he says.

Sindicatos and Associations

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

Basic Data: This man is head of Central de Ibuelo/Date of Interview: Sept. 4, 1990

Observation: The speech and general demeanor of this dirigente were clearly not those of a peasant farmer, and I had difficulty at first getting my bearings in his presence. He didn't fit the setting. A big man with a stubbly beard, pock-marked face, and a large paunch, his posture and voice tone were menacing, and he wasn't anxious for me to visit farms in his area. He was very patronizing with me (he may have taken me for a U.S. drug-enforcement agent). After a brief interview, which I elected to do out of deference to his authority, we left and went elsewhere. I learned later that this man is a former vice-minister of agriculture under Barrientos. A peculiar man in a peculiar situation.

The Community, Project Activities

The Central de Ibuelo is composed of 12 sindicatos and includes well over 1,000 families, he says.

Migration: History and Circumstances

This dirigente first came to this area to settle in 1949. He's from Vallegrande (Santa Cruz Department). He came with his wife, and others came also; there were lands here. And there were years when it didn't rain much in Vallegrande; here it rains a lot, he says.

In trying to make conversation, I asked him if there were Yuracares here when he came. (Yuracares once occupied the area that is today the Chapare, but over the years, with increasing colonization, have been pushed into remoter areas in the Parque Isiboro-Secure and forests of the Beni.) He says that they were here, "but it seems we ran them off...They like to live alone."

The people settled in his area include cambas (i.e., a person from the eastern lowlands) and many others; they've come from everywhere, he said. But Cochabambinos predominate, most of the people are vallunos (i.e., from the valleys of Cochabamba Department).

Local Production, Consumption, and Income

His area needs roads and electricity...There are communities fifty kilometres from the highway, so how are farmers going to get products to market? He's very critical of the government's lack of attention to roads in parts of his area. There's also a need for markets, he says.

He insists that there's little coca in his area, that farmers mostly produce citrus. But plantain is what is sold mostly at present, he said. And citrus is second. These are the main two products of the zone.

There's no coherence among institutions working in the Chapare (i.e., they don't coordinate activities, he means). IBTA is here and teaches people how to grow crops. The SNC (State Highway Department) should also be working here, but they're not. And we need other institutions to look at the problem of flooding of some of the rivers. And we need help in marketing our products--where can we take them? And we need schools...

Coca in the Household Economy

He insists that there's little coca in his area, that farmers mostly produce citrus.

In the new zones (those recently settled) is where the illicit drug activity is (not in Ibuelo, he implies).

He says that the coca price is up now, to 200 bolivianos/carga (because of the season, the leaf is scarce in the area). I ask him what the advantages of producing coca are: you can harvest it more often, three times a year. In the Oct.-Nov. harvest, yields are 15 cargas/ha. In the season of San Juan (winter--June-July), yields decline, sometimes to as low as one carga/ha. In February and March, the time of the most abundant coca harvest, yields are 18 cargas/ha. Another advantage: plantains are heavy, you can't get a crop to market if you live far from the roads.

Seasonal Migrants

In the new zones (i.e., those recently settled) is where you find peones, not here in Ibuelo. People who came from outside to work here came during the coca boom. There is almost no "floating population" in Ibuelo, he assured me. The floaters work at weeding and other tasks, and as partidarios (caretakers/sharecroppers) in the coca fields.

Before the coca boom, the floating population was small.

I asked him if he had observed any problems among the floating population. They get yellow fever and they complain of the mosquitos (the mosco, as it's called hereabouts). And they can't educate their children.

Farmer Perspectives on Life in the Chapare

His area needs roads and electricity...There are communities fifty kilometres from the highway, so how are farmers going to get products to market? He's very critical of the government's lack of attention to roads in parts of his area. There's also a need for markets, he says.

Sindicatos and Associations

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA/UMOPAR/DEA/Gringos

He says that the institution that has given the community the most support is IBTA (here, a couple of IBTA extensionists were with us, in his presence). He then began a long tirade on how other institutions had neglected the area, especially Servicio Nacional de Caminos (SNC--The National Highway Department). (Note: UNOPAR/DEA recently bombed a road in the Chapare, supposedly so it couldn't be used as a landing strip for drug pickups, and the Bolivian government, at the instance of the DEA, has suspended road-building activity in the Chapare. It is felt by many that roads abet the drug traffic.)

Countries that buy coca (cocaine) must help us. Helicopters fly over to fight the drug traffic, and airplanes arrive to pick up the drugs (i.e., his point is that the gringos are responsible for both the helicopters and the light planes that pick up the coca paste). What's going on here? The U.S. isn't serious.

There's no coherence among institutions working in the Chapare (i.e., they don't coordinate activities, he means). IBTA is here and teaches people how to grow crops. The SNC (State Highway Department) should also be working here, but they're not. And we need other institutions to look at the problem of flooding of some of the rivers. And we need help in marketing our products--where can we take them? And we need schools...

Basic Data: Five farmers (males) in interview group/Date of Interview: Sept. 4, 1990.

Observations: This interview was cumbrous because of the number of persons. There was no way to conduct five separate interviews simultaneously (two is my limit). Among the group was an IBTA promotor. The respondents were all young--under 40, I estimate. (An old man sat in the corner, but he had a poor command of Spanish. Occasionally I tried to bring him into the conversation, asking one of the young men to interpret for me.)

The Community, Project Activities

The sindicato includes 118 families--80 farmers. Twelve sindicatos belong to the Central, which belongs in turn to the Federacion Tiraque Tropical. San Luis produces mainly plantain.

Migration: History and Circumstances

First settlers came to San Luis in about 1965-1968, I'm told. They came from Sucre. Then settlers came from Cochabamba. The promotor's family arrived in Chapare in 1963 (went to Ibuelo), then came here in 1974. They're from Cochabamba. His wife (38 yrs. old) was born in Ibuelo.

The promotor's family left Cochabamba because there was no water, he said, and also because there was too little land.

Others in the interview group arrived in 1970 and 1978. One of them came from Tarata (in the Valle Grande, Cochabamba Department).

There are persons in the community who arrived from Potosi, I'm told, and also from Sucre. But most of the settlers are from Cochabamba.

Said one of the respondents: Had there been irrigation and land in his community (I forgot where he was from--a problem in trying to manage five respondents), he (or his family; these respondents are mostly young, under 40) would not have come to the Chapare. "It's a healthy life there, there's no disease."

They all say they plan to stay in the Chapare. The promotor hasn't been to his highland community in eighteen years, he said. There's more money in the Chapare than in Cochabamba, you can produce everything here.

One of the interviewees spent two years in Santa Cruz. The others have lived

only in the Chapare (and in their communities of origin).

Not one of them, they say, (or their families) obtained their lands through through colonization; they all had to buy the lands they have. They came as peones, they worked, some for three years, others for five, others for eight years. You can't find land here now except through purchase, they say.

None of them now works as a peon, one of them says with pride. They have peones and partidarios working for them.

Some of them came to the Chapare because they already had families here.

They say they don't give preference to those of their communities of origin when they socialize. In the sindicato, everybody lives communally (i.e., they socialize among their fellow sindicato members). (Note: This question not productive).

Local Production, Consumption, and Income

They mostly produce and sell plantains. And citrus comes next. Plantain fetches the most money now, followed by citrus and then yuca. Trucks queue up here for plantain, taking it mostly to Potosi and Sucre. Farmers also produce gualusa, rice, and corn. They sell coca too, but there's less coca now (this seems more a reference to the seasonal decline in the coca harvest; these are winter months, when coca yields are lower and the price is higher.)

I ask for information on land size. The smallest farmers have 2 hectares, the largest 15 hectares. They estimate that the average (promedio--but they really mean the mode) holding is eight hectares. And half of this typically would be in plantain, I'm told. The rest of the land is in other crops, and some of it is low and swampy and uncultivable. San Luis is a platano-producing community, they remind me.

Coca in the Household Economy

A half-hectare of coca was the most anybody here had in 1962 and 1963.

One of them comments ironically: We first eliminated our plantain to plant coca; now we're eliminating our coca to plant plantain.

Coca now pays 150-160 bolivianos the carga. At one time it paid 800 bol./carga. I ask what they consider a "good price" (un buen precio). One response: 300 bol./carga. They agree that the current price is not a good one. I ask if they will again eliminate their plantain to plant coca if the price climbs to 300 bol./carga. One fellow responds that they will not, for the coca price is not stable. Another one said that he once eliminated his plantain to plant coca, then the coca price fell. "And one

must respect the law," added another.

(A major part of the U.S. anti-narcotics strategy involves disrupting the illegal traffic, not stopping it entirely, which is almost impossible. Such disruption does affect prices, making them volatile. And it's this volatility that discourages many farmers from planting coca. So, the comment above tends to vindicate the strategy. What is less clear is the degree that UMOPAR/DEA activities are responsible for disruption of a kind that makes for the price volatility reported above. This volatility may be the result of events outside Bolivia. As for the current rise in the price of a carga in the Chapare, it may be more related to low yields associated with the winter dry season; how the price behaves in February, when harvest yields are high, will be telling. If they drop quickly, the low price of recent months may signal a secular trend.)

Coca is not reliable, I'm told. The plataneros (i.e., farmers who live on the sale of plantain) live better than the cocaleros when the price of coca drops, one says. And the controls (i.e., activities of UMOPAR) keep coca prices low. Also, UMOPAR takes coca away from farmers. Nobody takes plantain away.

I ask them where most of the coca fields in the Chapare are now. In Ishinuta and Eterazama, they say.

Seasonal Migrants

They have peones and partidarios working for them. Partidarios receive half the harvest, whereas peones work on a contract basis. Peones live with the farm owner. Partidarios life apart, though on lands of the owner. I ask whether these workers have any relationship to local sindicatos. Peones and partidarios don't belong to sindicatos here, but they can complain to them if they're not paid or are mistreated.

Farmer Perspectives on Life in the Chapare

Said one of the respondents: Had there been irrigation and land in his community (I forgot where he was from--a problem in trying to manage five respondents), he (or his family; these respondents are mostly young, under 40) would not have come to the Chapare. "It's a healthy life there (i.e., in the highlands), there's no disease."

The worm (el gusano) affects children here, so some families leave their children with relatives in the highlands. These worms destroy children. Anemia is what most affects the children, the worms give them anemia.

They all say they plan to stay in the Chapare. The promotor hasn't been to his highland community in eighteen years, he said. There's more money in the Chapare than in Cochabamba, you can produce everything here. They've invested too much

work in the Chapare to leave, one of them said.

What they don't like about the Chapare: the heat, the mosquitos, the humidity, the dirty water, which makes them sick. They drink water from the River Chapare.

Sindicatos and Associations

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

UMOPAR/DEA

(A major part of the U.S. anti-narcotics strategy involves disrupting the illegal traffic, not stopping it entirely, which is almost impossible. Such disruption does affect prices, making them volatile. And it's this volatility that discourages many farmers from planting coca. So, the comment above tends to vindicate the strategy. What is less clear is the degree that UMOPAR/DEA activities are responsible for disruption of a kind that makes for the price volatility reported above. This volatility may be the result of events outside Bolivia. As for the current rise in the price of a carga in the Chapare, it may be more related to low yields associated with the winter dry season; how the price behaves in February, when harvest yields are high, will be telling. If they drop quickly, the low price of recent months may signal a secular trend.)

The Leos (i.e., the Leopards, or UMOPAR) sometimes let them pass (within the Chapare) with coca to sell, but only if they're paid. (It is axiomatic in the Chapare that UMOPAR is always "on the take." I was constantly hearing comments to this effect.)

Credit

I asked them about credit, which some of them had received. PL-480 told them that they would have a grace period of three years, but this was not true; PL-480 lied to them, they say. They were told they would not have to pay interest for three years; but then PL-480 told them that it was the capital that they would not have to begin paying back for three years. (Note: this sounds to me like poor communication between PL-480 and farmers.)

IBTA (and Marketing)

I inquire about their views of IBTA. IBTA is forever asking them to plant new things and offering short-courses (cursillos). Some people are excited about this, others are not. IBTA charges $13.00 U.S. per plant for macadamia--very expensive! You need about 100 plants for a hectare of macadamia. You have to pay for the plants in cash; you have 18 months to pay off the debt and you can pay in installments. Coco and citrus trees cost $5.00 U.S. each.

There's a lot of discussion among themselves about how expensive the plants are. One fellow said he bought plants, but several died on him. One bought 520 citrus plants and 30 of them died; IBTA did not replace the lost plants, or compensate him, he complained.

Curcuma (turmeric) has no market, one man says. And there's no market security for macadamia and coco. Everybody would work with IBTA's suggestions if there were secure markets, one said.

There's not much interest in the community now in macadamia, pepper, and giner. But if there were a market, there would be interest.

IBTA gives good advice on how to deal with pests (como sanar plantas). They began this about a year ago. The most useful advice is in the area of citrus, where the technology of grafting an improved variety on the native one has been well received. The trees don't dry out, they last longer, and they fruit sooner.

IBTA has also introduced new rice and bean varieties that they like and are using (for consumption).

Some farmers are planting maracuya (passion fruit), to sell to soft-drink companies in Cochabamba. The plants aren't old enough to bear fruit yet, they need another year. Farmers just began planting maracuya.

I ask them what they now want most from IBTA: more technical assistance, they said. More courses on how to care for crops. They have seen telapias and would like to make fish ponds to have fish to eat (IBTA is not involved here, but they don't know that; San Simon University in Cochabamba has a telapia project in the Chapare).

And they would like IBTA to help locate markets for products. There's no way to pay off the loans without a market. By selling plantain, they say, they can maintain their families, but they can't buy other things.

Subregion V

This was the first area to be colonized in the Chapare (Alvarado and Sanchez 1990). With subregions II and VI, Subregion V is considered to have less agroecological potential. The terrain is generally hilly, and soils tend to be more acidic, of lower fertility, and eroded. Farm size tends to be small, from five to ten hectares, because of the gradient.

The zone has twenty sindicatos according to IBTA'extension agent (Alvarado and Sanchez report 72 sindicatos), almost all of them spontaneous colonizations. The zone extends along a fifty-two kilometer road from Villa Tunari to Alto Chocolatal, with settlements on either side.

Crops include coca, citrus, rice, yuca, corn, peants, and now turmeric. There are coffee producers using varieties introduced by IBTA five years ago. There is an association (ASPROCCA) of coffee and turmeric in the zone, with 86 members. IBTA is introduced non-traditional crops such as macadamia, coco, and pepper. The extensionist estimates that twenty farmers now have these plants, mostly macademia and coco.

Basic Data: Group interview with five farmers (males), one of them an old man, the others young (but heads of family). One of them is the IBTA promotor/Date of Interview: Sept. 5, 1990.

The Community, Project Activities

The community one of spontaneous colonization. About 68 famlies belong to the sindicato. The size of land holdings ranges from a half-hectare to eleven hectares, they say.

Migration: History and Circumstances

All but one of the respondents were born in the Chapare. The old man arrived from northern Potosi 48 years ago. He came because northern Potosi was dry and there was no work. The families of the other fellows were all from the Valle Alto of Cochabamba except one. The father of one left Punata because of drought: there was no rain, no wheat, no food. He settled in the Chapare in the 1940s.

All of them considered themselves Chaparenos (i.e., they considered the Chapare their home). Indeed, they say that most of those in the sindicato so consider themselves, for they've lived long in the Chapare.

Some of the families in the community, I was told, came to the area to escape the Chaco War (1932-1935: this was a savage conflict between Bolivia and Paraguay, a war fought by peasants with great carnage on both sides. Many peasants fled into the remote recesses of the eastern regions to avoid military conscription.)

All of the respondents own land in the Chapare. One of them also owns lands in Sacaba (Chapare Province, but in the upper zone, near Cochabamba), an inheritance from his parents. He has wheat and corn there; an uncle tends the lands.

One of the respondents spent two years studying painting and sculpture (of wood) under Austrian clerics in San Ignacio de Velasco (a province of Santa Cruz, once part of the Jesuit mission Province of Chiquitos in colonial times). He did paintings in the local church in San Ignacio.

Local Production, Consumption, and Income

Crops include coca, citrus, plantain, yuca, rice, gualusa, peanuts, corn, pineapple, and sugar cane. Coca fetches the best market price now, more than plantain. Local farmers have more hectares planted in coca for this reason.

Coca fetches the most income for them, followed by citrus. But citrus yields only once per year, they say (as opposed to coca, which yields up to four harvests per year). Almost every body in the sindicato has citrus, at least four or five plants; but when the crop matures, everybody sells and the price falls.

The land area here is small, not enough to plant many things to sell (other than coca, they mean). They plant yuca, rice, gualusa, peanuts, and corn--for consumption, not for sale; the lands are too small for commercial production, they tell me.

I ask what their main needs are at present. To control pests in their crops, they say--especially in yuca, peanuts, and rice (i.e., in subsistence crops, one notes).

I ask them what the major problems are with the subsistence crops listed above. A pest attacks the peanuts, and a pest destroyed the yuca plantings in 1987-1988. And sometimes the rice grains dry up before they can harvest them. IBTA has not worked in the community with any of the subsistence crops (Note: IBTA began working in the community only in January of 1990).

Plantains here don't produce continuously for long. At most a platanal will last four years, and usually no more than two before you have to replant. Plantains give one harvest after you plant them, and then one more (los hijos), and then they produce no more. (Note: This is an indication of the area's poor soils).

I inquire about livestock. Chickens are the most important, they say, for their meat and eggs. Chicken and fish (the sabalo is what they most consume; this is a fish found in most rivers and streams of the tropical lowlands of South America) are the meats (here, considering fish a "meat") that people here eat most, I'm told. A few individuals hunt wild meat. I ask what meat they most like: fish, they say; it has the best flavor. As for other foods: they are never without yuca, which they consume daily, as they also do rice; and peanuts they eat about once per week...

Coca in the Household Economy

Coca fetches the best market price now, more than plantain. Local farmers have more hectares planted in coca for this reason. Coca is the only crop that yields year round.

Coca fetches 160 bol./carga now (September 5), it never has a stable price. It went down to 10 bol./carga in March and April. It climbed to 50 bol./carga in August. We're harvesting little coca now because it's the dry season, it's cold and dry.

(Note: this price fluctuation seems to correspond with the seasons: the March

and April harvests are the highest yielding, so the market is gluted. August and September are dry, and yields tend to be low; coca is scarce and the price rises. It may be significant that nobody has said that the price is low because of military controls in the Chapare.)

Again, I ask what they consider a "good price" for coca. They respond that the price has to be 150 bol./carga for them to maintain their families. But at this price, there would be no money to buy tools, a radio, and so on. And you wouldn't eat much meat at this coca price. You would survive on only yuca and plantain. The price must be at 300 bol/carga for a family to buy clothes, tools, meat, and other necessities.

The land area here is small, not enough to plant many things to sell (other than coca, they mean). People here are disposed to plant the non-traditional crops recommended by IBTA. But they have no money to buy the plants with (i.e., the trees). For this reason, they have to continue with their coca plantings. Macadamia, for example, takes four years before it begins to produce. What do we do in the meantime? So, we have to maintain the cocales.

The IBTA promotor has 1.5 hectares of coca.

I'm told that about half of the community are abandoning their coca plantings because of the low price, whereas the other half are maintaining (limpiando) their coca plantings.

Seasonal Migrants

Many people have gone, the peones have gone; when the price of coca fell to 10 bol./carga, they all left. There were no vehicles on the roads anymore. But some of the peones seem to be returning, now that the price is going up.

The peones here are from Potosi, Sucre, Aiquile...Many of them came to work for two weeks, or a month, long enough to buy coca here; they came because the price of coca was high there, so they bought it here cheap. They work only to buy their coca, then they return.

The daily wage (jornal) here is 5 bol. now (and food on top of this). If the coca price falls, the daily wage falls to 3 bol. When the coca price falls a lot, one can't hire peones any longer. The daily wage goes to 7-8 bolivianos (for good workers) when the coca price rises to 300 bol./carga.

Peones prefer to work in the harvest of coca, since they make more money that way (note: they're paid by how much they harvest rather than by the day). They make about 20% of the harvest price, says one (note: they are not paid on a

percentage basis, so I don't know how he arrives at this figure). If the price of coca is high, they make more this way than they do at a daily wage of 8 bolivianos. (And nobody has ever paid more than 8 bolivianos, I'm told.)

Farmer Perspectives on Life in the Chapare

I ask them what they like about the Chapare. The fruits, the fish, the hunting--it's a paradise, says one. There's something to be had year round.

What they don't like: mosquitos and diseases such as malaria, yellow fever, and parasitic infections from the water.

I ask whether they would leave the Chapare if they had lands and the means for a livelihood elsewhere. Some said they would leave; a woman walked into the interview and expressed strongly that they would leave. But others present said they would stay: they're accustomed to the climate and to the foods of the Chapare (recall that these respondents were nearly all born in the Chapare).

Sindicatos and Associations

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

This is a new area for IBTA, they began work here only in January, 1990. People here are disposed to plant the non-traditional crops recommended by IBTA. But they have no money to buy the plants with (i.e., the trees). For this reason, they have to continue with their coca plantings. Macadamia, for example, takes four years before it begins to produce. What do we do in the meantime? So, we have to maintain the cocales.

IBTA is promoting here coco, macadamia, pepper, citrus (manadarines, oranges). Six persons have coco plants (only 3-4 plants, someone says). The plants are small, and the issue of marketing will have to be dealt with later. There are a few macadamia plants, but no pepper yet; the promotor tells me that he wants to bring a few pepper plants to the community. Nobody has ginger yet, but it is under consideration, they say.

IBTA charges $13.00 U.S. (their estimate) for each macadamia plant, they say. Coco plants cost $5.00 U.S. You have to pay for the macadamia plants with cash within 18 months, but you can make the payments in installments. IBTA charges no interest. And likewise for coco. As for pepper plants, you return to IBTA, within 18 months, twice the number of plants you received.

Since IBTA uses the promotores as initial adopters of its technologies, I ask this promotor what non-traditional plants he had on his land. His response: 60 coco plants, 48 macadamia plants, and he plans to introduce 100 pepper plants (note: the promotores buy these plants). He also has 1.5 hectares of coca, he says.

The promotor has been to IBTA research stations for cursillos and to see how things are done, but others have not. They say they need to see for themselves. People here have never seen a macadamia tree in production, they need to see one (Note: So far as I know, there is not yet a single macadamia tree in production in all the Chapare; I'm told that some will mature, for the first time, in about three months on an IBTA station.) We've seen pepper at the recent agricultural fair (in Chipiriri, in August of this year) as well as on IBTA's station, so we know more or less how it is.

I ask if they have any recommendations for IBTA. Yes, IBTA should supply them with plants (i.e., trees), but with the provision that have to pay for them only when they come into production, not before. Also, people are asking where they are going to market the produce from the plants. Coffee...tea...where are going to sell this?

I ask them what the major problems are with the their subsistence crops listed above. A pest attacks the peanuts, and a pest destroyed the yuca plantings in 1987-1988. And sometimes the rice grains dry up before they can harvest them. IBTA has not worked in the community with any of the subsistence crops (Note: IBTA began working in the community only in January of 1990).

I ask them to talk a bit about IBTA's short courses, since IBTA expends a major effort on these. These courses are on non-traditional crops, they tell me--macadamia, coco, pepper, citrus (citrus should be considered "traditional" in much of the Chapare). In these courses, IBTA teaches about sistemas--that is, about how to incorporate perennials into annual cropping schemes in a single system. The courses show how to plant, to fertilize, to treat plant diseases. The courses are given in the community by an IBTA ingeniero (an extension agronomist).

I ask them to suggest ways IBTA might improve on the cursillos, or short courses. They should be conducted at night so they won't interfere with our work, they said. But many persons here can't read and write, they need to see how to plant, how to do the cultural practices in actual fields. The talks (i.e., the format of the short courses) are not enough for them.

(IBTA has a slide projector that works off of a gasoline generator. Another reason for doing the courses at night is that slides can't be handily used of the day because of the light. And slides should be used when possible, I would say, especially for showing certain kinds of disease; trying to draw an infected fruit on a blackboard, which IBTA extensionists sometimes do, is not convincing, I would argue.

As far as literacy is concerned, this has implications for the pamphlets that IBTA puts out. Many of these are quite simple, with pictures, and so on. But for some things, cultural practices demonstrated in the field--on farmers' fields--are the most convincing of all, especially for those not print/picture oriented. I'm told that the literacy
rate in the Chapare, especially among the older generations, is low.)

DIRECO

The people at DIRECO don't have time to attend to us, one fellow tells me. Before, DIRECO paid $2,000 U.S. (this is a dollar-quoted price; the farmers don't receive actual dollars) for each hectare reduced, but now they pay only 1,500 bolivianos for each half-hectare reduced--i.e., they're paying less. DIRECO has no time because everybody is reducing their coca plantings. And if a farmer does receive a certificate from DIRECO for reducing his coca plantings, he takes it to the DIRECO office and is told that there's no money, that he must return at such-and-such time. But this wastes our time, and we have to pay transportation to and from the DIRECO office. WE have to go about 14 km., and it costs us six bolivianos round trip. The jornal is only five bolivianos now.

Subregion V, Sindicato Paratito--Interview J6

Basic Data: Interviewed a single farmer (male)/Date of Interview: September 5, 1990

The Community, Project Activities

He says the sindicato has 104 members, about 80 of them living locally (asentados). (Note: This suggests that the others have lands within the sindicato, but may have primary residence elsewhere. Or perhaps they have recently left the Chapare. I had no time to pursue this.)

This community received a potable water system (from a UN project, I think) in return for reducing its coca plantings. Thus, the respondent has benefited from this project as well as from DIRECO, who paid him to reduce his coca (see below).

Migration: History and Circumstances

He's been in the Chapare 35 years, is from Kilakolla Province, Cochabamba Department. He considers himself a Chapare resident, has bought lands here. He's been in Paratito for about 23 years, he estimated.

Before he settled in Paratito, he was in Antiguas Yungas, where he worked as a platanero (i.e., he planted plantain commercially).

He left Kilakolla when a flood came and carried his house away and washed away his lands. He then went to Antiguas Yungas. But then the price of plantain dropped and he came to Paratito, where he has remained. He chose Paratito because there was a school here for his children. There were already a lot of people here when he arrived, the road to Cochabamba (his house is on this road, now the old road to Cochabamba) was inaugurated a year after he arrived, he said.

When he first arrived in Paratito, he worked as a carpenter and janitor/caretaker at the local school. He came with his wife and children, and with them alone.

All the land he owns is here, he owns no land elsewhere, he said.

He said there was a lot of coca grown in the area in the early 1960s, when he arrived. Traders (rescatistas) gathered it and took it to Cochabamba to sell. Then, came to work in the cocales in order to get coca to chew; now, they come from Aiquile to work in the stamping (pisada) and participate in the illegal traffic. (Note: I had mentioned to him earlier that I had worked the previous week in Aiquile and Mizque, so I think he's using Aiquile as an example. There's no reason to think that more persons from Aiquile participate in coca stamping than from other areas.)

Local Production, Consumption, and Income

He has a few head of cattle, forage pasture for the cattle, tea (CORDECO buys tea, though they are late in getting it and he asks IBTA's extension agent to look into the matter), a fair amount of coffee (hartas plantas), macadamia (50 plants), coco (40 plants), pineapple (hartas plantas), and the usual rice, yuca, corn, and plantain. He also has a nursery (vivero) with macadamia and carrizo (?). He no longer has coca, having eradicated 2.5 has. of that last year. (Although I didn't ask, it's pretty clear that he took the money he received from DIRECO--$5,000 U.S.--and invested it the diversified spread of activities above.)

I ask him what gives him the most income of the above activities. Nothing, he promptly said; there's no market for anything. Before, his income came from coca. He complains that he has spent money on peones to work his tea and plant pasture grass...but there's no prospect of selling anything. CORDECO (not IBTA) has been promoting tea for several years.

CORDECO picks it up and processes it in Senda B (the Chimore area). But CORDECO has not picked his tea up and he's concerned; he asks the IBTA extensionist to look into the matter. CORDECO pays an established price for this tea, but he's far from Senda B, he says, and for this reason CORDECO ignores him.

I ask about the distribution of activities over his land. He has a total of seven

hectares, he said. He has 0.5 has. in tea, 4 has. in pasture (for six cows), 0.5 ha. in pineapple, and 0.5 ha. in macadamia and coco (i.e., both in the same 0.5 ha.). And he has 1 ha. in corn, rice, yuca,and plantain. And a little bit of urucu, he says, but it has no market value. Absolutely nothing gives him an income, he says again.

Some people in the area now planting curcuma (turmeric) and pineapple. But curcuma doesn't yield everywhere here; the soils vary much, some parts need fertilizer, but you can't buy fertilizer without money.

I ask about the cows and the pasture. The cows are for milk, for the house, he said. I ask about the durability of plantain (which is for consumption only), knowing that it's an indicator crop for soil character. The land is tired, he said; plantain lasts from one and a half to two years (compare this with a duration of 20-25 years in Subregions I and III).

Coca in the Household Economy

He said there was a lot of coca grown in the area in the early 1960s, when he arrived. Traders (rescatistas) gathered it and took it to Cochabamba to sell. Then, came came to work in the cocales in order to get coca to chew; now, they come from Aiquile to work in the stamping (pisada) and participate in the illegal traffic. (Note: I had mentioned to him earlier that I had worked the previous week in Aiquile and Mizque, so I think he's using Aiquile as an example. There's no reason to think that more persons from Aiquile participate in coca stamping than from other areas.)

He had 2.5 has. of coca, which he eradicated last year (And was paid for it--He has abided by the law, he says with pride). He estimates that from 50 to 70% of the sindicato members have eradicated (but we don't discuss how much). He's getting into ranching, he said. (And he has other crops, listed above.)

I ask him what gives him the most income of the activities in the above section. Nothing, he promptly said; there's no market for anything. Before, his income came from coca. He complains that he has spent money on peones to work his tea and plant pasture grass...but there's no prospect of selling anything.

I come at the amount of coca in the area again. There's little coca in Paratito, he says; only 3 persons have coca here now. People here comply with the law, he insists (He may think I'm a drug enforcement agent of some sort). I ask about the local price of coca. He hesitates, thinks, and says that he thinks it's about 50 bol./carga (he seems very uncertain, and the figure doesn't square with my figures from elsewhere).

I ask him where he buys his chewing coca. In Cochabamba, he said. The flavor of coca varies depending on where it's produced in the Chapare, he says.

The price of coca climbed to 500 bol./carga during the Garcia Meza era, he said. In recent months, it fell to 5 bol./carga and nobody even bothered to harvest it; they had no money to pay the peones.

I ask him what is the minimum coca price farmers need here to make it worth their while (I put the question in terms of what "farmers" need rather than what he needs, hoping he'll speak to the topic more readily. He's not comfortable with the topic, not with me). They say they need 100 bol./carga, but the price must be stable, mind you ("...pero que este fijo el precio, sabe). To maintain a family and buy food for the peones (whether for the coca harvest or other non-coca related activities is not clear, but he probably means for the coca harvest, which is labor intensive), you need 150 bol./carga and one hectare of coca. But you must work it with your family (i.e., you can't hire peones to weed, and so on). You can harvest about 5 cargas every 3.5 months from the one hectare. I ask him how much a weeding costs (in term of daily wage for peones): 240 bolivianos, he says (only one weeding is usually required).

You pay harvesters one boliviano/12 pounds of wet leaf harvested. (He doesn't say under what carga price, but from other interviews I would guess 100 bol./carga.) (Note: 250 lbs. of wet leaf reduces to 100 lbs. of dry leaf, according to this man. I don't think this is correct, however; the ratio of wet weight to dry weight is more like 6/5. I infer this from interview data from both Aiquile and the Chapare--see Chapare interviews J7 and J8, as well as Aiquile interviews) You would have to pay each peon about 20 bolivianos/wet carga harvested, he says.

Seasonal Migrants

He has five (from Cochabamba Department) working for him now; they are young and work for a year, leaving their families back home. I ask him why they came to the Chapare. Because of the drought: there's no wheat, no nothing there.

I ask whether peones complain much about life in the Chapare. Some don't like it, he says; they complain of the heat, the mosquitos, the food; he buys meat (beef) only once per week for his family, he says (Note: The peones eat with his family; this is the custom).

Farmer Perspectives on Life in the Chapare

I ask whether peones complain much about life in the Chapare. Some don't like it, he says; they complain of the heat, the mosquitos, the food; he buys meat (beef) only once per week for his family, he says (Note: The peones eat with his family; this is the custom).

Sindicatos and Associations

He had been dirigente of the local sindicato for 20 years, and resigned only three months before our talk. I asked him why. Because of the personal expense involved, going on comisiones (i.e., traveling to represent the sindicato). It's an economic damage (i.e., to his family), he said, and now all he wants to do is to work, to farm.

IBTA is working well with the sindicatos in his zone, he says. In other zones, relations are not so good.

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

IBTA is working well with the sindicatos in his zone, he says. In other zones, relations are not so good.

People here want more cursillos (short-courses). And people complain that the plants IBTA sells are too expensive. (He says he bought his macadamia plants two years ago, and doesn't remember how much he paid.)

Subregion I

Subregion I, along with Subregion III, are considered to have on average the most agroecological potential (suitable soils and moisture, permitting a wide range of crops) of the seven Subregions, and thus the most potential for development. Some consider this subregion to have the best all-round soils in the Chapare. The zone was the site of spontaneous colonization beginning in the early 1940s, and of directed colonization in the 1960s (Alvarado and Sanchez 1990). There is relatively less coca here than in other subregions since a variety of other plants do well; according to IBTA's extension agent, anything can be produced here. Bananas and citrus are the main products of the zone, and the typical farm size is 15 hectares, with the earlier settlers having as many as twenty hectares, the more recent ones ten or less.

Subregion I, Sindicato Gualberto Villaroel--Interview J7

Basic Data: Interview with one farmer (male); another farmer showed up for part of the time, but did not participate/Date of Interview: Sept. 5, 1990

The Community, Project Activities

This man is one of nine members of "Viveros del Chapare," a legally constituted association of persons (mostly former IBTA promotores) trained by IBTA in the cultivation of tree crops. He manages the association, which includes nine nurseries, two in each of Subregions I, III, IV, and V, and one in Subregion II. Like the respondent below, each member is a local farmer and has a plant nursery on his land, which he owns and operates. The nurseries are usually also parts of UPDs, or demonstration farms. The association sells improved plants, seeds and agrochemicals to local farmers, as well as provides them with technical assistance and orientation.

Although clearly of the Chapare small-farmer class, this man is exceptional for his breadth of vision and willingness to accept risk. About 32 years old, he's hard-working and bright and very congenial, and we spent the better part of an afternoon talking and walking the land, surrounded by an impressive variety of tree crops and ornamentals (and, alas, a little patch of coca--for the peones to chew on, he said).

The local sindicato numbers 50 members, but he includes in the local stable population about 70 families. The difference is made up of peones and partidarios, categories of workers without land but with some degree of permanence in the community.

I asked him what the needs of the community were. He pondered long before responding (There are many cases of hunger and abject misery in the Chapare today. The case presented here is far from that. Here, the needs are clearly less). Economic improvement, he finally said: better education, better nutrition, and better health. "We Bolivians are behind."

This man recently left his job as promotor. There is a new promotor, a very young man who showed up during the interview but did not participate.

Migration: History and Circumstances

He was born in the Chapare, but his father is from Kilakolla Province, Cochabamba Department. His mother was born in the Chapare. He thinks his father came to the Chapare because of family problems (I didn't pursue this) in around 1945, after the Chaco War. His father didn't serve in the war, he said. His father went first to Todos Santos (in the Chapare), where he stayed for about five years before moving to Puerto Aurora (near Todos Santos). There, he married the respondent's mother (she's from Puerto Aurora, he says) and stayed for 10 years. He settled where the respondent is now in 1959 or 1960.

He thinks the first settlers came to where he lives now between 1957 and 1959. The settlement was a spontaneous one, he says, noting that the lots here are uneven in size.

He owns his land here, and also owns a small lot with a house near Cochabamba. He bought this with half of the money he received from DIRECO for eradicating his coca. (With the other half, he bought macadamia, citrus, and coco plants from IBTA.) I asked him why he bought this house and lot. So the children could go to school, he said. They live there with their mother. It's important to educate the children, he said, and educational facilities in the Chapare are poor. I asked him how often he and his wife see each other. About every 10 days, he said.

Local Production, Consumption, and Income

Citrus and bananas are the main crops here, citrus fetching a better market price than banana. The annuals include corn, yuca, gualusa, peanuts, and beans--but these are not much sold, they're for the house. He estimates that about 20% of the planted area of the sindicato is today in coca. But now both citrus and banana earn more than coca, he said. Before, it was the reverse.

He also has a considerable number of papaya plants, and says that almost all farmers in the area have some papaya.

He estimates on average that each family has about eight hectares; he has fifteen. He has 5 has. in banana, and has just planted 5 more in banana (to mature in about a year). He has one hectare of citrus under production, but recently planted 2 more hectares. In coca, he has 1,000 square meters (0.1 has.); he had 4 hectares in coca until he eradicated them in early 1988. He plants about 0.5 ha. per year in rice and 0.5 ha. in yuca--for family consumption.

He owns his land here, and also owns a small lot with a house near Cochabamba. He bought this with half of the money he received from DIRECO for eradicating his coca. With the other half, he bought macadamia, citrus, and coco plants from IBTA. The macadamia is now flowering, the citrus is just beginning to fruit, and nothing is happening with the coco yet. The coco he can sell, he says, and

he thinks he can sell the macadamia also (but he seems to have some doubt here). (Note: I have to wonder how this man, or any other small Chapare farmer, can sail into producing macadamia without knowing anything about markets. Since the money to buy these trees usually comes from eradicating coca--from eliminating something, that is, not from producing something through hard work--is it possible that farmers are more disposed to handle the money as venture capital?)

He says that plantain will easily last 25 years on soils here (i.e., of a kind where he is). He takes only one rice harvest from an area, then shifts; a second rice crop in the same spot would have low yields, he said. But he could put either corn or yuca where the rice was; you have to rotate crops, he said.

Coca in the Household Economy

He estimates that about 20% of the planted area of the sindicato is today in coca. But now both citrus and banana earn more than coca, he said. Before, it was the reverse.

He estimates that 70% of the families in the sindicato have reduced their coca plantings. The small patch he has left he will use to give the peones to chew while they work; they won't work without it, he said.

I asked him why he didn't have more coca (or retain more when he eradicated). "You have to live," he said. (Note: There's irony here: He eradicated his coca in order "to live." But there are many farmers in the Chapare who retain their coca, or some part of it, also in order "to live." The respondent has many options because of his excellent soils, relatively large land area, and proximity to a good road. Many others, perhaps most of the Chapare, are not so fortunate.)

In coca, he has 1,000 square meters (0.1 has.); he had 4 hectares in coca until he eradicated it in early 1988 (Note: the market price fell below the cost of production at this time). I asked him why he eradicated: for economic reasons, he said; the coca needed too much labor, which hecouldn't afford to pay because of the low market price.

In producing coca, it is the harvest that demands labor, and you have only about two weeks to get the harvest in once the crop matures. To harvest 4 hectares of coca, you need 8-10 days (if it doesn't rain), with 20 peones working per day. You can harvest bananas alone, without the help of peones. Transplanting coca from the seed beds doesn't require much labor (if I recall well, he told me that he could transplant 2 hectares alone). (Note: He told me that to plant coca, he throws the seeds by hand onto a prepared seed bed--almacigo--where they are allowed to germinate, after which he transplants the young plants.)

I ask him what the price of coca is now. He's heard that it sells for 180

bol./carga, he said. I ask him at what price one can begin to make money on coca. When it's 180-200 bol./carga, he said; you can make a little profit. With prices at 100-110 bol./carga, you loose money.

He says that peones working in the coca harvest earn on a percentage basis. (This must not be the only system, for the harvest is paid also by the tirada, or 12 lbs. of wet leaf; I explain this system in the interviews from Aiquile, in the High Valleys.) They receive 10% of the value of a carga (that is, if they harvest what comes to a carga, or 100 lbs. of dry weight, they are paid 10% of its market value). If the coca price is 500 bol./carga, a peon receives 50 bolivianos. (Note: the two systems for paying peones may not be two at all if the ratio of wet weight to dry weight is 120/100 = 6/5. The two systems come to the same thing if this is so.)

When the price of coca is low, the daily wage (jornal) is fixed at about six bolivianos (plus food). But this wage can climb to 10-15 bolivianos when the price of a carga is 500 bolivianos or more. The wage varies, it's a matter of supply and demand, he says.

The pisada (stamping) pays 20 bolivianos at present--or the equivalent of three days wage for a night's work. If the price of coca rises, a pisada rises also; it can climb to as much as 50 bolivianos--not bad for a night's work. But there's a danger: the Leos (i.e., UMOPAR).

He also comments on the susceptibility of UMOPAR to bribes. "But this is life in Bolivia, there's no justice in life here."

He owns his land here, and also owns a small lot with a house near Cochabamba. He bought this with half of the money he received from DIRECO for eradicating his coca. With the other half, he bought macadamia, citrus, and coco plants from IBTA.

Seasonal Migrants

He says there are perhaps 20 families living in the area who work as peones or partidarios. He has a peon family living on his property that helps him. They're from Potosi and they help him with weeding and other chores. He went to Potosi to pick this family up about a year ago, he said. His wife's relatives knew about the family and gave good references on them. I asked him why he didn't pick up a family locally. It's better to get one fresh from Potosi, he said; those locally here have bad habits. Also, many who come to the Chapare stay for only a short time and then leave; this doesn't suit him, he wants a family that will contract for a year with him.

The small patch of coca he has left he will use to give the peones to chew while they work; they won't work without it, he said.

He estimates that 70% of the highlanders who come to the Chapare do so as peones, without no intention of staying. Only about 30% come to stay. Many peones came when coca prices were high, but now it's not worth it to them to come.

The daily wage now is about 6 bolivianos (plus food).

Farmer Perspectives on Life in the Chapare

I ask him what he dislikes about the Chapare. Everything's good here (Aqui es todo bueno).... After a pause, I prompt him, noting that there's surely something he doesn't like. The mosquitos, the heat, the lack of help...Of all the money coming from the Bolivian government, there's no development in the Chapare.

He owns his land here, and also owns a small lot with a house near Cochabamba. He bought this with half of the money he received from DIRECO for eradicating his coca. (With the other half, he bought macadamia, citrus, and coco plants from IBTA.) I asked him why he bought this house and lot. So the children could go to school, he said. They live there with their mother. It's important to educate the children, he said, and educational facilities in the Chapare are poor. I asked him how often he and his wife see each other. About every 10 days, he said.

Sindicatos and Associations

He manages "Viveros del Chapare" (see notes at the beginning of this interview for information on this). The association has 80,000 citrus plants, 60,000 of them already grafted. They plan to sell these plants to local farmers. They hope to sell 100,000 plants in 1992, and they're already getting requests, he says. They're also working with ornamental plants; they brought the material from Costa Rica.

He says they received credit from a "private bank," and then laughs. He was evasive when I inquired about the source. The citrus material for the nurseries was all imported from Costa Rica, at a cost of $9,000 U.S. This is what the "private bank" financed, he later told me with a smile. The terms: a grace period of 1.5 years during which nothing is paid; in the second year, you begin to pay interest and capital. He says they might ask PL-480 for a loan, but there is a problem: you have to pay interest from the time the loan is taken out, yet plants like macadamia don't come into production for seven years. And citrus takes five years. So, how can you pay on the loan meanwhile? Many people don't want to fool with credit for this reason. Yet credit is needed for quality production, you have to buy inputs. With fertilizer, citrus will yield in 2.5 years; without it, you have to wait five years.

I ask him what the value is of being "associated": you have advantages when your importing and when your marketing, he says. These socios are almost all former IBTA promotores, he says.

The grafted citrus (i.e., improved varieties grafted onto the creole varieties) is superior, people are beginning to see this. IBTA is to present a short-course here tomorrow, he says, and about 70% of the sindicato will attend. The dirigentes are interested now; they, too, will be there.

Sindacalismo (peasant unionism) has prevailed in the Chapare, but it's brought few benefits to farmers, only to its leaders (dirigentes). The leaders say that coca is the only solution for Chapare farmers, that there are no alternatives, that coca monoculture is the only way to survive. But now farmers are realizing that to survive they must take care of themselves, the leaders don't have all the answers. Sindicalismo doesn't have the sway it once had. Farmers are looking to associations to assure their own futures. Things have changed much this year. Today, you can't make it on coca alone. Before, people here didn't sow yuca, rice, only coca, he said. He has observed in communities in the area that now people are planting rice, yuca, plantain, corn--they're trying to balance their income source. They have to survive, they can't depend on coca any longer. (Note: This is a good observation: the settler population is in transition, retreating into a semi-subsistence economy, with marginal market participation, after a decade of avid, coca-fueled market participation).

He volunteered to be an IBTA promotor, he said; and his doing so was not well received by the local sindicato. The sindicato leaders were against him, they said he had been bought by the gringos. But now the same leaders come to him for technical assistance. Now, nobody in the community harasses promotores; the sindicato leaders see IBTA as an entity that provides technical assistance--they didn't need technical assistance to grow coca, but the new crops require it.

Most of the sindicatos now agree, he says, that farmers need to grow other than coca. The drop in coca prices taught them a lesson. I ask him what the lesson is: that farmers couldn't eat when the coca price was low.

<u>IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA</u>

IBTA

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I ask him for suggestions on how IBTA might improve its work (he's a former IBTA promotor). By changing its extension system, he says. They should have extension agencies in the communities; now, they operate out of two research stations in the Chapare (Chipiriri and La Jota--and there's an extension office in Villa Tunari, which he fails to mention), so there's no way they can attend to farmers in a timely way. Because they're far away, the attention farmers get is sometimes poor. And farmers can't go looking for IBTA when there's a crop pest.

Before, IBTA stayed on the stations and farmers didn't know what they had. Now, they're getting out more. They should have done this ten years ago.

I ask with what crops farmers need the most help: With the alternative crops (i.e., the non-traditional crops), for farmers here have little experience with these. They need to learn how to graft, how to control diseases. You have to be a real expert to grow coco, for example, because of the need to control insects, which is difficult with coco. Within 2-3 months or less, you can loose all your plants if you're not on top of the problem.

The grafted citrus (i.e., improved varieties grafted onto the creole varieties) is superior, people are beginning to see this. IBTA is to present a short-course here tomorrow, he says, and about 70% of the sindicato will attend. The dirigentes are interested now; they, too, will be there.

See material under "Associations" above.

Since he's a former IBTA promotor, I ask him what the advantages of being a promotor are. You learn new things, modern technology. And the disadvantages? You're resented by those not involved in the program. Some people say the promotores are bought by the gringos. The old people say this. But the young ones want to learn new things.

He volunteered to be an IBTA promotor, he said; and his doing so was not well received by the local sindicato. The sindicato leaders were against him, they said he had been bought by the gringos. But now the same leaders come to him for technical assistance. Now, nobody in the community harasses promotores; the sindicato leaders see IBTA as an entity that provides technical assistance--they didn't need technical assistance to grow coca, but the new crops require it.

He was for three years a promotor (the usual term of office) and only recently left office. He suggested to the community a young fellow for the job and the community (the sindicato, that is) agreed.

I ask him what the qualities are that make for a good promotor. He (they're all women, I observe in passing) must be active, a good communicator, and able to give

technical assistance to farmers.

I inquire about UPDs (Unidad de Produccion Demostrativa) since these play an important role in IBTA's extension strategy. These are created by IBTA for demonstration value in the communities, he says. IBTA sets them up on a farmer's land, but the farmer must pay for the plants; only IBTA's technical assistance is free. He has had a UPD, and has one now. IBTA's promotores are the first to have UPDs, he says, and they have to take two or three short-courses to know how to manage the plants.

I ask him for a tour of his UPD (which merges with the nursery). It includes coffee, macadamia, ginger (for export to Chile, he said), coco, tembe (palm cabbage), grafted citrus, and ornamentals. In the UPD are mostly perennials (this is what IBTA mostly promotes, it seems), but there are also annuals, he reminds me. He has corn where the coco trees are, and he will next plant rice alone, to the side. (Note: The UPD is clearly not built around annuals, or subsistence crops, but around perennials. This is the situation that IBTA wishes to move farmers toward.)

Gringos

Since he's a former IBTA promotor, I ask him what the advantages of being a promotor are. You learn new things, modern technology. And the disadvantages? You're resented by those not involved in the program. Some people say the promotores are bought by the gringos. The old people say this, not the young ones. The young people want to learn new things.

Credit

He says they received credit from a "private bank," and then laughs. He was politely evasive when I inquired about the source. The citrus material for the nurseries was all imported from Costa Rica, at a cost of $9,000 U.S. This is what the "private bank" financed, he later told me with a smile (see "Associations above). The terms: a grace period of 1.5 years during which nothing is paid; in the second year, you begin to pay interest and capital. He says they might ask PL-480 for a loan, but there is a problem: you have to pay interest from the time the loan is taken out, yet plants like macadamia don't come into production for seven years. And citrus takes five years. So, how can you pay on the loan meanwhile? Many people don't want to fool with credit for this reason. Yet credit is needed for quality production, you have to buy inputs. With fertilizer, citrus will yield in 2.5 years; without it, you have to wait five years.

UMOPAR/DEA

I told him I had heard that UMOPAR was easy to bribe. Yes, they are, he acknowledged. "But this is life in Bolivia, there's no justice in life here.

"Subregion VI

According to IBTA's extensionist, all of the colonization in this zone is planned, with the first settlers having arrived between twenty and twenty-five years ago. There has been no spontaneous colonization. Most of the settlers are from the Altiplano rather than from the valleys. Soils over much of the area are sandy and of low fertility, and a section of the subregion is subject to flooding during the rainy season. The modal farm size is 20 hectares.

A lot of coca is found in the subregion, with citrus, banana, and plantain also playing roles in the local household economy.

Basic Data: Interviewed one farmer (male)/Date of Interview: Sept. 6, 1990.

The Community, Project Activities

The sindicato, or colonia, has 45 families.

Migration: History and Circumstances

He thinks the colonia began about twenty years ago; he's been here for only ten years. He came from Kilakolla Province, Cochabamba Department, in 1979. He came because there was not enough land there. But he first settled in a nearby colonia--Colonia Remedos Kolpa--where he lived for two years. He obtained land there (una dotacion--not purchased). But he gave the land to his brother-in-law and moved here, where he bought land.

He says that most of the farmers in the community are from Cochabamba, though some are from Oruro. He plans to stay here; he's now beginning to raise cattle and wants to produce milk commercially.

He always goes to Cochabamba (to the city) to visit family twice or three times per year, sometimes more often, to buy things--potatoes, onions, carrots, and other consumption items. He has one hectare of inherited land there (in Kilakolla, probably), without irrigation, but it's been five or six years since he last visited it. His older brother lives on and works the land.

I asked him why he came to the Chapare (rather than elsewhere). There was movement here, lots of coca and a way to earn money.

I asked him whether he'd ever lived in other places. Yes, he went to Santa Cruz in 1965 to work (harvesting rice) and stayed for a month; and he also did his military service in Santa Cruz. He also lived and worked in Buenos Aires, Argentina, for three years in the early 1970s. There, he worked as a mason/bricklayer (albanil). He made lots of money in Buenos Aires, he said. Working his land in Cochabamba, he could only make enough to feed his family, not to buy things for them. There wasn't enough land to make a decent living.

There are two other families from Kilakolla living in the community, he said, and others from there living in other colonias.

Local Production, Consumption, and Income

He has 20 hectares of land. His crops: coca (1 ha.), plantain (1 ha. in production, will plant 2 has. more), orange (0.5 has. in production, 2.5 more planted but not yet in production), papaya (1.5 has.), pasture grass (4 has. now, but will plant 2 more; he has six cows and plans to produce milk commercially), corn (3 has.), yuca (a little bit, perhaps 0.5 ha.), rice (he will sow 0.5 has.; last year he planted 3 has., but rice requires a lot of labor for weeding and harvesting, it's too costly).

A group of Sweedish Protestants is building a dairy nearby and he hopes to eventually sell milk to them. Now, he sells milk in town (Ivirgarzama). Coca is the crop that fetches the most now--but it does not pay him as much as milk, he says. Papaya and plantain are also important sources of income for him.

His six cows feed on the pasture grass, and he also gives them plantain, yuca, and alfrecho (which he buys locally; it's like flour, a by-product of rice hulling). One of his neighbors also has milk cows.

Plantains will last about 10 years here without replanting, he says (but he has none of that age). He says the soils are good where he is. But other soils in the community are not good, he says; some of them are very poor, so the owners grow mostly coca.

Oranges sell for 2-3 bolivianos/100 fruit in season, but are selling now for 10 bol./100 fruit because they're not in season.

He bought a truck (a Ford 3.50 pickup) semi-new in 1982 and sold it in 1985. I asked him why he sold it: a lot of mechanical problems, he said. I asked him where he got the money for the truck: from planting coca and from buying and reselling it (as rescatista).

Coca in the Household Economy

Coca is the crop that fetches the most now--but it does not pay him as much as milk, he says. He has one hectare of coca.

Plantains will last about 10 years here without replanting, he says (but he has none of that age). He says the soils are good where he is. But other soils in the community are not good, he says; some of them are very poor, so the owners grow mostly coca.

He had one hectare more of coca before than he has now, but he eradicated it a year ago and received $2,000 U.S. I asked him what he did with the money. He saved some of it, he said, and took the rest to buy coca and resell it (as a rescatista).

But he's not now working as a rescatista, he has to stay home and supervise the peones; they won't work if you leave them alone, he says.

I asked him why he eradicated the one hectare: when the price fell, he had no money to hire peones to weed and harvest the crop, he said. You have about a month to harvest the coca leaf once it matures; after this, the leaf falls. (Note: Another farmer told me you had to harvest it within two weeks of maturity.)

When he had two hectares of coca, he harvested them with 20 peones in a week. You pay them by the tirada (=12 lbs. of wet leaf), he said. When the coca price is at 150 bol./carga (=100 lbs. dry weight), a tirada pays 1.50 bolivianos (Note: this squares with information I received from peones in Aiquile who had worked in the Chapare. See those interviews). A tirada varies with the price of a carga, he says. (And again, the ratio seems to be 1/100.) A good peon (one who knows how to harvest coca, he says) can harvest 10 tiradas in a day, thus earning 15.00 bolivianos (at a carga price of 150 bol., that is). (I ask him about a system of paying peones on a percentage basis--10% of the value of a carga that is made up--after drying--of what a peon harvests. He has never heard of this system, he says; farmers always pay by the tirada, he insists. IBTA extensionists confirm this. See Chapare interview J7).

Drying coca leaves requires a half-day only, then the leaves are ready to be sold.

Most of the farmers in his colonia have reduced (but not eliminated, one must note) their coca, he says; only two or three have not.

He's keeping the one remaining hectare until the last; he wants one more harvest from it, in about three months. Meanwhile, he has planted pasture grass in the cocal, so after the next harvest he will have no coca. He says he thinks he can make a living with his milk cows.

I ask him what he plans to do with the money he'll receive from eradicating the final hectare of coca. He will use it to maintain his family and to engage in commerce (dedicarme a los negocios--this man is clearly the quintessential Cochabamba trader).

About two months ago, coca was selling for 20 bol./carga, he said. Now, it's up to 150 bol./carga. The price varies a lot, but you can maintain a family on 150 bol./carga. I ask him if he will still eradicate his final hectare of coca if the price continues to climb, jumping to, say, 200-300 bol./carga. Yes, he'll eradicate it, he's already decided. But he adds that he's happy he hasn't eradicated it yet, because the price is climbing now. Some of his neighbors have eradicated all of theirs, and now they regret it, he said. Once you eradicate coca, it's against the law to plant it again. (Here, one notes something of the agony that a decision to reduce coca plantings

involves for many farmers. It's quite a gamble.)

Five families of the community have left for Cochabamba, he says (whether permanently or just temporarily I never learned, but their departure is clearly related to the declining Chapare economy).

From May to September, coca is scarce because of the cold and lack of moisture. It's this way every year, and the price goes up during this period. In October, the price comes down. He plans to eradicate his final hectare in December; he's getting ready to harvest it now. He will sell the harvest locally; the price varies, he says, but he hopes it will favor him because you can't store the leaf. The harvest at this time of the year is generally not good.

The price of coca rose to 800 bol./carga two years ago, then fell to 10 bol./carga. Oranges, by contrast, sell at 2-3 bolivianos/100 fruit in season, but are selling now for 10 bol./100 fruit because they're not in season.

He bought a truck (a Ford 3.50 pickup) semi-new in 1982 and sold it in 1985. I asked him why he sold it: a lot of mechanical problems, he said. I asked him where he got the money for the truck: from planting coca and from buying and reselling it (as a rescatista, that is).

Seasonal Migrants

He has five peones working for him now, weeding, sowing...He pays them five bolivianos per day plus food--and they eat three times per day, he says. He figures each one costs him 10 bolivianos/day. One of them is from Potosi, the other three are from Aiquile Province, Cochabamba Department. They say there's no work for them at home, he says.

He's no longer working as a rescatista, he has to stay home and supervise the peones; they won't work if you leave them alone, he says.

Farmer Perspectives on Life in the Chapare

I ask him what he dislikes about the Chapare: the heat, the mosquitos, the dust (he lives near a heavily traveled dirt road, which is dusty at this dry time).

Sindicatos and Associations

He says the local sindicato has asked IBTA to present short-courses to members on citrus, forage grasses, and soils--on how to handle poor soils, he says. (This seems to be an issue in this area, where many soils are poor.) The sindicato doesn't interest him much, he said; it's mostly a waste of money (I assume they must

pay some sort of dues) and they don't do anything. The local sindicato favors coca reduction, he said, and he's heard that others in the area do as well.

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

I ask him if he's receiving assistance from IBTA. No, he's not. He purchased 408 citrus plants at IBTA's La Jota station, for $1.50 U.S. per plant. IBTA gave him instructions at the station on how to plant the citrus, and then IBTA delivered the plants. But 100 of them have dried out and he's been complaining to IBTA and asking that the plants be replaced. IBTA has told him they will send an agronomist to look into the problem. And he presses the IBTA extensionist who took me to talk to him to send an agronomist specialized in citrus. He complains that IBTA doesn't want to give him credit for the 100 trees he lost.

He has attended IBTA short-courses on forage grasses and citrus. (Note: As I indicate below, he has received PL-480 credit for both citrus and livestock. To get this credit, applicants must show certificates from IBTA that they have taken courses relevant to the production lines for which credit is sought.)

He says the local sindicato has asked IBTA to present short-courses to members on citrus, forage grasses, and soils--on how to handle poor soils, he says. (This seems to be an issue in this area, where many soils are poor.)

Credit

He received PL-480 credit, which he used to buy citrus trees and enter dairy ranching (see IBTA above). Somebody from PL-480 occasionally drops by to see what he's doing in these areas (i.e., with the loan money). The interest is 13% annually, and he must make the first payment this month, he says. But he has a complaint: the citrus trees are not yet in production, and neither is the pasture grass; yet he has to pay on his loan. This is not right, he says.

Basic Data: Interview with a farmer (female)/Date of interview: September 6, 1990.

Observations: I attended briefly a short-course given by IBTA in Ivirgarzama for members of a cooperative (s) there. The course was on diseases in maracuya and cacao--a two-day course, the first day on maracuya, the second on cacao. In the course were two women (de pollera--in highland native attire), one of them replacing her husband who was unable to attend, the other a farmer and household head. This second woman, of, say, between 40 and 50 years of age, was much interested in this course, asking questions, sometimes in very broken Spanish (she was a Quechua speaker). The IBTA extensionists had commented to me on her participation, which, they found unusual. So when the class recessed for lunch, I approached her--and an older man who was also in the course--and we talked briefly.

The Community, Project Activities

Migration: History and Circumstances

This woman is widowed and operates her farm only with the help of hired labor (peones).

Local Production, Consumption, and Income

She tells me she wants to plant maracuya, (either pepper or papaya, I can't understand which), plantains, and rice; IBTA has said they will show her how to plant maracuya. But she has no money to buy plants, she says in a pleading voice; she has no money to go either forward or backward (No hay dinero para ir atras o para adelante). She can't hire peones now, she has no money.

(Note: The comment above that she has no money to go either forward or backward is telling. She has no money either to go forward and alter her production mix, or to go backward and maintain herself at a bare subsistence level with coca--she reduced that and can't plant more. A most difficult bind.)

Coca in the Household Economy

She reduced 0.5 hectares of coca in July (1990).

Seasonal Migrants

Sindicatos and Associations
IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

DIRECO

She immediately complains to me that DIRECO has not paid her for the coca she eradicated (in July, 1990). She has no money to pay peones, not even to buy food with. She says many people in the area are eating poorly (mal alimentados) now, they have no money.

When I inquire, she explains that DIRECO personnel make three visits to a property. On the first visit they measure the area of the coca plantation. On the second visit, after a portion or all of the coca plantation has been eradicated, a DIRECO agent returns to take measurements and verify the reduction. And then DIRECO makes a third visit to verify the results of the third and to deliver a certificate of reduction. One takes the certificate to a DIRECO office and receives payment for the reduction.

DIRECO has not made the third visit to her property to give her a certificate. And she has no money. The old man who was present when I talked with her told me that his situation was idential to hers. And he, too, had no money--no money to buy food.

(On the morning of this day, I drove by the DIRECO office in Ivirgarzama and I saw a long line of persons reaching down the street. I had heard complaints from others that DIRECO had no money, that farmers were arriving with their certificates only to be told to return another day, that there was no money for payment. This seems to be a serious situation in some areas.)

She tells me she wants to plant maracuya, (either pepper or papaya, I can't understand which), plantains, and rice; IBTA has said they will show her how to plant maracuya. But she has no money to buy plants, she says in a pleading voice; she has no money to go either forward or backward (No hay dinero para ir atras o para adelante). She can't hire peones now, she has no money.

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(Note: Circumstances such as this argue powerfully against eradication--if there is the faintest glimmer of other options, that is. And some sindicato leaders--and

probably drug traffickers--are pointing to these cases to argue that farmers should not cooperate with the eradication program. And their argument has a compelling logic.)

Subregion II

This is probably the most recent area of colonization, with the exception of Valle Ivirsa, which was settled about fourteen years ago by planned colonization. Most of the other settlers arrived during the coca boom of the 1980s, forming spontaneous colonizations and producing mostly coca. Soils over the subregion range from from good to average to bad, with the worst soils mostly in areas of spontaneous colonization.

Subregion II, Sindicato Dr. Ernesto Daza Ondarza/Sindicato Villa Imperial--Interview J10

Basic Data: Conducted interview with two farmers (males) of separate sindicatos/Date of Interview: September 6, 1990.

Observations: One of the farmers in the interview situation is the dirigente of the sindicato Dr. Ernesto Daza Ondarza, while the other is a farmer from Potosi who belongs to a neighboring sindicato, Villa Imperial. I met the dirigente first, at a small store he recently bought (or opened), and asked if there was a farmer nearby I could talk with. He called one to the store, so both persons were necessarily involved in the interview. The Potosino farmer was reticent and a trifle shy, so the dirigente sometimes intervened, but always in a helpful, diplomatic way. He often spoke to issues that applied to the larger area, not just to the Potosino's sindicato. In the interview material below, I indicate whether the response is that of the Potosino or of the dirigente.

The Community, Project Activities

Migration: History and Circumstances

The dirigente said that most of the farmers in his sindicato came in 1976, mostly from Cochabamba and Potosi. The sindicato includes 90 families.

Dirigente: Before 1980, people migrated mostly to Santa Cruz, where they harvested rice and sugar; but after 1980, they came to the Chapare. In the 1950s and early 1960s, people went to Argentina, and then after that they went to Santa Cruz to harvest cotton, cane, and rice.

The Potosino came to the Chapare in January of 1982, from Linares Province in Potosi. He left because of drought and insufficient land to support his family. I asked him why he chose the Chapare. He had worked in the tropics before, he said, and on his way to Santa Cruz he came through the Chapare and learned that there was land for colonization. So he stayed.

The Potosino had worked for a couple of years in Santa Cruz (1969, 1970, 1971 he estimates), where he had his own land. But the land was far from everything, to get out he had to cross two rivers; there was no way to get produce to market. This land was also a colonization. From there he went to Bermejo, on the Argentine frontier, where he lived for seven years, planting corn and rice and some sugar cane. There were many mosquitos in Bermejo, he said, so he sold the land and returned to Potosi for eight months or so to visit his parents. He had heard that there was land available in the Chapare, he said. And so when he came through on his way

to Santa Cruz he decided to stay.

The Potosino has first-cousins (primos hermanos) here, they left Potosi together; it was very dry in Potosi in that year. (Note: This was the time of the worst drought of the century in many parts of the highlands; the water levels have still not recovered.)

Local Production, Consumption, and Income

Potosino: We live far away, there are no roads, there's no way to get produce out (Note: He lives in the small settlement where we talk, but his land lies several kilometers away, in a remote area. To get there, he travels on more of a trail than a road and must cross a couple of streams. In the rainy season, which is the harvest seasons, vehicles can't negotiate the turgid streams.)

I ask the Potosino what he plants: rice, corn, yuca, plantain, citrus, coca, and peanuts--all annual crops, all for consumption except coca. Coca is what pays him the most, he says; he can't get anything else out because of the roads. Dirigente: Without coca, these people are dead (Sin coca, esta gente esta muerta), the dirigente proffers helpfully. The road needs to be fixed. Two things are needed, the dirigente adds: for the government to fix the roads and for IBTA to lower the price of its trees.

The Potosino has a total of 20 hectares: rice (0.5-1.0 ha. he plants), corn (0.5-1.0 ha.), yuca (0.5-0.75 ha.), plantain (1.0 ha.). He had 1.25 has. of coca, but reduced it all. Some farmers in his area had as many as 3.0 hectares of coca, he said. I asked him how he is surviving now: By making tiles (at a tejeria), he said, and he also received money from DIRECO in June for eliminating the 1.25 has. of coca.

The daily wage here is now 10 bolivianos, the dirigente says. But this is without food. If food is included, the wage drops to 5-6 bolivianos.

The dirigente also has 20 has. of land: rice (1.0 ha.), corn (less than 0.5 ha.), plantain (0.5 ha. but he plans to put another hectare in this year), citrus (100 plants), coca (0.5 ha.--he had 2.0 has. before reduction), yuca (1,600 sq. m.). He has no peanuts. Animals: chickens and pigs. Coca is still the best earner among his crops, with plantain second.

I ask about the soils in their area. Average to good, the dirigente responds, but there's much variation. He says that plantains, if well cared for, will last for 10 years on his land. The Potosino says that they will last for six on his (but he's only been here about this time, he says).

Coca in the Household Economy

I ask the Potosino what he plants: rice, corn, yuca, plantain, citrus, coca, and peanuts--all annual crops, all for consumption except coca. Coca is what pays him the most he says; he can't get anything else out because of the roads. Dirigente: Without coca, these people are dead (Sin coca, esta gente esta muerta), the dirigente proffers helpfully. The road needs to be fixed.

The Potosino had 1.25 has. of coca, but reduced it all. Some farmers in his area had as many as 3.0 hectares of coca, he said. I asked him how he is surviving now: By making tiles (at a tejeria), he said, and he also received money from DIRECO in June for eliminating the 1.25 has. of coca. I ask him how he plans to use the money, but get no reply.

Dirigente: The price of coca now is about 150-200 bol./carga, the price varies; the price is slightly high now, but the next harvest will be in three weeks (i.e., this is the winter dry season, when the coca supply is less and the price tends to be high).

I ask what the minimum coca price has to be to cover the needs of a family: the dirigente responds that about 100 bol./carga covers basic needs, with 0.5-1 ha. planted in coca. Farmers here are keeping about 0.5 has. or so in coca (as opposed to eradicating everything, he means) until they see what's going to happen (i.e., to the price). He (the dirigente) says that he has eradicated one hectare but has kept back 0.5 has. for this reason. He will not eradicate this 0.5 has. until the very last. He's now looking at plantain, milk cattle, and swine; he mentions that the Swedes (a Swedish Protestant group in the region) are installing a dairy.

Dirigente: He estimates that 50% of the farmers in his sindicato have reduced their coca plantings by about 70%; and about 15% of these have eradicated their coca completely. Those who have not reduced are looking at those who have, to see what happens to them. In the 1970s, Banzer (President of Bolivia at the time) said that coca would disappear by 1972 (the year is probably an estimate), so many farmers in the Chapare stopped planting it and began to raise cattle. And then the coca price rose in the late 1970s and 1980s, and those with cattle became poor, whereas those with coca fared well. People remember this.

I ask them in which sindicato (or colonia) more coca had been reduced: in Villa Imperial, they agreed.

Dirigente: When the price of coca dropped, he estimates that 10% of the farmers in the local colonias left in search of work. He says they have only gone temporarily, some to the communities from which they came, others to other parts. But he insists that they will return; all those with farms (chacos) here live here.

Seasonal Migrants

Farmer Perspectives on Life in the Chapare

Potosino: I ask him what are the bad things about the Chapare. We live far away, there are no roads, there's no way to get produce out (Note: He lives in the small settlement where we talk, but his land lies several kilometers away, in a remote area. To get there, he travels on more of a trail than a road and must cross a couple of streams. In the rainy season, which is the harvest seasons, vehicles can't negotiate the turgid streams.)

Sindicatos and Associations

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

Dirigente: Before, IBTA recommended Limon ruboso for this area, but it didn't give good results. This was their first mistake. IBTA's plants are too expensive, farmers don't have the money to buy them. He has told them they must lower their prices. Now, a macadamia plant costs $15 U.S.--a lot of money, and they don't come into production for five years. And you have to pay 13% interest on the loans...

Dirigente: In the early years, IBTA had few personnel, their efforts weren't felt in the countryside. They never came around this area then. They said they couldn't get out because of the danger.

Two things are needed, the dirigente says, in reference to the Potosino's community: for the government to fix the roads and for IBTA to lower the price of its trees.

CREDIT

Dirigente: Before, IBTA recommended Limon ruboso for this area, but it didn't give good results. This was their first mistake. IBTA's plants are too expensive, farmers don't have the money to buy them. He has told them they must lower their prices. Now, a macadamia plant costs $15 U.S.--a lot of money, and they don't come into production for five years. And you have to pay 13% interest on the loans...

Subregion IV

Soil fertility in this subregion, where IBTA's Chipiriri research station is located, ranges from very low to high. Coca is the principal crop on soils with poor to medium fertility, and there is a substantial amount of coca in the zone. Many of the roads in the remote areas are poor and have made by settlers. Drug trafficking is still strong in this subregion, which borders on the Parque Nacional Isiboro-Secure, where there are no roads and where traffickers can process coca in relative isolation. For this reason, much of the subregion has been declared a "red zone," and Isinuta, San Julian, and San Gabriel are commercial centers for the sale of both coca and pichicata, or coca paste.

According to IBTA's extensionist, some of the sindicatos in the subregion are twenty or more years old, but he estimates that seventy percent of them are new--only three or four years old. And there are sindicato, he says, where half of the people have eradicated their coca, received payment from DIRECO, and left the area.

Subregion IV, Eterazama Cooperative--Interview J11

Basic Data: Very casual interview with four persons, cooperative employees, some of them farmers as well/Date of Interview: September 7, 1990.

Observations: We pass by the headquarters of this large cooperative, where IBTA has given technical assistance in the cultivation of tree crops to members. There is a nursery at the headquarters, so I asked to stop and see it. I talk briefly with local personnel about their operation and their dealings with IBTA. The project has not been involved in the creation of this cooperative.

The Community, Project Activities

Migration: History and Circumstances

Local Production, Consumption, and Income

Four months ago, they bought 10,000 macadamia plants (or seeds) imported from Costa Rica. The local nursery belongs to the cooperative (to its members, I'm reminded), and the objective is to make seedlings available to members for about $5.00 U.S. per plant. They plan for each member to have one hectare of macadamia.

I ask what cooperative products have the best market: tomatoes, I'm told; you can sell these immediately. They're also selling citrus (oranges, mandarines), maracuya, rice, white corn, soybeans, trefol (?--trebol = clover), and vainita (some kind of bean). Soils in the area are no good for plantain, they tell me.

In the nursery they have mandarines (cleopatra variety), maracuya, ornamentals, papaya, and vast numbers of macadamia.

I ask them if they're concerned about a market for all the macadamia. They're not thinking beyond the sale of the plants to their members for now, they say. I press them on this. They admit that they don't know where they can sell it; we need an international market, they said. They plan to graft in six months. And where will the material come from? I ask. They don't know.

They want to import seeds (or plants) for palm cabage (tembe).

Best Available Copy

He says they want to export abroad, and they are looking for some sort of processing plant.

Most members of the cooperative have about 10 hectares, I'm told; some have 20, others 5.

Coca in the Household Economy

Seasonal Migrants

Farmer Perspectives on Life in the Chapare

Sindicatos and Associations

There are 900 members of this cooperative, which includes twelve sindicatos. As one of the leaders told me, they decided to do their own "alternative development"; he stressed that they receive no outside financial assistance.

The cooperative has seven functional divisions (rubros) which include education (they built a colegio with four ciclos), health, housing, agriculture and livestock, marketing, savings and credit, and transportation.

Four months ago, they bought 10,000 macadamia plants (or seeds) imported from Costa Rica. The local nursery belongs to the cooperative (to its members, I'm reminded), and the objective is to make seedlings available to members for about $5.00 U.S. per plant.

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

IBTA

I ask them about IBTA's technical assistance. They need a lot more help with macadamia: how to cure diseases, how to graft. And they need help with soil management for all their crops, they say (because of the poor soils in the area).

They have been told by IBTA that they need to use lime (cal), but UMOPAR won't permit traffic in lime. (Note: Lime is considered a precursor, or a reagent for use in processing coca--it's used to neutralize the sulphuric acid that is used, I think, to leach out the alkaloids from the leaf.) When I pursue the issue of calcium, I learn that they're buying it on the local black market, at a premium price (so, it is getting into the Chapare). They mix lime with rice chaff and other matter to prepare the soil for the macadamia seed beds (and other seed beds as well, probably).

They characterize IBTA's assistance as regular.

They have been told by IBTA that they need to use lime (cal), but UMOPAR won't let lime into the Chapare. (Note: Lime is considered a precursor, or a reagent for use in processing coca--It's used to neutralize the sulphuric acid that is used, I think, to leach out the alkaloids from the leaf.) When I pursue the issue of lime further, I learn that they're buying it on the local black market, at a premium price (so, it is getting into the Chapare). They mix lime with rice chaff and other matter to prepare the soil for the macadamia seed beds and those of other seedlings. With regard to local soils, they tell me that the sand is "hot" (El arena es caliente)--a reference to the area's acid soils.

Subregion IV, Sindicato Mariscal--Interview J12

Basic Data: Interviewed a single farmer (male)/Date of Interview: Sept. 7, 1990

Observations: While in a remote area of this subregion (well beyond Erazama, in the general area of the Isiboro-Secure National Park), we passed a farmer slashing underbrush with a machete. Since I had to return to Villa Tunari in the afternoon in order to catch a ride to Cochabamba, I didn't have time to continue along this isolated road to an even remoter area where IBTA was beginning to work. So I asked my driver and the extension agent to stop and introduce me to this man. The introduction was quite brief, for IBTA had not worked here and the farmer didn't know much about them--and even less about me. The extension agent left me with my driver and the farmer, and continued in another vehicle with my colleague, Lic. Calla, to the area where IBTA was beginning to work. I began to explain my mission in terms I thought might make sense to him.

This was "oportunistic sampling" at its finest, and a bit "importunistic" as well, for the farmer was busy and anxious to return to his task. He was sparse of word and spoke very indistinctly, whether because of a large quid of coca in his jaw or some other reason I don't know. The interview, therefore, was rushed, a bit painful for us both, and the information less complete than I would have preferred.

The Community, Project Activities

He estimates that 60 families belong to the sindicato.

Migration: History and Circumstances

Most of the families here, he said, had been twenty years or so in the Chapare (but not necessarily in this sindicato, I learn later). He was born in the Chapare 32 years ago, in Chipiriri, and came to the present location with his parents about 15 years ago, when the land there grew tired. His parents are from Colomi, in

Cochabamba Department. They left Colomi because they had no lands, after the Revolution of 1952.

His parents have a house in a rural area of Sacaba (Cochabamba Department), where they now live. He says he bought his father's lands here, those he now works. His brothers left the Chapare, he said; one suffers a lot here: the heat, the mosquitos...They have lighter work (trabajo mas liviano) where they are. I ask what they do and learn that they're in school (colegio) and at least one of them is at the university. He has three brothers and two sisters and is the only one left in the Chapare.

Local Production, Consumption, and Income

When his family settled in the present location 15 years ago, they grew citrus, rice, yuca, corn, and coca. Coca and rice fetched about the same market price then. They took their rice to the "corner" (esquina--a point nearby, obviously, on a major road; I don't know the area and didn't have time to delve into trivia under the circumstances), where they sold it to truckers. They took coca also to the "corner," but sometimes sold it to local drug dealers. There were drug dealers buying coca here during the Banzer years (i.e, the 1970's, when Gen. Hugo Banzer was president).

There was coca in the Chapare when he was born, he said, but there was no drug traffic then.

I ask him what crops he has now: oranges, plantain, corn, gualusa, yuca, coca, palta (avocado), mango, and rice. Now, plantain fetches a better market price than coca.

He has 12 hectares of land: plantain (2 has.), citrus (1.5 has.), rice (1.5 has.), corn (0.5 has.--he intercrops corn with rice, he says), coca (1.5 has.).

I ask him what he most sells: plantain, papaya, oranges. He earns more from plantain because he can harvest it more often, he said. A platanal will last 7-10 years here; the soils are clayey, not sandy.

Coca in the Household Economy

There was coca in the Chapare when he was born, he said, but there was no drug traffic then.

Without roads, you can't get your produce out (i.e., he's making the point that coca is the only crop one can sell if there's no access road).

Now, plantain fetches a better market price than coca. The price of coca (in

Eterazama, the nearest town) is 100 bol./carga. And he has 1.5 has. of coca (a rather large amount). This price is low, it doesn't cover costs (muy bajo, no cubre). I ask what a "good" price might be. He says that 200 bol./carga is a good price, because you have to pay the peones, buy their food, give them with a place to live.

He takes his coca to Cochabamba to sell, he says; he gets a better price there. He often takes it himself, sells it, then returns, or sometimes he entrusts it to a friend. I ask him how he passes the UMOPAR tranca (check point) on the highway. He has a license (carnet de productor) to sell coca, he said; he merely pays 5 bol./carga (I assume this is a tax).

About half the farmers in his sindicato have coca, he estimates. Those that have it have 0.5-1 ha. Only two farmers in the sindicato have reduced their plantings.

He estimates that five or so members of his sindicato left the Chapare when the coca price fell; they left for their "ranches" (estancias), where they have lands. (Note: This suggests to me that they have returned to highland areas, where there are animal herds.) But they'll come back, he said.

I ask whether he plans to reduce his coca (he has 1.5 has.). No, he says adamantly; they say DIRECO can't pay. And if DIRECO could pay? I ask him. Again, an unequivocal no. "The dirigente and people here say that if you receive money from DIRECO, the DEA and the gringos will own the land." (Note: In this dialogue, he uses DIRECO and the DEA almost synonymously.)

Seasonal Migrants

He has one peon working for him now, a man from Oruro who's been with him for three months. I ask how long he will stay: as long as he wants, I'm told. The daily wage here is 5.00 bol. plus food and lodging. The peon is alone. I ask why he came: He's an orphan, he had no land to farm.

Farmer Perspectives on Life in the Chapare

His parents have a house in a rural area of Sacaba (Cochabamba Department), where they now live. He says he bought his father's lands here, those he now works. His brothers left the Chapare, he said; one suffers a lot here: the heat, the mosquitos...They have lighter work (trabajo mas liviano) where they are. I ask what they do and learn that they're in school (colegio) and at least one of them is at the university. He has three brothers and two sisters and is the only one left in the Chapare.

Sindicatos and Associations

I ask whether he plans to reduce his coca (he has 1.5 has.). No, he says adamantly; they say DIRECO can't pay. And if DIRECO could pay? I ask him. Again, an unequivocal no. "The dirigente and people here say that if you receive money from DIRECO, the DEA and the gringos will own the land." (Note: In this dialogue, he uses DIRECO and the DEA almost synonymously.)

IBTA, PDAR, DIRECO, Credit, Gringos, UMOPAR/DEA

DIRECO/DEA/Gringos

I ask whether he plans to reduce his coca (he has 1.5 has.). No, he says adamantly; they say DIRECO can't pay. And if DIRECO could pay? I ask him. Again, an unequivocal no. "The dirigente and people here say that if you receive money from DIRECO, the DEA and the gringos will own the land." (Note: In this dialogue, he uses DIRECO and the DEA almost synonymously.)

Subregion VII

This subregion extends into the Yapacani area, near the border with Santa Cruz. Only about two years ago did IBTA begin working here, with the completion of the highway to Santa Cruz. The soils are extremely poor, and much of the area is flood-prone. Most of the settlements are spontaneous and formed with the completion of the highway between Cochabamba and Santa

James C. Jones

Interview Procedure

The following interviews were conducted between August 29 and August 31, 1990. With one exception, I conducted group interviews; though different farmers occasionally responded individually to my questions, it was usually the case that one or two farmers took the lead and did most of the talking. I had originally wanted to conduct detailed interviews with individual farmers, but this proved infeasible. What rapport I had with community members was established (at least initially) by personnel from institutions (either an NGO or PDAR) that had worked there. This rapport was indispensable and largely adequate for group interviews, but was not sufficient for productive individual interviews.

Migration to the Chapare, and the work that upland peasants perform there, is a delicate subject (even personnel from the NGOs and PDAR who work regularly in the communities must handle it with care), and so must be approached slowly and obliquely. These farmers are well aware that coca production in the Chapare is a controversial issue, and many of them have personally experienced the repression that has obtained there in recent years.

The small-group interview put respondents at relative ease as they dealt with a delicate topic in the presence of a stranger (and a gringo at that), for they were surrounded by their own kind. It also encouraged response veracity.

I began the interviews with innocuous subjects (yet those yielding useful information), such as the current needs of the community, or the production and disposition of agricultural and animal products. I then nudged the dialogue toward sources of off-farm income, whence migration inevitably entered with almost no prompting since it is only through migration that such income is to be had. I began the theme by discussing community migration to Santa Cruz, or to Cochabamba, or even to places closer to home (to any place but the Chapare), and only later veered carefully into the Chapare, trying to feign indifference (at least at first) to information about respondent activities there. Some farmers talked readily and volubly about the Chapare and what they do there, whereas others were more guarded.

I put all questions in Spanish, and respondents usually tried to respond in Spanish. But there was always a bilingual interpreter (Quechua/Spanish) on hand (a person from PDAR or an NGO) to intervene when necessary (which was often,

especially in Aiquile Province). Having the option of responding in Quechua further put farmers at ease.

With one exception, I conducted the interviews outdoors, in the communities of the respondents, often on the edge of a field or near an infrastructural work. The interviews were conducted in late August and typically lasted from forty-five minutes to an hour.

The exercise of interviewing farmers may be thought of by some as a survey. But I prefer to think of the material from each interview as a case study. Good case studies provide pictures of life "in the round," whereas the best survey data can only portray life as "flat."

I must extend a word of thanks to Ing. Lucio Colque, head of PDAR's irrigation component and a technically capable and kind man who knows the high valleys. He accompanied me there and often served as interpreter during my farmer interviews. I am also indebted to the able staff of ASAR, especially to Ing. Juan Antisana, who set up my visits to communities in the Aiquile area. ASAR personnel also accompanied me to the communities and served as interpreters during my interviews. In Mizque, I must thank Ing. Ricard Mercado of CEDEAGRO for arranging a farmer interview there. I could never have done what I did in the short time I had without their assistance.

Farmer Interviews--Aiquile Province

General Notes on Aiquile Province

A very dry area, with relatively little land under irrigation. A land of rocky hillsides denuded of all but patches of short, parched grass and thorn scrub (Xerophytic). Peasants very poor, livestock (mostly sheep, goats, some bovine cattle) numerous and important in peasant economy. Region remote, isolated; sindicatos present, but seem not to have the organizaing force that they have in other areas--in Mizque, for example. Valley was site of haciendas in pre-1952 times, but probably not as prosperous as in other valleys--as in Mizque, for example. Although most men are bilingual in varying degrees, they clearly are more comfortable in Quechua. The women cannot communicate well in Spanish. In general, people here seem little aware of events beyond the valley and little conversant with national institutions.

The CRDP project area

The project works in two watersheds, Uchuchajra and Tipajara. Uchuchajra (sometimes known locally as Cercado) is the poorer of the two, both with regard to its residents and its productive base. Uchuchajra is drier, there is less irrigation there and a corresponding greater dependence on livestock.

Interview Community No. 1: Tacko-Tacko Grande

Basic data: Located in Uchuchajra watershed/42 families belong to local sindicato, but about 25 families (heads of family) participate in project/6 farmers (male) in interview group; a man of about 50 takes lead in answering questions/They estimate community to be 100-150 years old; all respondents were born there/Date of interview: August 29, 1990

Project Activities

PDAR has installed three laundry sinks (lavanderias), a potable water system (with pileta), a small shower house (with separate stalls for men and women), a drinking trough for animals (bebedero), and a retention pond (atajado). There is also a communal nursery (vivero) with seedlings of eucalyptus, peach, pine, cedar, and grape. There is no irrigation system.

Excess water from the drinking trough is placed on a communal garden (huerta comunal) with cabbage, tomatos, potatoes, cauliflower, carrots, and beets (veteraba). ASAR, active in the community, is promoting communal gardens as a way of improving the local diet. Both animal and vegetable fertlizer is used on the garden.

Community residents are quite proud of the small water infrastructure works. Before the laundry sinks were installed, women washed clothes in a river three kilometers distant.

Community Needs

I first asked what the community most needed. The immediate response: irrigation water. The second need: machinery to make more retention ponds. Other urgent needs: seeds, pest control, and a medical post (posta sanitaria).

Retention ponds collect water during the rains and store it for dry periods. Water is carried from the pond and put on the fields. Last season, the community lost everything planted to drought. A retention pond could probably have saved last season's corn crop. PDAR makes these ponds using heavy equipment (hence, the reference to machinery above). Respondents said they plan to plant trees on the cerro above the water intake (toma) so they would have more water.

At the time of the interview, the community had no seed for planting this year's crop--and no money to buy the seed. They were having to buy food at the time.

Local Production, Consumption, and Income

I asked where money for food was coming from: from the sale of firewood. They gather it and load onto burros, must journey a day with burros to find the wood. And not everybody has burros, so animals must be rented--another cost. A carga (quantity carried by a burro) of firewood fetches 2 bolivianos in Aiquile. It takes about three days to gather five cargas of firewood, and thus earn 10 bolivianos. To earn money you sell firewood or go away (migrate). The local daily wage: 4-5 bolivianos, plus food.

Wheat and a few potatoes are grown for local consumption. Produce onions mostly for consumption. Corn is what they most sell. Sometimes sell chickpeas, but these are subject to pests, and so not always reliable. And sometimes sell arbejas. All sold in Aiquile at market (feria) to truckers (transportista-rescatista intermediaries).

Animals normally not for sale, though they do sell an occasional cow. Sheep mostly for fertilizer and wool, but occasionally slaughtered for meat. Burros are never sold. Oxen rented from the few farmers that have them.

There is no credit here, Banco Agricola doesn't give money to peasant farmers, only to persons in town to buy houses and trucks, so respondents say.

If they don't migrate, they exchange labor with each other rather than hire peones. Or sometimes, when they have a bumper corn crop, dwellers from the puna (the high areas of the valleys, not the puna lands of the altiplano) with their llamas bringing chuno and salt. They help with the corn harvest, and are paid by locals in corn. And locals sometimes go to the nearby pampas (in Mizque area) to harvest potatoes and receive payment in kind. And they carry salt which also exchange for potatoes (Note: Trading patterns of this kind are ancient in the Andes).

Frequency and Timing of Migration

People go to the Chapare whenever they need money. They go during slack work periods at home. They return to their farms when it's time for work to be done. If they can't return, they send money to their wives to hire peones.

Rationale for Migration

If there were irrigation water here, people would not go to Santa Cruz or the Chapare. Now, they all go to work.

With work available here now, people don't want to go to the Chapare. No head of the 25 project families is in the Chapare now (one of them is in Cochabamba visiting a daughter), and no head of the 42 families of the sindicato is in the Chapare. All are here. Nobody leaving because everybody is working locally on a tajamar (cut-water, an irrigation work, communally constructed; they receive no money for their labor, but if they have irrigation they will have crops to sell. Meanwhile, they share foodstuffs among themselves and sell firewood to survive).

I ask for the names of local communities that experience the heaviest migration to the Chapare and then ask why they think this is: Negro Pujio and Wara Wara are the communities with the heaviest migration. Why? Because there are years when the crops don't produce; it's too dry. Nobody wants to die, you have to eat, so you go to the Chapare.

Of all the places they have been or have heard about, they would prefer to live in their home community, they say. But there's no money here (no corre la plata aqui), there's money in Santa Cruz, Cochabamba, and the Chapare.

Destination/Duration of Migration and Occupation while There

People go to Santa Cruz to earn rice (i.e., they are paid in rice). They stay for three weeks to a month and are paid in rice at a rate of one to three--one arroba (about 25 lbs.) for each three they harvest. Or sometimes they go nearby (to the pampas, or higher elevations, about a day away by foot, where potatoes are the main crop and where they are paid in potatoes for their work) for brief periods to harvest potatoes.

But most people go to the Chapare each year to harvest coca. This migration began about fifteen years ago; there was coca in the Chapare then, but less than now. Some people work as partidarios (i.e., as caretakers of a coca field, receiving a part of the harvest for their efforts). Most of them leave in May or June, and often stay three months. But some come back before the three months (e.g., the partidarios), returning to the Chapare at key periods to care for the coca crop.

I ask how they know where to go in the Chapare: You look where they're paying more and you go there. And some of them have friends and relatives in the

Chapare, and so go to those areas.

Migration Cohorts

They sometimes go to the Chapare in groups, sometimes alone.

Who Runs the Farm in Absence of Migrant

The women and children usually stay while the men migrate--unless the man is to be gone for an extended period, in which case his wife often goes with him. Men complain that the women sometimes don't care for the animals and fields while they're away. The animals wander in the scrub. But some women do a good job managing the farm in their absence, they agree.

What you Like/Dislike about the Chapare

Not many people now want to go to the Chapare because they get sick, often of lung infections (I'm told by a colleague that many of these peasants carry tuberculosis, which becomes active in the warm, damp Chapare climate. And stomach ailments are common from water-borne microbes (bichos en el agua). And some migrants have contracted yellow fever.

A good thing about the Chapare is that there's an abundance of water, one can grow things (A natural observation if one recalls that it's water they so dramatically lack at home).

Coca Prices (below cost between November 1989 and June 1990)

A week ago, coca (the dry leaves) fetched 150 bolivianos the carga (i.e., 100 lbs.). (The price is rising.) As for how they know the current price, someone is always going back and forth who conveys this information.

I ask what they consider a good price for coca: 300 bol./carga (vale la pena). They don't consider the current price, 150 bol./carga, a good one (no vale la pena).

Respondents say that peones harvesting coca are paid by the tirada (= 12 lbs.)

of green (or wet) leaf harvested. If the price of a carga (=100 lbs. of dry leaf; coca prices in the Chapare are always quoted by the carga) is 100 bolivianos, peones are paid 1 boliviano/tirada. If the price of a carga rises to 300 bolivianos, peones receive 3 bolivianos/tirada. (Note: the price of a tirada seems to be tied to the price of a carga by the ratio 1/100.) These peasants say they harvest about five tiradas (1 tirada = 12 lbs.) of coca in a day. Depending on the price of a carga of dry leaf, then, they can earn from 5 bolivianos (at 100 bol./carga) to 15 bolivianos (at 300 bol./carga) per day. (Compare this with the local daily wage of 4-5 bolivianos, or with the 3.30 bol./day from the sale of firewood. One can see why a coca price of 100 bol./carga might not be worth a trip to the Chapare, whereas a price of 300 bol./carga might be attractive--especially if there is no alternative at home.)

The clearing of a hectare of high forest in the Chapare pays about the same as a carga of coca, I'm told. (This suggests that the value of labor in the Chapare is effectively indexed, at least within a certain range, to the price of a carga of coca. These highland farmers seem to associate the price of a carga with the economic state of the Chapare and evaluate that state accordingly.)

(Although I had no time to pursue the matter, I wondered how these highlanders viewed working as a partidario versus working as a peon. Whereas peones are given a daily wage, food, and shelter for the duration of their employment, partidarios share half of the harvest, and so can sell their own cargas. Partidarios also live on the patron's property, but they do not receive food or wage. And whereas peones can arrive and spend short periods of time--for the weeding, or the harvest, or some other agricultural activity, according to their available time and economic needs--partidarios are with the patron for a longer period of time (for at least an agricultural season) and function as caretakers of the property. Not all highland migrants want to spend such an extended period in the Chapare.)

Urban Experience

When they migrate to the city, they go to either Santa Cruz or Cochabamba, where they work as peones in construction (seem to work often as albaniles).

Miscellaneous Comments by ASAR/ISE Personnel on the Area

Farmers need credit to purchase inputs. After the economic crisis of the 1980s and years of severe drought, the peasantry is totally decapitalized. Credit is to be available, it's now under discussion, and only the mechanics and institutional responsibilities have to be worked out. Small farmers will definitely pay the credit

back.

Now, local lenders (usuarios) charge up to 20% per month (if the loan is quoted in bolivianos, 5-8% if quoted in dollars). Often buyers of produce extend credit, and then receive the harvest at very low prices.

It is better to give credit to small farmers in kind. Experience suggests that the way to handle credit is to extend it to a group of, say, fifteen farmers. If one of them fails to pay his part back, none of the group gets credit the following year. Group pressure is the key. This system is functioning well in other areas, under DESEC.

Land titles cannot by Bolivian law be used as credit guarantees

Potatoes are an important crop in the area, but onions are the major source of earnings from the farm.

Farmers here don't know anything about prices or markets. And chemical inputs are often adulterated; farmers don't know what to buy or how to use it.

Interview Community No. 2: Wara Wara

Basic data: Located in Uchuchajra watershed/84 families in the community, 77 of them (of family heads) belong to the sindicato/8 farmers (male) in interview group/Date of interview: August 29, 1990.

Project Activities

All agriculture here is rainfed; there are no irrigation systems. ASAR has just begun work in the community and is still making initial contacts. Several farmers have participated in one short course in livestock, ASAR's first activity in the community. Livestock are numerous in this dry area. ASAR will soon move into the crops area with on-farm trials.

Community Needs

As usual, I opened the interview by asking about community needs. The first and most urgent need: water--for irrigation, for human consumption, and for livestock. I conduct this interview near two wells that residents have dug, each appearing to be about six or seven meters in depth. Dirt is still being dug out of one of them, while the other provides some water, which is drawn out by a bucket suspended from a rope.

They asked for a tractor to come and make atajados (retention ponds); this is the last solution for us, they said. They have submitted a request to PDAR through the local sindicato for retention ponds. (A PDAR technician told me that PDAR would respond to this request; and that the subprefecture--with funds from the Fondo Nacional de Emergencia--would help them with materials--to purchase tubing for the wells they're digging, for example.)

Animals are taken to a river, 5 kilometers away, where women also wash clothes. It takes about an hour to walk this distance (one way), two hours if animals are taken.

The second need: seeds--corn, potatoes, wheat. There is no food in the community now; one farmer remarks that they're in the fourth year of drought. They lost their entire maize crop this year to drought; they're forced to buy corn and potatoes.

They ask me about credit for seeds and fertilizer. But one fellow remarks that the bank would probably not give them credit because they don't have irrigation. Credit is for those with irrigation.

Local Production, Consumption, and Income

I ask where they get the money to buy food: They're having to sell their animals. And one farmer says that heard numbers are declining ominously. When there are no more animals, they say they will migrate to Santa Cruz or the Chapare.

All of those present for the interview had their plastic bags of coca and were chewing. I ask where the leaves came from and was told they were from the Chapare. They said that the Chapare leaves were good for chewing.
They complain about the current high price of the coca leaf in Aiquile, 4 bol./pound--very expensive, they say.

Frequency and Timing of Migration

About 25 men have already migrated to either Santa Cruz or the Chapare, 15 of them to the Chapare. Those present at interview say they will not leave because it's too close to the planting rains locally and they must get ready for these. We leave by turns, said one of the farmers.

One young fellow acknowledged that he went to Chapare three times last year to stamp (pisar) coca.

People go to the Chapare after the harvest.

Rationale for Migration

I ask where they get the money to buy food: They're having to sell their animals. And one farmer says that herd numbers are declining ominously. When there are no more animals, they say they will migrate to Santa Cruz or the Chapare.

Their grandfathers and fathers didn't go to the Chapare, they said. Migraation to the Chapare is a recent thing, a thing of their generation. Recent years have been unusually dry. Migration to the Chapare, said one man, began about ten years ago (note: numbers like this are to be taken as approximations--1983 was the begining of

severe drought). Before, people went to Santa Cruz, where they harvested rice. But there wasn't so much migration then; it rained more here in those years, I was told.

They say that if they had water for their crops, they would not have to migrate. I ask them if they would migrate if they had irrigation and the price of a carga of coca jumped to 800 bolivianos. They said they would not, but added that those community residents with land in the Chapare would probably continue to go (none of the respondents owned land in the Chapare, but others in the community did).

I ask what communities in the area have the greatest number of migrants to the Chapare: Negro Pujio and Cercado was the immediate response. From Negro Pujio, everybody goes to the Chapare; they're real traders from that community (this suggests that people from this community may work more as traders than as agricultural laborers). These people go to the Chapare so they can support their families.

One respondent says that cheap coca (for chewing) is one motivation for going to the Chapare. There, it costs one boliviano for a pound, whereas in Aiquile now it costs four bolivianos per pound (about a day's wage). (They say that one is permitted to take 8 pounds of coca tax free out of the Chapare for consumption. There is a check-point on the highway, manned by UMOPAR--Unidad Movil de Patrullaje Rural.)

Destination/Duration of Migration and Occupation while There

Most migrants from the community go to the Chapare, to work coca. They work in several capacities: they clear forest for coca plants, they weed the plants, they harvest the crop (always working as peones).

Migrants stay in Chapare for one to two months, sometimes three. And they go to all parts of the Chapare. When I press on this point, I'm told that several migrants from here go to Agrigento (located frente a Villa Tunari). And why there? Because some of the first migrants from the community went there, and so people have friends there. And what's in Agrigento? Only coca, there is nothing else, no fruit trees, no nothing (pura coca, no hay fruta ni nada).

One farmer says that 10 community residents own land in the Chapare, but they spend most of their time here in the community, going to their lands sporadically and remaining for short periods. They leave their coca plantings in the hands of partidarios (note: some of the residents of Community #1 have worked in the Chapare as partidarios). Some of these Chapare land owners obtained lands from the Instituto de Colonizacion, others bought them.

The respondents don't know of anybody from the local community who has stayed in the Chapare. Everybody always comes back.

People from Negro Pujio and Cercado (respondents identify these communities as having high migratation rates) go to all parts of the Chapare, the young people go to stamp (pisar) coca.

(Note: That young people engage in this activity comes out in other interviews. There are probably good reasons for this. First, the pisada is a gruelling activity, lasting about 8 hours, usually at night. So, it favors a younger person. Second, it is an activity of high risk, since it occurs in conjunction with coca paste manufacture and is subject to UMOPAR intervention. Third, it can pay extraordinarily well; young people in these peasant communities, without work at home and driven by frustrated consumer aspirations, are easily tempted. And fourth, young people, with a sense of adventure and on the fringe of the modern world--yet sadly excluded--are less responsive to community norms that might discourage participation in an illegal, or at least high-risk, activity.)

Migration Cohorts

They don't usually go in groups to the Chapare, but rather go alone.

Who Runs the Farm in Absence of Migrant

When the men go to the Chapare, the women stay at home and tend to the animals. One fellow quips that some of them even work the yunta (the ox-drawn plow). Picking up on the humor, another says that not all of them work the yunta. And there's general laughter.

What you Like/Dislike about the Chapare

I ask what's bad about the Chapare (or what they dislike): diseases, too much beer (laughter, here), drugs, and poisonous snakes. I pursue the disease category: anemia seems to be the most serious. Although I could not pursue the drug category, I infer from the response (in which drugs are juxtaposed to beer, which one does consume) that some of them have consumed coca derivatives (other than the leaf, that is, which everybody chews) while in the Chapare.

Coca Prices (below cost between November 1989 and June 1990)

One young, robust, fellow acknowledged that he went to Chapare three times last year to stamp (pisar) coca. He was paid 20 bolivianos the pisada. A stamping (pisada) lasts eight hours and usually (but not always) occurs at night. It's hard work, he said; you have to stamp hard. Of all the coca-related work, the pisada pays the most. It's dangerous work, he adds, chuckling with others present. And why is it dangerous? I ask. Because of the Leos, he says. (The reference is to the Leopards, or UMOPAR (Unidad Movil de Patrullaje Rural), the mobile, U.S. trained narcotics-fighting unit of the Bolivian army. Peasants in the Chapare are aware of UMOPAR patrols in the zone and try to avoid them). When I ask him if he wanted to return and stamp again, he said no.

They say that price of a carga of coca in the Chapare now is 100 bolivianos (again, these farmers follow coca prices there). The price goes up and down, one of them says. I was told that 300 bolivianos/carga was a good price, but that the price been as high as 800 bol. for a carga. If the price reaches 300 bol./carga, they say they would return to the Chapare.

(In this context, they begin to complain about the high price of the coca leaf in Aiquile--4 bol./pound, very expensive.)

Urban Experience

People in the community don't generally go to Cochabamba to work, but rather to sell corn or livestock.

Miscellaneous Comments by ASAR/ISE Personnel on the Area
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An ISE person supplied an appropriate analogy for the role of coca production in the life of these rural communities. "Coca is a cow that farmers milk as they need to. They don't go to the Chapare because they like it; they go because they have to." With this I heartily concur.

Interview Community No. 3: Tipa Tipa

Basic data: Located in Tipajara watershed/52 families belong to the project (galeria filtrante), but 115 families represented in local sindicato/A single farmer (male) interviewed/Date of interview: August 29, 1990

Project Activities

This community one of partial irrigation--that is, not all families have access to it. Irrigation water comes from a galeria filtrante (filtration gallery), built in 1972. PDAR is now supplying material (concrete; the community must supply the labor) to line the ditches, thus enhancing the efficiency of the system. About half of the irrigation water is lost when it flows through earthen ditches. Lining the ditches, therefore, makes much more water available.

A two-man extension team from ASAR arrived while I was interviewing this man, to look at an eroded drainage ditch and make recommendations. One of the men was an irrigation technician, the other a crops technician (the two work together).

The community has a water judge (juez de agua), a traditional role.

Community Needs

Local Production, Consumption, and Income

Community produces onions, tomatoes, and a few potatoes, but mostly onions. He also produces peaches, with technical assistance provided by IBTA. He sells produce to truckers (transportistas-rescatistas). Families here have only a few animals--cattle, sheep, goats. Animals not often sold (only when need money), slaughtered sometimes for meat, or on special occasions.

By dint of hard work, some individuals here in the community have been able to purchase trucks from the sale of onions and tomatoes.

Frequency and Timing of Migration

Rationale for Migration

He says he knows a man with four sons. The man has only six hours of water (his water share in the irrigation system). Each son is allowed only 30 minutes of water, which is insufficient. So the sons go to the Chapare to work, stamping coca. But they have now returned; they say there is no longer life in the Chapare (que ya no hay vida en el Chapare).

All youth from the community have been going to the Chapare. The young people are really the ones who go to the Chapare. Last year, 30% of the youth of the community went, and many adults as well. And in 1988, there was very low market price for onions, so many went to Chapare to work as peones or stampers.

He had a younger brother who went to the Chapare, where he made a lot of money and planned to buy a truck. But then he reinvested the money in the Chapare (it is not clear in what activity, but the suggestion is that it was in some sort of narcotics activity), thinking he would make even more. Instead, he lost it all, became disillusioned, and came home.

Destination/Duration of Migration and Occupation while There

People work as peones and stampers. Young people especially stamp coca in the Chapare. They say that the leaves are covered with kerosene for the stamping.

Migration Cohorts

Who Runs the Farm in Absence of Migrant

What you Like/Dislike about the Chapare

Many return from the Chapare sick, with their bellies distended; they evacuate large worms. Many have died when they return (hartos se han muerto) from illnesses contracted there.

Coca Prices (below cost between November 1989 and June 1990)

The sons of a friend of his who recently returned from the Chapare, where they stamped coca, say they earned 10-15 bolivianos per night stamping coca. But now the price of coca has dropped, and so has the price of a stamping (pisada).

Young people have been returning from the Chapare, beginning in about December of last year (1989). Many of them came back in June of this year, for the Fiesta of San Juan. They say that there is no longer life in the Chapare (ya no hay vida en el Chapare). And they say they don't want to go back. They are now working in the fruit groves and helping line the irrigation ditches with concrete (Note: the lined ditches will make for more water, more production, and greater income, other things being equal).

Urban Experience

He worked (in construction) for sixteen years in Cochabamba, before 1972, when the irrigation system completed.

Interview Community No.4: Pucara Esquina (Puca Pila Sector)

Basic data: Located in Tipajara watershed/68 families belong to project, 54 represented in local sindicato/Five farmers (males) interviewed as group/Date of interview: August 29, 1990.

Project Activities

The project is in community of Pucara Esquina. Three sectors of the community--Puca Pila, Rumicancha, and Puente Pampa are participating. But not all parts of all sections are included in the irrigation scheme. Construction of the irrigation system began about three years ago. An expansion of the system was completed last year when the original filtration gallery was extended. Radio Esperanza had begun this extension but did not have the resources to provide the materials. So PDAR stepped in and financed the completion. Some areas of these sectors had irrigation water for the first time only last year (1989). This seems to be the case with some of the interview respondents. Before, all agriculture was rainfed.

A note is in order here. It is usually the case that PDAR irrigation projects do not include all of a single community, and often extend across parts of more than one community. For technical reasons, there is no way to make irrigation systems perfectly coincident with community boundaries (residents live at different elevations, for example). And this sometimes creates friction within communities.

Community Needs

Potable water and water for their animals. They also say they need a health post (posta sanitaria), especially for their children, and agricultural credit.

They have requested of PDAR that a bulldozer come to make retention ponds (atajados) for livestock.

Local Production, Consumption, and Income

Before the irrigation system, local farmers planted only in the rainy season. Now, they take two harvests per year. In the first cycle, August to September, they

plant onions; and in the second cycle, November to January, they plant tomatoes, potatoes and garlic.

These crops are their source of on-farm income. Harvests are sold locally to transportistas-rescatistas.

Frequency and Timing of Migration

People usually leave around June for the Chapare, but this year almost nobody went, only four or five. People return to the community in October and November.

One individual in the interview group had been to the Chapare ten times over a six-year period. Once, he stayed for a year. It has been common for persons to go two or three times in a year.

Rationale for Migration

Before the irrigation system, everybody went to the Chapare to work seasonally. About 80% of the men went there, said one respondent, with a few others going to Santa Cruz. People returned in October and November of last year; this year, almost nobody went to the Chapare, only four or five persons.

Nobody wants to go to the Chapare now, we can work here; we have water. If they didn't have water here now, they said, they would probably be in the Chapare.

I ask from what communities in the area most people go to the Chapare. One man responds that about the same number go from all communities, another said that those communities without water supply the most migrants.

Destination/Duration of Migration and Occupation while There

Perhaps two persons in the community own land in the Chapare.

One of those in the group went to the Chapare four years ago and worked as a partidario (living on the property of a patron, helping with farm activities and sharing equally in the harvest--but not receiving food from the patron, as peones do). He weeded and harvested, for example. Many people from this community went to the Chapare four years ago, respondents said. Now, almost nobody is going.

One individual in the interview group had been to the Chapare ten times over a six-year period. Once, he stayed for a year. It has been common for persons to go two or three times in a year.

The man who stayed in the Chapare for a year went to a place near Villa Tunari--Cuarenta Arroyos, as the place is called. Others have gone elsewhere--to all parts of the Chapare, I'm told.

I ask how one knows where to go in the Chapare. One man answered that he went there, alone, without knowing (a la ventura) where he would work. Once there (but he didn't say where), he offered his services as a partidario and was selected by a patron--a man from Sacaba, near Cochabamba.

(When I was in the Chapare interviewing a week later, I was approached by a young highlander of perhaps twenty, with his belongings wrapped in a cloth. He asked me if I had work for him. He was looking for work as a peon. This is probably the way much work is found. And when coca prices are high, much work is to be had; one doesn't have to search long.)

I asked them what they do with the money they earn in the Chapare. They spend it on food and family expenses, they said. Nobody makes enough money to buy a vehicle or land, they assure me.

I ask where most of the settlers (colonos) in the Chapare are from. From Cochabamba, I'm told. But the peones are from everywhere, they add.

Migration Cohorts

They say the go alone to the Chapare for the most part, not in groups. But if they meet up there, they may form small social groups.

Who Runs the Farm in Absence of Migrant

Wives of the migrants care for the farm in their absence. I asked respondents what they did for women while in the Chapare. Prostitutes, they said. (A recent study was conducted on the incidence of venereal disease in the Chapare. Rates are alarmingly high.)

What you Like/Dislike about the Chapare

Those who have worked in the Chapare say there is drug addiction there. This is a danger for young people.

Persons have returned to the community from the Chapare and died. It's said they die from anemia; their stomachs swell (swelling of the stomach seems widely associated with "anemia" in these highland communities).

Coca Prices (below cost between November 1989 and June 1990)

They say that there's no life in the Chapare now (no hay vida en el Chapare) because coca plantings are being reduced. Nobody now wants to go to the Chapare, now they can work here; we have water.

In the Chapare, the quickest way to earn money is through the pisada (stamping); they say you can earn 25 bolivianos for a half night's work.

I ask whether people from the community will once again go to the Chapare if the coca price goes back up. I'm told no, that the young people will not go; the risk is too great, and there is disease and drug addiction.

Interview Community No. 5: Rumicancha (a sector of Pucara Esquina--see Community No. 4)

Basic data: Located in Tipajara watershed/About 60 families, all affiliated with local sindicato/Group interview with four farm women, with a woman of about 50 years taking the lead/Date of interview: Aug. 30, 1990

Project Activities

PDAR has brought potable water to this community. But agriculture is rainfed; there is no irrigation.

Community Needs

Most important needs: (1) Local occupations for young people, men and women (teaching them to sew and make textiles, for example), who now must go elsewhere to make a living. (2) Health improvements: relief from the vinchuca (a man-biting beetle that is the vector in Chagas Disease). Say that this disease (mal de chagas) a serious problem in the community; and no money from agriculture to protect themselves, to seek help, so people are dying... These women tell me that the Vinchuca also bites animals, infecting them; chickens are dying, I'm told (Chagas Disease requires about twenty years to manifest itself fully in the human body, so it's unlikely the chickens are dying of this.) I pursue this further and the women reveal their logic: The animals are thin (little food, little water, because of the drought), with little blood, and so the vinchucas are hungry and look for people to feed on. Also, since the animals are thin, there's not much food for people, the women add.

Later in the interview, the women express a need to know how to make noodles (fideos), soap, and candles locally so they won't have to buy them. And they need sewing machines as well, they say.

Their needs keep coming at me during the interview. At one point, they request training for community residents in the manual arts--carpentry, mechanics--so that people will have an income. A woman gestures with her hand to the unglazed windows of the house where we sit, and then to the open frame without a door...There's no money for windows and doors, she adds.

Local Production, Consumption, and Income

I ask what the local crops are: potatoes, peanuts, wheat, sara (?). But they only yield when there's rain. Because of the drought, there was no harvest this year.

I ask about the source of family income. From the sale of grains when the crops yield, I'm told, but this year the crops failed. So, the children must migrate and work in other parts--Santa Cruz, the Chapare, Cochabamba. Children working in these places send money to their parents, the women say.

Coca (for chewing) here now costs 4 bol./pound, very expensive, the women say. This isn't right, it costs only 1 boliviano/pound in the Chapare. So one has to work hard just to buy coca, the older woman complains. (Note: Coca is a basic necessity for these people.)

Frequency and Timing of Migration

People usually migrate about June and return in November, for Todos Santos and the beginning of the agricultural cycle.

People began to migrate from this area since about 1970, I'm told, but the pace has quickened over the years. I ask the older woman (who said she thought she was about 48, but wasn't sure) whether people migrated from the community when she was a young girl. The Chapare hadn't been heard of when she was young she said. Nor did people go to Santa Cruz. People didn't leave in those years.

More migrated last year from the community than this year. There were fewer migrants this year because of local work: lining irrigation canals (a very few families in this community belong to the irrigation system of Community No. 4 above), and on a nursery (vivero). (Note: PDAR pays salaries of those who work in viveros but only supplies materials for irrigation activities such as lining canals; the labor is donated by the community.) But many people are still migrating.

More people went to the Chapare in previous years than are going there now. You don't earn well in the Chapare now, so people don't go there. There's less coca there, and people earn less. They're cutting coca (i.e., destroying it) in the Chapare now.

The men who go to the Chapare are gone seven to eight months, some of them a year. They leave about May and return in November for the planting season.

They're always going and coming.

Rationale for Migration

I ask what is their source of income. From the sale of grains when the crops yield, but this year there was no yield. So, the children must migrate and work in other parts--Santa Cruz, the Chapare, Cochabamba. Children working in these places send money to their parents, the women say.

Many men are away now, they would return if there were work here.

People return with a little bit of money, so they can eat a little better (Note: These people are migrating so they can stay alive).

If people had work here, they wouldn't leave for the Chapare and other places. We need local employment.

Destination/Duration of Migration and Occupation while There

Most of the men go to the Chapare to work, the women say. And some go to Santa Cruz, or even to Cochabamba. Several go to Omereque Negros (a mesothermic valley in Santa Cruz Department).

Many men are away now, they would return if there were work here. About 15 are away, either in the Chapare or Santa Cruz. They will return for Todos Santos (All Saints' Day), to plant the fields with the first rains (in November).

More than 10 women are away, young and single, working as domestics in Cochabamba. And five couples are away, in the Chapare or Santa Cruz. When they earn money, they will all return, for they miss their community, I'm told.

The older woman (the one taking the lead in answering my queries) was last in the Chapare in 1984. A younger woman present went there with her father, who worked as a partidario in Chinaota. (This small roadside settlement, now with adobe houses and a busy little market, consisted of a few thatched houses from 1980-1985, when it was the principal Bolivian center for commercialization of coca paste. Planes came in from far and wide to pick up the paste, and there was a thriving commerce in a wide variety of consumer goods--a way of laundering narcodollars. Many people came from Cochabamba and elsewhere to purchase consumer goods, at low prices, during this time. Chinaota is almost legendary in the region.)

The men who go to the Chapare participate in the coca harvest and the pisada, and sometimes also clear the forest (desmonte) and weed the crops. Some of the complained that they weren't paid for their work in the pisada.

The men who go to the Chapare are gone seven to eight months, some of them a year. They leave about May and return in November for the planting season. They're always going and coming.

I ask whether men spend more time in Santa Cruz or the Chapare when they're away. About the same time in both places, perhaps a bit more in Santa Cruz.

Migration Cohorts

Who Runs the Farm in Absence of Migrant

Migrants must leave their houses and lands...and sometimes they don't return.... We don't know whether they have died or what.

When the men leave for the Chapare, their women and children tend the farm. Some of the men take their women, leaving their children with grandparents. But the men usually go alone.

The men sometimes find other women in the Chapare, the older woman says, but women can do the same here (general laughter in the room). I ask whether the men bring these Chapare women home with them. No, the older woman responds, they leave them, just like they left us (general laughter).

The older woman says that the men often return without any money. Her husband returned from the Chapare without any money, and at a time when she was sick. Also, when a husband is not present for the planting, the woman has to pay peones--and the work they do is never as if it had been done by the husband.

Men pick up vices (vicios) in the Chapare, says the older woman. They learn to drink in the Chapare and become alchoholics and continue to drink when they return; they don't want to work when they come back. And they don't care for their families, for their children. I ask whether the same happens when the men go to Santa Cruz. I'm told that it's the same.

Sometimes there are family disputes (rinas) when the men return. Women scold their husbands when they return, ask them where they've been, what they've done, and where the money is...

I ask the older woman (we were developing good rapport) how many children she had had (she's 48-50 years old). Fifteen, she replied. Only three are alive today. Eleven of them died during the first two years of life, and one of her daughters died in the Chapare as a young girl. I asked how the daughter died. Her husband mistreated her, the woman said, and added that she thought the husband killed her daughter by poisioning her with an insecticide. I asked where the son-in-law was now. He's in the Chapare, where he owns land, she said. But he's from Tiraque. This daughter also lost a baby in the Chapare, the older woman told me. She thinks the baby died because of poor feeding; the mother didn't have much milk and didn't have money to buy food for the baby.

What you Like/Dislike about the Chapare

Local people don't like the Chapare, the women say. The humidity makes them sick, and they don't earn much money. You're better off here in the community, even when it's dry.

The Chapare climate causes tuberculosis. Some people get sick and die when they return home, others pull through. I ask how many have died and am told only a few. The older woman said that she returned sick, and still has problems. She coughs, she looses feeling in her lower back (lungs?), and she was coughing up blood when she returned, but is not now. She went to Aiquile for medical attention, she said, and was told by a doctor there that she probably had tubercolosis which she had picked up in the Chapare.

Those who return and die do so of anemia and tubercolosis, I'm told. (One of my interpreters intervenes to explain "anemia": a condition resulting from a poor diet and the contraction of parasites from contaminated drinking water.)

I ask if there's anything good about the Chapare. After a long silence, the response: you can earn money there and you can bathe in the rivers (i.e., there's lots of water for bathing).

Coca Prices (below cost between November 1989 and June 1990)

The price of a carga of coca now is between 100 and 150 bolivianos, they say.

Work in the Chapare today doesn't pay, so people come back.

General Notes on Mizque Province

Mizque Province has both more land and more irrigated land than Aiquile Province, and livestock are less important here. Existing livestock include cows and oxen (for plowing); there are almost no sheep and goats. The valley was the site of haciendas in pre-1952 times, probably prosperous ones, and the sindicatos are well organized and politically active today. There are now two centrales in the valley, one that supports the government and the other (affiliated with the MBL party, it seems) in opposition to it. The farmers I talked to spoke Spanisn better than those I had talked with in Aiquile, and it is my sense that they are more attuned to the national society and culture as well. It was only after some pleading that farmers in the community below consented to an interview.

Interview Community No. 6: Mayra

Basic data: 67 families affiliated with local sindicato/7 farmers (male) in the group interview/Date of interview: Aug. 31, 1990.

Project Activities

PDAR is not directly executing projects in this community as it is in communities in Aiquile Province. Here, CEDEAGRO is executing CRDP activities. These activities include technical assistance in the production of potaotes and peanuts. The lands of all 67 families are under irrigation.

Community Needs

The primary needs of the community, respondents say, are fertilizers and seeds; and they have no capital to buy these, especially fertilizers. They say they were told six months ago that loans would be made available to them, but nothing more has been said or done. They clearly are interested in this and press me for an answer. They are also worried about the kind of guarantees that might be asked of them and fear they will be denied credit because they lack the guarantees.

Local Production, Consumption, and Income

The main crops in the community are corn, potatoes, and onions. Onions are the main cash crop. Family income is entirely from the farm.

Frequency and Timing of Migration

Before about 1978, nobody went to the Chapare.

Rationale for Migration

Last year, about 10% of the men in the community went to the Chapare, but three or four years ago, half of the community went because agricultural produce here lost its value (this is probably a reference to the time of high inflation rates in Bolivia). If it's dry (making for less irrigation water), or market prices are low, people go to the Chapare. In 1978, all the young people went to the Chapare when the price of local produce experienced a sharp drop.

Nobody has gone to the Chapare from the community this year. There's good production here now, and crops fetch a good price; and besides, they say there's no life in the Chapare now.

The communities in the area which have furnished the most migrants to the Chapare: Tajvas (?), Pucapila, Monte Aguada, Curumayo. These communities have had no irrigation. But now Curumayo and several other communities have irrigation, and so fewer persons must leave for the Chapare.

I ask why (as it seems to me) more people from Aiquile than from Mizque go to the Chapare. Because most of the farmers in Mizque have irrigation, I'm told, whereas in Aiquile they don't have it.

Destination/Duration of Migration and Occupation while There

In the Chapare, migrants from here weed and harvest coca. Some stay for a month, others for longer; and some stay until they die. Several have died after returning from the Chapare.

I ask where they go in the Chapare. To different parts, wherever friends are. Some of these friends are from other communities and own land in the Chapare. Only two residents of this community own land in the Chapare. They say one of them has died, respondents tell me, but they don't know for sure. The other one lives here in the community, but always goes to the Chapare to attend to his land.

People from here never much want to Santa Cruz, even in former years.

Migration Cohorts

Men go to the Chapare alone, not in groups; sometimes they go with their wives.

Who Runs the Farm in Absence of Migrant

Women and children remain on the farm when the men go to the Chapare. But the farms are not as well tended in the man's absence.

What you Like/Dislike about the Chapare

People don't go to the Chapare for the sport of it (por gusto); they go to earn money. The Chapare is a hell, a hot place (i.e., referring to the high temperatures).

Several have died of anemia after returning from the Chapare.

Coca Prices (below cost between November 1989 and June 1990)

Nobody has gone to the Chapare from the community this year. There's good production here now and crops fetch a good price; and besides, they say that there's no life in the Chapare now.

The daily wage in the Chapare now is 3 bolivianos; before, it was 10 bolivianos (i.e., when coca prices were very high). Before, one could earn 20-30 bolivianos per day working in the Chapare (this is probably a reference to the pisada).

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DATOS BASICOS :

Micro Región III/ Nueva Canaam/ Sindicato Senda B/ No. de entrevistados: 1
4-9-90.

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

Se fundó en 1964/ El trámite de las tierras se hizo a través de la Iglesia Evangélica, el No. de colones por entonces, alcanzaba a 60 de los cuales la mayoría provenía del Norte de Potosí, campesinos en total pauperización y además no poseian tierra.

MIGRACION: HISTORIA Y CIRCUNSTANCIAS :

Quien influyó en la decisión de migrar hacia el Chapare en nuestra entrevistada, fue la Iglesia Evangélica que estaba enterada de la caravana de colonos oriundos del Norte de Potosí hacia el Chapare en busca de tierras y les propuso a quienes deseaban venir, sumarse a esta caravana.
"No teniamos tierras y por eso nos animamos a venir, pero si hubiéramos tenido tierras, igual hubiéramos venido, porque había interés, porque sabíamos que por estos lados producía todo".
Cuatro familias de la Comunidad de Tuti Mayu, se sumaron a la caravana, entre quienes se encontraba la entrevistada junto a su esposo; muchos de quienes viniveron en esta caravana, se han desplazado por otras zonas del Chapare y muy pocos retornaron a su lugar de origen principalmente por razones de salu.
"Al principio hemos llegado hasta Villa Tunari en carro, y desde allí nos vinimos a pie hasta Chimoré, todo era monte y por eso algunos se enfermaron, hemos estado en Chimoré cerca a dos meses en un galpón, donde ahora estan los "leopardos", antes ahí era el cuartel y los ingenieros recien estaban abriendo las sendas".

La entrevistada, llegó al Chapare en 1964 junto a su esposo, allí nacieron sus 5 hijos de los cuales murieron dos, uno de 6 meses y otra de 17 años. Su origen es de la comunidad de Tuti Mayu perteneciente a Sacaba, su residencia principal es en Nueva Canaam.

"Aqui no más me voy a quedar, aquí esta mi trabajo además ya estoy vieja, soy viuda hace 6 años y aqui he hecho mi vida y no tengo a donde más ir. Cuando era joven y soltera, he vivido en Quillacollo durante 4 años, allí he estudiado en el Instituto Evangélico por dos años, ahi aprendí a leer y otros dos años he trabajado como empleada doméstida hasta que me casé y me vine aqui.

Quizá si hubiera otro lugar mejor que el Chapare me irira, pero sabemos que no hay, aqui produce todo hasta ganadería puede dar, en cambio en Cochabamba falta agua en el campo y en la ciudad no hay trabajo y cuando en el campo falta agua, el pasto no crece para los animales y se mueren una pena y nadie nos ayuda allá, aqui vienen proyectos dicen que para desarrollar, por eso la gente piensa venirse siempre al Chapare".

PRODUCCION LOCAL, CONSUMO, INGRESOS :

La zona se carqcteriza por ser una de las más productoras de bananos y plátanos en el Chapare, todos los agricultores de este Sindicato, tienen plantaciones de bananos, plátanos, cítricos, arroz y otros en menor escala.

La entrevistada es propietaria de un chaco en el que tiene plantaciones de cítricos, bananos, plátanos, arroz, yuca y otros, su mayor ingreso proviene de la venta de plátanos y bananos, pues en la zona se despacha desde dos a veinte o más camiones de diferente capacidad de carga en forma diaria y dependiendo la época de mayor producción. La mayoría de los camiones llevan los productos hacia Potosi, Tarija, Santa Cruz, Oruro.

Otro ingreso de nuestra entrevistada, es el comercio en un puesto de venta en su casa "No tenemos un mercado para vender nuestros productos, aquí se vende un poco de refresco, pan y comida, pero nosotros queremos vender nuestros productos en el mercado de Cochabamba y cuando llevamos, nos cobran una barbaridad, nos hacen pagar tres tipos de pago y antes de que empezaramos a vender nos cobran como 30 Bs., entonces no ganamos nada, en Santa Cruz es diferente, allí pagamos sólo 5 Bs., pero en Cochabamba las rescatistas no nos permiten vender de nosotros mismos".

COCA EN LA ECONOMIA DEL HOGAR :

La zona presenta una escala menor de producción de coca, es la zona donde se observa mayores obras de NN.UU., que construyeron bajo la condición de reducción de la hoja de coca, (carretera ripiada, servicio de agua potable).
Esta zona se caracteriza por se platanera y bananera, la economía del hogar pareciera estar basada en la comercialización de estos productos fundamentalmente, sin embargo quienes cultivan coca en esta zona, adquieren su mayor ingreso económico de este cultivo.
La mayoría de los colonos de este Sindicato, son evangelistas, muchos de ellos argumentan que no cultivan coca porque su religión no les permite pero existen algunos que siguen con este producto, sobre todos quienes viven más alejados de la carretera de la senda.

MIGRANTES TEMPORALES :

Esta población no está atendida ni tomada en cuenta en ningún proyecto, se estima que la llamada "población flotante", alcanza más del 200% de la población asentada en forma permanente del Chapare; Los partidarios, los peones y en escala menor quienes se dedican sólo al comercio, ya que se dá con frecuencia que además de colonos tienen como segunda actividad el comercio. El problema que más afecta a la población flotante, es por razones de salud que cuando migran por por vez primera al Chapare, tienen problema de adaptación al clima, sin embargo la razón principal por la que viene al Chapare, es buscar trabajo, en el caso de los "peones", quienes despues de unos meses retornan a su lugar de origen o a Cochabamba, para en un tiempo volver al Chapare, "Los peones que vienen son jóvenes que buscan trabajo, no vienen con sus familias y aveces vuelven a trabajar al mismo lugar, ellos ya saben cuando más o menos necesitamos peones".
Respecto de los migrantes de la categoría "partidarios", la permanencia en el Chapare es más permanente que la de los peones, el 95% de los colonos tiene un partidario en su chaco, hay quienes tienen dos o más de dos esta población generalmente vive en el Chapare con toda su familia, sus hijos asisten a las escuelas y en otros casos no, la diferenciación social marca claramente a esta población que no esta organizada en Sindicato ni asociación alguna, "ellos viven de nosotros, ponen su trabajo y del pro-

Cuando el precio de la hoja de coca se eleva sobre su costo real, existe mayor población flotante, sobretodo los llamados "peones", ya que el cultivo de la coca, requiere en la etapa de cosecha bastante mano de obra. El costo de mano de obra en este trabajo, depende del precio de la coca se paga el 1% de su precio en el mercado.

"Cuando la coca tiene un precio alto, hay mucha gente, aunque ahora ya no se ve mucho, pero antes cuando subia hasta 600 U la carga, todo esto era lleno de gente que venía a trabajar en la cosecha, venian hombres y mujeres a la cosecha para ganar, pero ahora ha disminuido mucho y sólo son hombres los que vienen a cosechar, ya no se ve mujeres como antes, creo que sólo ahora viene la mujer a trabajar como cocinera o a deshierbar. Otra gente cuando ha bajado el precio de la coca, se ha quedado no más aqui, son los más pobres, los que no tienen tierras en sus comunidades y aquí han encontrado mejor vida, los que más se han quedado, son del Norte de Potosi, Sucre, Oruro y La Paz, los que más salen y vuelven son los de Cochabamba, debe ser porque estan más cerca que los otros.

Ellos nos cuentan que se han venido porque en sus comunidades falta riego y sus animales se mueren y no produce ya nada, entonces se vienen a buscar trabajo para vivir en el Chapare y donde más hay trabajo es donde se produce la coca, despues se necesitan peones para el arroz, después para los cítricos y bananos donde se hace la limpieza."

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

Para la mayoría de los colonos, Chapare significa la oportunidad segura de poder vivir, su principal morada y más aún cuando los colonos provienen de zonas deprimidas donde la lucha por la vida alcanzaba niveles infrahumanos, en la que su sobrevivencia estaba sujeta a dos o tres cultivos que no cubrian sus más mínimas necesidades, zonas donde alguna vez al año comian un banano con más la cáscara, y encontrarse en el Chapare donde el banano se pudre por la abundancia, entonces crece más la decisión de quedarse siempre ahí, porque además significa el futuro para sus hijos a pesar de todas las afirmaciones poco prometedoras del Chapare, el colono cree en él como su única alternativa de poder vivir. "Cuando nos vinimos nosotros, estábamos felices porque aquí produce todo, no hay que preocuparse si habrá o no riego para producir como en nuestras comunidades que cuando había sequía, teníamos que ir a buscar trabajo a la ciudad y no se encontraba también, por eso aquí no más nos quedaremos sino dónde más podríamos vivir, aqui aunque falta mecanización porque todo nuestro trabajo es a pulso, y sacrificado, aqui no más nos quedamos".

"El problema no es tanto el clima, son los "leos", que maltratan a la gente inocente y pobre, por ejemplo si una persona se trae de Cochabamba un paquete de lavandina o de papel higiénico, ellos le quitan pero sin embargo ese paquete aparece en otro lugar que ellos mismos hacen pasar porque les han pagado, esos abusos son lo que no me gusta nada".

IBTA, PDAR, CREDITO, DIRECO, UMOPAR, GRINGOS:

"IBTA era peor, ahora creo que estan mejorando un poco, se han dado cuenta de que tienen que salir de sus estaciones y venir a trabajar con los campesinos, porque sino no serviría, algo han hecho aparecen nuevas plantas aunque ahora falta ver en nuestros propios chacos, antes no conocíamos al IBTA, sus plantas estaban ocultas, ahora nos llevan a conocer su estación, nos dan cursillos, los Ingenieros explican lo que estan haciendo y qué puede dar o qué no, pero todavía no hemos visto en nuestros chacos, quizá más después".

"El PL-480 nos han dicho que el préstamo es para 10 años, yo he sacado 7.500 $US, pero no esta resultando este préstamo porque cobran cada 6 meses y el primer pago que hice fue de 400 U, el segundo fue de 600 U, y el tercero creo que será 800 U, esto no esta bien porque muy rápido nos estan cobrando y el irterés es 13% y antes de utilizar el dinero en producir, nos cobran ya no más, por ejemplo yo he gastado parte de ese dinero en café, y me ha ido mal, se ha secado, el IBTA a visto, a venido uno sóla vez y después ya no ha venido, y yo he comprado plantas del IBTA, con 900 Bs. como 4.000 plantas para una Ha. pero no ha resultado y de eso igual tengo que pagar, no creo que asi resulte una ayuda este crédito".

"Los de DIRECO, han venido a medir no más su trabajo es ese no más para que nos den crédito, despues no hacen nada más".

"Los más abusivos son los "leopardos" (UMOPAR), cometen toda clase de abusos, aquí todos somos pobres por eso nos vinimos, pero ellos igual se lo llevan todo lo poco que podemos tener cuando entran en las casas y no encuentran nada, asustan a los niños hasta que se enferman de susto, es una barbaridad lo que hacen, nadie los quiere, yo creo que ni Dios los quiere".

SINTESIS, CONCLUSIONES :

- El principal factor de migración en esta zona fue la de buscar tierras, ya que en sus comunidades de origen, existe un minifundio extremado, a esto se suma la falta de riegos; la mayoria de los colonos proviene de zonas que estan sujetas a riegos naturales de lluvia, y en Bolivia en esta década de 1980, este fenómeno afectó de manera significativa, lo cual determinó considerablemente que estas zonas afectadas arrojen mayor población hacia el Chapare.

- La zona de Senda B, principalmente produce bananos, plátano y cítricos de diferente variedad, su economía se basa en esta producción, lo cual no significa que además se viva también del cultivo de la hoja de coca.

- El costo elevado de la hoja de coca, provoca mayor afluencia de población flotante en el Chapare, esto se explica en razón de que el cultivo de este producto, exige de mayor ocupación de mano de obra, sobretodo en la etapa de cosecha.

- No considera el colono, un apoyo real de las diferentes instituciones que operan en esta zona, tal parece que recurre o acepta el trabajo con el IBTA, porque el precio de la hoja de coca varia mucho, lo cual no le ofrece seguridad en sus ingresos, entonces busca formas que le permitan cubrir sus gastos cuando la hoja de coca esté con costos bajos.
  Existe una crítica negativa hacia el trabajo de la PL-480, quienes en principio -a decir de los entrevistados- eran otras las condiciones del crédito, lo cual creó mayor suceptibilidad respecto de esta institución.

- Toda espectativa del colono esta orientada a buscar un mercado seguro para todos sus cultivos, lo cual ninguna institución les ofrece alternativa, hecho que incide de manera determinante en la decisión de cultivar otros productos.

DATOS BASICOS :

Micro Región III/ Sindicato San Luis/ Central Ibuelo/ Federación Tiraque Tropical/ No. de entrevistados: 5/ 4-9-90.

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

En la zona se asentaron en 1965, la mayoría de los colonos procede de Cochabamba, sobretodo de las alturas y del valle, tambien hay del Norte de Potosi, Sucre y otros lugares.
El proyecto IBTA, trabaja en la zona con UPDs. no existe otra actividad.

MIGRACION: HISTORIA Y CIRCUNSTANCIAS :

Todos los entrevistados señalaron que los móviles principales para migrar hacia el Chapare, fue la falta de tierras en sus comunidades de origen, la falta de riego, donde sólo se contaba con la temporada de lluvias, indicaron también que si hubieran contado con tierras y riego en sus lugares de origen no habrian migrado al Chapare.
"Yo soy de Sipe Sipe, Provincia Quillacollo de Cochabamba, allí cada año que pasaba la tierra era más pequeña, ya no alcanzaba, por eso me vine, por entonces en esta zona el más grande cocalero tenía 3 catos, todos producimos plátano, bananas y cítricos, las plantaciones de coca estan en chacos muy alejados de la carretera".
De todos los colonos entrevistados, su residencia principal es en el chaco de cada uno respectivamente, los que provienen de Cochabamba, algunos, tienen a sus hijos en sus pueblos por razones de estudio, los que provienen de otros departamentos, viven junto a toda su familia ya que no tienen los medios necesarios para poder salir siempre o por temporadas a ver a sus hijos.
De todos los pioneros de la zona, sólo quedan el 5%, los demás han vendido sus chacos a otros que en su mayoría vinieron como peones, hay casos que hace como 20 años que estan como peones sin poseer tierras.

PRODUCCION LOCAL, CONSUMO, INGRESOS :

Los cultivos de mayor importancia en la zona son: plátano, bananos, cítricos, yuca, walusa, maiz, coca (de mayor producción). Lo que más se lleva al mercado es el plátano y bananos, dependiendo la época el transporte de este producto incrementa, por día se despacha una camionada de plátano. Algunos colonos en porcentaje insignificante se dedican también al transporte en pequeños vehiculos que hacen servicio desde la zona a otras en el Chapare.

COCA EN LA ECONOMIA DEL HOGAR :

"Todos sembramos coca, porque es lo que más vendemos, si se vendiera más la yuca, todos sembrariamos más yuca u otro producto que se venda"
"Los leopardos hacen bajar el precio de la hoja de coca, ellos controlan, cuando llevamos a Ishinuta, hay que pagarles a ellos, despues hay que pagar a los de narcóticos y otro pago a los colonos de esa zonas para que nos permitan vender nuestra coca allá, pero los que más llevan son intermediarios".
"Un compañero al ver que la hoja de coca bajó de precio y lo que pagaban no alcanzaba, arrancó sus plantas y sembró plátano, pero después la coca volvió a subir y ya no supo que hacer..."
La fluctuación del precio de la coca provoca desestabilización en las labores de los diferentes productos . El costo real del precio debe ser 300 BS

MIGRANTES TEMPORALES :

Todos los colonos en la zona, tienen un partidario y algunos un peón permanente, depende de la necesidad de mano de obra en los diferentes cultivos para contratar peones, el caso es que en este Sindicato, los actuales colonos, empezaron como peones y luego se compraron sus chacos despues de reunir una cantidad de dinero.
Se requiere de mayor mano de obra en el cultivo de la coca, sobretodo en la primera cosecha donde de una Ha. se saca 18 a 20 cargas, en la segunda que es en Octubre, la cosecha alcanza hasta 15 cargas y la tercera que es en invierno llega de 10 a 12 cargas de hoja de coca. Es entonces en

estas etapas de cosecha que hay mayor afluencia de población temporal, sobretodo en la cosecha de coca; estos peones van de un lugar a otro en busca de trabajo, algunos y en fechas de festividades de sus comunidades, salen y nuevamente retornan hacia el Chapare.
El mayor problema que tiene esta población, es el problema de salud que tambien es problema para todos los habitantes del chapare.

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

Algunos de los entrevistados, no ven al Chapare como el futuro de sus hijos, porque según ellos existe mucha enfermedad que ataca más a los niños asi como parásitos, anemia y otras.
"Pensamos quedarnos en el Chapare, yo hace más de 20 años que no voy a mi tierra, y otros sólo van de paseo para volver porque aquí hay trabajo, hay para vivir, produce todo".
"Aquí no más nos gustaría vivir porque aquí hemos puesto nuestro trabajo, si hubiera un lugar mejor, talvez podemos ir, pero si sólo se darían mejores condiciones de vida, pero no ha de haber..."
"Lo que más nos gusta del Chapare es que produce todo y lo que menos nos gusta es el calor fuerte y la lluvia, hay otros que vienen y por esto se van porque no aguantan".

"Si habría camino a todas las comunidades podríamos sembrar todo, pero no hay, hay bastante cítricos, pero no hay cómo sacar, es preferible sacar cargas de coca que nos van a pagar 150 ó 200 y no sacar naranjas o plátanos donde nos pagarán sólo 2 ó 3 Bs.".

SINDICATOS Y ASOCIACIONES :

El Sindicato que visitamos, realiza trabajos comunales, se nota bastante coheción a nivel de la organización sindical, cuidan de sus linderos, para lo cual se realizaba tareas en pro del sindicato y donde participaban absolutamente todos los afiliados (chaqueo para sembrar arroz).
La convivencia de los colonos más que ser de paisanos, es a nivel comunal, donde no cuenta mucho el lugar de donde venga el colono.

IBTA, PDAR, CREDITO, DIRECO, UMOPAR, GRINGOS :

"El IBTA, nos dice que cambiemos nuestros productos por otros mejores, que cambiemos nuestra coca, pero lo que ellos venden es caro, cuesta a 13 U cada plantita y siempre exigen el pago en U.; el plazo que nos dan es de 18 meses y debemos pagar en tres cuotas, la planta de coco cuesta 5 U cada plantita y los cítricos mejorados a 5 Bs. cada planta, necesariamente tenemos que tener dinero para invertir y comprar las plantas y el que es promotor tiene que tener dinero para hacer su UPD donde recibe sólo el apoyo técnico."

"Otros no trabajamos con el IBTA, porque son muy caras las plantas, y preferimos comprar de otros particulares que es más barato y son buenas plantas".

"El IBTA no nos repone las plantas falladas, por ejemplo de 520 que compré de plantas de cítricos, han fallado 30 y ellos no devuelven, nosotros ahí perdemos".

"Ellos (IBTA), nos dicen que trabajemos con curcuma, pero nosotros no trabajamos porque no hay mercado para la curcuma ni para la macadamia ni el coco, si habría mercado trabajaríamos con todo, pero si no hay dónde vender no se puede".

"Recien es un año que estamos con el IBTA, antes no era asi su trabajo, nos enseña aspectos técnitos, las enseñanzas más útiles del IBTA, es para los cítricos, por ejemplo la producción de naranja que da de 10 años, el injerto que nos enseñan florece en dos años y tiene más duración, lo mismo en el arroz que tiene más peso y crece en menos tiempo en la nueva variedad".

"Sólo en el caso de la pimienta el IBTA nos acepta devolverle el crédito en planta o dinero, en las demás es sólo en dinero".

"Nosotros necesitamos más acercamiento con el IBTA, poco nos visita, queremos que nos visite más, necesitamos más cursos sobre el cuidado de las plantas, pero que no sólo nos enseñen esto, sino que busquen y faciliten las lineas para abrir mercados, queremos que nos garantice el mercado"

CREDITO:

"Al principio la PL-480, nos dijo que tenía que ser tres años de gracia para empezar a pagar los intereses, y cuando nos dió el crédito, no hay tal cosa, porque al principio no tenía que haber intereses, nos han mentido porque en la oficina nos cobra el interés desde el primer año y no hay los tres años de gracia que nos dijeron, eso a muchos nos ha desanimado seguir reduciendo nuestra coca, además ellos nos piden garantia personal para dar crédito de 1.000 U, y según nuestra tierra nos da, no estamos conformes con el crédito".

SINTESIS? CONCLUSIONES :

- La mayoría de los colonos de la zona visitada, son propietarios de los chacos y que adquirieron mediante compra-venta.
- Los factores que influyeron en la migración de los colonos de este Sindicato fue el problema de minifundio en sus comunidades de origen y la falta de riegos permanentes.
- Esta zona básicamente es productora de bananos, plátanos, cítricos aparte de la producción de coca que es el cultivo principal.
- La constante fluctuación del precio de la hoja de coca, hace desestabilizar la labor de los productores en los otros cultivos tradicionales.
- De acuerdo a lo señalado por los entrevistados, la categoría de "peones", se da desde antes de 1960, la misma que se incrementa en un número considerable cuando la zona se convierte en zona productora principalmente de coca.
- Todos los entrevistados opinan que el Chapare les ofreció mayor posibilidad de sobrevivir o encontrar mejores condiciones de vida y no ven otra alternativa real para dejar de vivir en el Chapare.
- La organización del Sindicato, esta tomada con mucha seriedad, donde existe la participación total en todas las tareas.
- Todos ven el trabajo de IBTA esperando más aportes técnicos en la agricultura que soluciones concretas en su producción, sienten que las ofertas que el IBTA les hace, no llegan a ser objetivas porque no les garantizan el mercado de los productos que les ofrecen.
- La política que aplico el PL-480, ha provocado notoriamente desconfianza hacia los créditos ofrecidos, hecho que hace que el productor se aferre más a la economía de la coca.

DATOS BASICOS :

Micro Región V/ Sindicato Naranjitos/ Central Jatun Pampa/ No. de entrevistados: 3/ 5-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

La comunidad se fundó en 1960, el número de colonos alcanzaba a 70 y se trasladaron desde la zona de Avispas que también queda en el Chapare, la mayoría se ha quedado aquí, otros se han ido a otras zonas del Chapare y han llegado a ocupar los chacos avandonados otros colonos de Vandiola, de Paractito y otras zonas del mismo Chapare.
El proyecto realiza cursillos en la zona.

MIGRACION: HISTORIA Y CIRCUNSTANCIAS :

El entrevistado, está en Naranjitos desde 1960, vino de la zona de Avispas que también se encuentra en el Chapare, donde vivió durante 5 años desde 1955, anteriormente vivió dos años en Espíritu Santo, que fue el primer lugar donde migró desde Cochabamba donde trabajaba como albañil y por la falta de trabajo, se fue en busca de trabajo como agricultor hasta Espíritu Santo donde "agarró" un "piojal" de un patrón, en el que cultivaba coca; después de un tiempo compró un terreno pequeño en Avispas, pero no abastecía para cubrir sus necesidades y esta es la razón fundamental por la que junto a otros colonos, deciden ir en busca de mejores tierras en el Chapare.
"A raíz de que nuestros terrenos eran pequeños, decidimos con un grupo grande, organizarnos en Sindicato y buscar nuevas tierras para colonizar y llegamos hasta Naranjitos donde todavía existian los Yurakares de quienes queda uno solo, asimilado y acostumbrado a esta forma de vivir. Por entonces no había ninguna carretera y todos los productos se sacaba a lomo de bestia. Los terrenos que teníamos en Avispas, la mayoría lo vendimos a otros colonos, y empezamos a tramitar los títulos de nuestras tierras de Naranjitos".

"Yo, desde que me vine mi residencia fue aqui, me casé en Avispas mi Sra. es de Sacaba y como no tenemos tierras en otro lugar aqui no más nos quedamos, tengo a mis hijos estudiando en Sacaba, quizá ellos decidan irse, pero nosotros ya somos viejos como para pensar en empezar de nuevo en otro lugar, ya estamos acostumbrados aqui. Me vine de Cochabamba porque no encontraba trabajo allá y me conocí con un agricultor que trabajaba en Espíritu Santo y me fui con él, ahí en Espiritu Santo me "agarré" un piojal de un patrón y ahí trabajé, y cuando llegó la Reforma Agraria, nos organizamos en Sindicato y por algunos desacuerdos, un grupo nos vinimos aqui, somos los fundadores de Naranjitos y de este Sindicato. Si hubiera tenido trabajo en Cochabamba, no hubiera migrado aqui, porque no hay motivo cuando uno tiene trabajo, además antes se tenía miedo al Chapare, recuerdo que cuando retornábamos a Cochabamba de paseo, todos nos veian como si lleváramos enfermedades de paludismo, fiebre y todo, pues mucha gente moria con la malaria, sufrimos mucho por esas enfermedades, pero ni eso nos desanimaba volver al Chapare; de Cochabamba nos traíamos tabletas de araten y de quinina y con eso nos curábamos el paludismo, pero los que más morian eran nuestros niños, no teníamos ni un sanitario y todos los días la víbora nos picaba, eso nos curábamos con creolina o tomando kerosen y con hojas de tabaco todo nos atendíamos entre nosotros pues no había nada de carretera, desde que hubo carretera recien hemos conocido el hospital de Villa Tunari, la carretera es desde 1972, aunque el proyecto viene desde 1959 que lo dejaron por un tiempo y retomaron en 1967".

"Cuando vinimos aquí, nos dividimos los terrenos de 100 mts. de frente y 10 has. de fondo, eramos como 70 colonos, algunos ya han muerto, y otros se han ido a otro lugar del Chapare, ninguno dejaría el Chapare, porque aqui ha puesto parte de su vida, su trabajo, hemos sufrido mucho antes de que haya carretera, todo era sacrificio, aprendimos a conocer las plantas el monte, sus peligros, los animales, ahora es lindo ya no hay nada de eso ahora uno duerme tranquilo. Este lugar había sido hacienda de un alemán un Sr. Juan Ceibal y todo era plantaciones de coca, como le conté que en Avispas nuestras tierras eran pequeñas, yo sólo tenía 4 has. además teníamos que pasar 4 rios para transportar nuestros productos y aveces el rio nos quitaba nuestra carga, nos quedábamos llorando viendo cómo el río se llevaba nuestro trabajo, era terrible, por eso nos animamos a buscar otros suelos".

PRODUCCION LOCAL, CONSUMO, INGRESO :

El mayor ingreso de esta comunidad proviene de la hoja de coca, existen plantaciones de cafe, algunos cítricos y otros como yuca, papaya, etc. lo que más se comercializa, es la coca, la economía del productor de esta zona esta basada fundamentalmente en la hoja de coca.

COCA EN LA ECONOMIA DEL HOGAR :

"A pesar de que no estamos seguros si vamos a vender bien la coca, todos plantamos coca, porque es para lo único que hay mercado, no nos animamos a plantar otros productos porque no hay mercado".
"Cuando se nos dijo que redujéramos las plantaciones de coca, nosotros fuimos unos de los primeros, hicimos caso al gobierno, pero no hubo ningún desarrollo o proyecto para esta zona, todo era para adentro y para nosotros nada, y nos prometian todo, se nos dijo reducción y redugimos pero jamás se nos dió alternativa de sustitución, por eso volvimos a sembrar coca, porque sino de viviríamos, todo ha sido un engaño no más, ellos debian poner primero la sustitución, hacernos ver que es posible vivir sin la economía de la coca y si con otras plantas frutales y le aseguro que sin que nos digan reducción, todos reduciriamos viendo esas alternativas, pero como todo es un engaño, cómo nos vamos a fiar de lo que dicen, si ahora mismo algunos que tienen otras plantas, no encuentran ningún mercado para vender y ahí esta, quien nos va a comprar por eso la gente no se anima a plantar otros productos y los que se animan es dudando o sólo para que le sirva a su consumo familiar y para eso poco no más necesita".

"Tambien dudamos de la coca, porque rebaja mucho y no cubre nada, creo que su costo real debería ser de 150 Bs. este costo depende la zona, en otras cuesta más producir coca, hay que desyerbar más, y en otras cuesta menos, por eso puede variar su costo real; la carga tiene 100 lbs. en otros lugares hay hasta 5 cosechas proque crece más rápido, en zonas como esta sólo son tres cosechas una es entre Marzo y San Juan (Junio) y la tercera es en todo santos (Noviembre), las dos primeras cosechas son buenas, la tercera es menos, en las dos cosechas buenas, se paga bien a los peones, en la tercer que es la "chajma", se paga el doble esta tercera cosecha no rinde mucho porque no se gana".

En la zona de Naranjitos, la economía del hogar se sustenta por el cultivo de hojas de coca, es decir que su mayor ingreso proviene de este producto que es cosechado tres veces al año. El jornal por mano de obra en la cosecha de coca, depende del costo de esta en el mercado, de donde se paga la mano de obra el 1%; y de 300 libras de hoja verde que se cosecha, esta se reduce en 100 lbs.

MIGRANTES TEMPORALES :

"Población flotante en esta zona no hay, son pocos los que se quedan a trabajar aquí, todos prefieren irse más para adentro porque allí les pagan más, entonces cuando necesitamos peones, nos traemos de Cochabamba y después de trabajar se van inmediatamente, y los otros se van hacia adentro; el tiempo de permanencia es de dos, tres semanas hasta llegar a un mes, más no estan se retornan a la ciudad. Los problemas que ellos tienen al principio es adaptarse al calor, algunos tienen que aprender a chaquear. Otros peones que ya viniveron una o dos veces, calculando el tiempo en que se los necesita vienen, ya son conocidos pero ninguno se queda siempre se van, la mayoría son de Ayquile, Potosi, y Sucre, son campesinos pobres que andan en busca de trabajo y algunos que se quedaron sus chacos son lejos hay que psar rios y caminar bastante, pero cuando no se tiene de qué más vivir, todo eso es preferible a estar sin trabajo ni tierra y no tener que comer, más cuando se tiene familia".

"También hemos migrado por estos lados ex-mineros y vinimos a trabajar aquí como mineros en las minas de asbesto, trabajamos durante 7 años pero era mejor ser agricultor y nos volvimos agricultores y unos nos vinimos a Naranjitos y otros a otros lugares del Chapare, pero ninguno retorno a los centros urbanos, de esto hace más de 20 años".

De acuerdo a lo señalado por los entrevistados, en la zona existe un número reducido de población temporal, sin embargo algunos tienen sus partidarios que no es una población temporal porque pasan de dos o más años en estcs chacos, esperando poseer uno propio.
Se estima de que el promedio de Has. de cada colono es de 8, son terrenos pequeños y de inferior calidad de suelos respecto de otras zonas del Chapare.

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

"Aquí en el Chapare, no falta trabajo, teniendo uno su lote, trabaja aunque sea sólo para comer, en cambio en la ciudad uno busca meses y meses trabajo y no encuentra nada y peor si hay familia que mantener, por eso nos vinimos aqui, por trabajo, no hemos venido como otros que por la coca siendo profesionales como médicos, abogados, ingenieros, profesores, todos se han venido por la coca."

"El Chapare ha dado tierra a todos, es nuestra esperanza de trabajo y por la reforma agraria que las tierras se han vuelto tan pequeñas a toda la gente que no tiene tierra, el Chapare lo ha cobijado, pero otros han venido a destruirlo, porque aqui siempre se ha sembrado coca y otros han venido ha hacer cocaina".

"Recien las NN.UU. esta construyendo una "despulpadora de café", quizá nos ayude un poco eso, pero todo dependerá de que tengamos un mercado para este producto, porque lo que nosotros queremos es trabajar para vivir y mantener a nuestra familia, y eso sólo hemos encontrado aquí en el Chapare y sembrando coca desde hace más de 30 años que somos cocaleros".

Todos los entrevistados, consideran al Chapare como su morada principal y su fuente de trabajo que les permite subsistir, ninguno piensa dejar el Chapare bajo ninguna condición.

SINDICATO Y ASOCIACIONES :

"El Sindicato, es nuestra máxima autoridad, el problema más grande que hemos tenido es por defender la coca, querian reducir a la fuerza y hemos luchado y hemos perdido vidas en esta lucha, con esta lucha hemos logrado que se respete a la hoja de coca".

"Si no tuviéramos un Sindicato, no habría ni camino, porque el sindicato ordena que se haga la limpieza del camino y todos participamos, asi como hicimos nuestra sede sindical, nuestro sindicato nos tiene organizados".

El Sindicato de Naranjitos, pertenece a la Federación Yungas del Chapare,

Existen 5 Federaciones en el Chapare, obedeciendo a características diferentes en las colonizaciones del subtrópico cochabambino. La zona de Jatun Pampa, es de una colonización que pasa los 30 años, y es una de las zonas tradicionales en producción de coca.

IBTA, PDAR, CREDITO, DIRECO, UMOPAR/DEA, GRINGOS :

IBTA:

"El IBTA, hace años que esta en el Chapare, en esta zona nos hemos organizado en una asociación de productores de café (ASPROCCA), y el IBTA nos ha proporcionado semillas, pero estas semillas no eran con poder germinativo, en unos hasta con 45 Kls. la germinación ha sido cero, a pesar el IBTA de pretender estar cerca del productor, se ha dado muchos fracasos en lo que nos ofrece, quizá aveces por el mucho papeleo y burocracia que se dá en el Ministerio y pasa mucho tiempo y cuando nos llegan las semillas, ya éstas estan pasadas, es decir que ya su tiempo de germinar se ha pasado y no nos sirven, despues de que hemos gastado. Seguro la culpa no es de los extensionistas, pero ellos debían saber tambien estas cosas y no hacernos "meter la pata" porque nos cuesta y perdemos".

"Otra cosa es que el IBTA, ha traido plantas importadas de Costa Rica, yo creo que aquí deben hacerse estas injertaciones, estas plantas cuestan caras son 13 U cada una, los técnicos argumentan que cuestan así porque son desde Costa Rica, para nosotros es un dineral grande, son las plantas de nues macadamia y recien nos han aceptado para pagar en 18 meses, y estamos empezando a implementar estas plantas, y si no podemos pagar en este tiempo, no se que nos pasará, el pago se hace a cláusula dólar, ellos dicen que son decisiones desde arriba cuando les reclamamos, con todo esto no vemos que haya fomento y apoyo al agricultor, nos desmoraliza un poco".

"El IBTA, recien desde que ha empezado a trabajar con financiamiento de USAID, creo que es desde 1987, se ha hecho conocer un poquito más y en otros lugares, recien lo estan conociendo, porque antes su campo parece que era de investigación y ensayos, nosotros sabemos que cuenta con un presupuesto grande y que tiene un convenio hasta el 91, como le digo, hasta ahora ha sido sólo ensaya e investigación que ha hecho el IBTA, no se ha aplicado la transferencia tecnológica que ellos dicen, es mínimo lo que se

ha hecho al respecto, estos últimos años se han denominado "promotores" a gente que ha iniciado un trabajo con el IBTA, pero aún no sabemos si esto será aplicable, hay plantas que se adaptan a otras microregiones y a otras no, y ahora se esta viendo a cuál se adaptará, eso estan esperando los del IBTA y nosotros también; recien el IBTA en la actualidad se puede ver que esta en este afan en granjas de experimentación, pero de una u otra manera esta siendo manejado como el PL-480, no hay nada de fomento para el agricultor, no es como en Colombia, donde se ha dado todo al productor cafetalero, todas las condiciones, casa, tecnología; en cambio aquí nada, las plantas son caras, y despues de comprarlas muchas son desechadas porque su periodo de plantación se ha pasado y eso ellos no nos garantizan, ellos estan esperando que el campesino compre y como no tenemos recursos no podemos. Otra cosa es que no tenemos agroquímicos, son muy caros porque son importados, antes no necesitábamos de eso, todo producía sin fertilizantes ni nada, ahora se necesita todo eso, lo ideal sería que cada productor tenga 5 has. de cada producto, pero no hay fomento ni del IBTA ni de nada, por eso decimos que el cambio de sustitución de la coca no se va a dar porque el Estado no fomenta al productor con nada".

"Nosotros creemos que el IBTA, todavía está es una etapa de investigación, y no esta en condiciones de ofrecer plantas que traen del exterior, cuando ni ellos mismos saben si aquí dará o no, nosotros sabemos que hay plantas que crecen muy bonito cuando se las lleva a otro lugar, pero no dan fruto por eso no sabemos si estas plantas que nos han vendido daran, entonces tampoco sabemos si realmente es una transferencia completa de tecnología, además qué va a pasar si se acaba el presupuesto que es hasta el 91, seguro se va a dejar a medias, diciendo ya no hay presupuesto, va a ser otra pérdida para el productor".

"Los del IBTA, sólo quieren trabajar con colonos que estan cerca la carretera, ellos no quieren atender a compañeros que somos de lugares alejados a la carretera, y eso que ellos tienen como trasladarse, pero no quieren por eso no les tenemos confianza también".

"El IBTA, no debe ser como una empresa particular que sólo le interesa recoger el dinero que gastó en plantas y semillas, primero debe dar fomento al campesino, en cambio en ese costo de la planta, cobran el salario del

técnico, hasta la tierra que trae, el gobierno debería participar en IBTA y fomentar pero no es asi, y el IBTA nos cobra ya no más, cómo voy a cobrarle a un niño que recien esta empezando a gatear, lo que le hago comer y vestir, eso quisiera que llegue a esferas del gobierno, porque así estamos con la planta de macadamia, pimienta, ni ha dado ni un fruto y ya no más tiene que estar bien pagada y todo, además no sabemos que enfermedades pueden tener estas plantas y cómo se cuidaran y todo, en cambio si me habla de la coca, yo se cómo se hace, esas plantas debieran ser gratuitas para saber si dá o no, como le dije hasta ahora no sabemos si dará o no y todavía cuestan tanto cada planta, seguro que el IBTA se va a quedar con todas sus plantas y daran fruto ahi en sus estaciones experimentales, y quizá ahi puede dar porque ellos mantienen con insecticidas y todo, lo que nosotros no hacemos porque no sabemos o porque no tenemos esos agroquímicos"

"El IBTA debe atender a todos, sin discriminación vivan donde vivan los colonos, porque de otro modo no esta haciendo un buen trabajo, esa discriminación nos afecta mucho a todos, atendidos y no atendidos, porque nos hace hasta dividir entre nosotros, nos hace pelear, pero sabemos porqué, asi sea en forma mínima pero se debe atender a todos, nosotros que vivimos lejos nunca hemos conocido al IBTA en nuestras zonas, además sabemos también que cuando ha atendido a un colono, no existe una vigilancia permanente del trabajo, digamos que esta semana se debía fumigar o fertilizar o algo, el IBTA aparece despues de dos o más semanas y ya la planta no sirve, se ha secado o algo".

"Otro aspecto que criticamos al IBTA, es que los extensionistas no nos enseñan cómo se planta estas nuevas variedades, sólo nos entregan las plantas y se van y además nunca estan dispuestos en momentos en que los necesitamos".

"Creo que el IBTA, ha visto un negocio con las plantas, cualquier plantita lo vende, el IBTA debe dar las semillas para cada zona y si no dá en una zona, eso nos dirá que la zona no es apta para esa planta, nosotros quisiéramos que extiendan más bien semillas, sería mejor ".

"Pensamos que el IBTA, tiene voluntad pero eso no es suficiente, ellos nos dictan cursillos cada que pedimos pero ahí no más se termina, nos indican

con qué hay que tratar, qué productos químicos hay que utilizar y todo eso pero todos nosotros somos pequeños productores y no tenemos los recursos suficientes, por ejemplo para fumigar una naranja tenemos que tener una motobomba porque los árboles son altos y eso no podemos tener, asi que todo lo que aprendemos en los cursos no podemos aplicar porque no contamos con esos implementos y no tenemos recursos para comprarlos."

"Todo lo que el IBTA nos da, nos cuesta producir más de lo que cuestan nuestras plantas criollas, por ejemplo en los cítricos que ellos nos dan, hacer producir significa un costo elevado porque hay que cuidarla más, y a nuestra naranja criolla sólo dos veces le rociamos y a la otra cada tres meses hay que aplicarle fungicidas para que dé buena producción y calidad, exige de más cuidado, se debe podar cada año, limpieza cada tres meses, y el costo en el mercado es igual a la de nuestra criolla que no exige tanto cuidado y es más agradable y jugosa, en cambio la otra es grande pero seca y desabrida, no ganamos nada en el mercado, en esta zona no tenemos la verdadera variedad de tardia, sabemos que esa cuesta más en el mercado, pero nuestra criolla es más jugosa".

"La capacidad del trabajo de IBTA, recien se esta dándo a conocer o percibir, ya se nota cierta aceptación de la gente para trabajar con ellos, pero todo depende del costo de la hoja de coca, porque si la coca sube, todos atenderán a la coca porque nuestro problema es económico y entonces veremos por dónde más ganamos no cree?...".

"El IBTA, debiera estar en más contacto con los agricultores, debe ser permanente, hay productores que colaboran con el IBTA, sin recibir nada a cambio y por estar con el IBTA, quizá dejamos a nuestras familias aveces sin comer, hay que ir hasta sus estaciones que quedan lejos de nuestros chacos y como ellos no tienen muchas movilidades como los leopardos que para cada uno tienen y se meten en todos los lugares para abusar a la gente pobre, en cambio los del IBTA, tienen pocas y tal vez por eso no pueden hacer un trabajo más positivo".

"Esta zona es la primera que ha reducido los cocales, por eso nos han puesto agua potable y se intensificó la producción del café, pero nos sen

timos frustrados porque aún no vemos respuestas a este sacrificio, nosotros nos preguntamos muy preocupados, qué haremos si la coca rebaja, con qué nos mantendremos a nosotros y a nuestros hijos, pues cualquier proyecto corre el riesgo de quedarse ahí porque no hay el apoyo de continuar aqui, hay ya una decisión de trabajar con café y cúrcuma, pero eso no significa que sólo trabajaremos con esos rubros, de acuerdo cómo avanzamos veremos con qué más trabajaremos, necesitamos también otro tipo de ayuda de otras instituciones, USAID, debe tomar en cuenta la cuestión de industria sólo así se hablaría de "coca por desarrollo", nos preocupa de que todo proyecto es limitado, qué pasará después con nuestras plantas?... estan sujetas a quedar como antes".

"Nosotros vemos claramente que el problema esta en que hay más financiamiento para la represión y no para el desarrollo agrícola, y eso lo saben todos, entonces nos preguntamos: verdaderamente se pretende el desarrollo agrícola en esta zona o qué?....", Otra cosa, es que nosotros, presentamos algunas alternativas de soluciones, por ejemplo en los pozos de petróleo se ha quemado el nitrógeno por toneladas y eso sirve para mejorar la tierra, lo mismo que la lodomita pulverizada y que no es un precursor para el narcotráfico, eso se debería aprovechar para mejorar nuestros suelos, pero no nos escuchan, todo los agroquímicos se traen de afuera y para nosotros es urgente mejorar nuestros suelos. El IBTA recien creo que esta haciendo un estudio de suelos, eso nos preocupa mucho, porque sabemos que en algunas zonas el café no va a dar".

CREDITO:

"La PL-480 decía que el que tiene menos de 10 Has. de terreno no tenía derecho al crédito, creo que eso se ha arriglado ahora, pero igual nos ha desanimado a todos porque sólo los que reducian tenian derecho al crédito pero no es asi, los que hemos reducido para tener crédito igual nos ponen muchos obstáculos, dicen que tenemos que sacar el préstamo por partes y eso no nos conviene, si uno se presta es que es responsable de ese préstamo, pero ellos nos hacen ir y venir muchas veces hasta sus oficinas que es en Villa Tunari, así no podemos administrar en nada ese dinero, de esa manera adeudarse no nos conviene, nos pueden colgar con esa deuda y algu-

nos hemos decidido no meternos con el crédito, porque creo que es otro engaño, aunque nosotros necesitamos de un préstamo pero no de esa manera ellos nos piden títulos, garantias, y nosotros no tenemos títulos, además cobraran el 13 %, y al inicio nos han hablado de años de gracia pero no ha sido asi, desde el primer momento que sale el dinero nos cobran intereses, yo no se porqué entonces nos han mentido diciendo que habrá años de gracia que no se pagaran intereses, pero en los hechos es un engaño, por ejemplo la planta de macadamia, necesita de un tiempo y de dónde ya no más vamos a pagar cuando ni siquiera hemos sembrado, tenemos muchas dudas al respecto. Primero dijeron que esos préstamos era para los grandes agricultores, ahora dicen para los pequeños pero siempre que haya reducido su cocal y quien haya reducido una Ha de coca, el DIRECO le paga 2.000 U y además la PL-480 le presta otros 2.000 U con dos años de gracia y con 2% de interes, asi nos han dicho inicialmente, y cuando uno ha reducido y todo, va a prestarse y nos cuentan otra cosa totalmente cambiada, el interes es de 13%, no hay años de gracia ni nada, ni siquiera nos permiten hacer trabajar el capital porque de poco de poco nos dan y sus intereses ellos ya se han hecho quedar, por eso yo no me he animado a tener una granja de cerdos o comprar más plantas del IBTA.

Nosotros creemos que es una trampa la PL-480, no han dicho nada sobre la "tasa libor", ellos dicen años de gracia a los años que sólo se pagan los intereses, es lo mismo que un Banco comercial donde hay interes penales e intereses comerciales donde a los tres días ya se hace el embargo y seguro si nosotros no pagamos a tiempo vamos a perder nuestros lotes, lo peor es que toman la cosa como si fuera estática, por ejemplo en el café dicen que debe dar a los dos años y el café da en realidad a los 4 años y mientras tanto el dólar sube más, porque hay inflación en nuestro país aunque el gobierno diga que no, no sabemos hasta cuanto se va a disparar el dólar es el doble que pagamos porque nos estamos cargando con doble interés, eso es una irresponsabilidad de toda esta inversión que se ha hecho, porque algunas plantas han ido bien pero otras se han hechado a perder y cómo todo se aplica en función del dólar, el 13% de interés es en claúsula dólar y el dinero a nosotros nos dan en Bs. y nos cobran en dólares.

Además ya no más se cobran los intereses, no es ninguna ventaja ni apoya para nosotros, es una trampa mortal, para eso uno se va a cualquier Banco".

"La PL-480, tampoco fomenta y apoya al agricultor, nosotros sabemos la historia del PL-480, que es producto de una donación de los gringos en harina y fue un negociado por eso creemos que en definitiva es una trampa para nosotros".

"Ellos tambien igual que el IBTA y el DIRECO, marginan también a los campesinos que viven alejados de la carretera y no atienden, y los que más necesitan de estos apoyos son los que más alejados estan porque no tienen cómo sacar sus productos, eso ellos no entienden".

SINTESIS, CONCLUSIONES :

- Los colonos de esta zona, son personas que han recorrido varios lugares en el Chapare en busca de tierras, la mayoría antes de asentarse definitivamente en la comunidad de Naranjitos, ha radicado en otras comunidades del Chapare.
- Al igual que las anteriores entrevistas, las razones por las que migró el colono es en busca de trabajo y tierras que le permitan vivir, es una zona con población desde hace más de 25 años.
- La economía de esta comunidad, esta basada en la comercialización de la hoja de coca, es decir que su mayor ingreso proviene de esta producción que le permite subsistir.
- El sector no es una zona que atrae como otras regiones, a la población flotante, obedece a esto que los chacos de esta área son pequeñas, y ademas el costo de la mano de obra es menor que en otras zonas.
- Los colonos ven al Chapare como su única alternativa presente y futura.
- Normas y patrones de vida son marcadas por el Sindicato al que consideran como su única instancia que les brinda respaldo social a cada productor, en este sentido, acatan todas las disposiciones que el Sindicato disponga.
- La aceptación de trabajar con los productos que el IBTA ofrece, más que responder a un cambio de cultivo por la hoja de coca, responde a una estrategia de sobrevivencia, motivada por la constante fluctuación del precio de la coca y que en periodos de costo bajo de la coca, estos nuevos productos les permitiran paliar su economía.

- El crédito ofrecido por la PL-480, no ha logrado en esta zona el objetivo con el que se planteó en su inicio, el fomento al agricultor del Chapare.
- Las diferentes Instituciones que trabajan en el Chapare, tienden a trabajar más con colonos asentados al margen de la carretera o cerca las carreteras, marginando a colonos que viven en las zonas alejadas de las carreteras.
- La falta de elementos conviventes de los nuevos productos que ofrece el IBTA, la falta de una política más adecuada a esta realidad de parte del Pl-480, crea mayor suceptibilidad y menor confiabilidad de parte del colono en las ofertas de estas instituciones.

DATOS BASICOS :

Micro Región I/ Sindicato 2 de Agosto/ Federación del Trópico de Cochabamba/ No. de entrevistados: 2/ 5-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

La comunidad en su mayoría esta poblada por colonos migrantes de Potosi, Oruro y las alturas de Cochabamba, los entrevistados no conocen con exactitud la fecha de la fundación de la comunidad, sin embargo saben que es antes de 1960.
En esta zona, el IBTA sólo trabaja con un promotor y "recien se está dando a conocer" a decir de los entrevistados.

MIGRACION: HISTORIA Y CIRCUNSTANCIAS :

"Yo me vine de Arque, de un lugar que se llama Aguas Calientes en el año 1965 y vine a Chipiriri, esas veces todo era monte, no era como ahora, pero igual trabajamos asi, me vine de mi tierra porque allá no había terrenos para trabajar y cuando uno ya es joven quiere tener sus terrenos y me vine a buscar trabajo para vivir, además faltaba agua para el riego después de Chipiriri, me vine más aqui, siempre en busca de trabajo y tierra, aquí da todo y además ya me casé en Chipiriri y me vine con mi esposa, yo trabajé con la empresa de Luz y Fuerza cuando instalaron, era como una cooperativa, se estaba construyendo el camino a la granja de Chipiriri, de allí hemos llevado plantas de naranjos hasta la empresa que era más adentro de Eteramazama, todo el camino era por sendas no más y hemos llegado hasfa Bomborazama.
También han migrado mis hermanos al Chapare, uno esta por Isiboro más adentro y nos vemos poco porque vivimos lejos cada uno, otros estan por el lado de Coripata. Al principio me vine a trabajar como peón, luego como partidario y recién nom más me estoy consiguiendo un lote, no he trabajado nada todavía en mi lote porque estoy un poco enfermo, por eso no lo estoy trabajando aún".

"Yo me vine en 1983, de Sabaya, pertenece a Oruro, está en la frontera c Chile, me vine porque allá no alcanzaba para vivir lo que trabajábamos, tierra pequeña, no hay riegos, todos los que vivíamos allá éramos bien p bres, hay que arañar la tierra para vivir, es altiplano, lo que se produ ce depende de las lluvias, y si no llueve todo se muere, las plantas, lo animales y también la gente, allá sólo da quínua y nada más.
Yo me vine con mi hermano, el tiene su chaco, yo tenía que trabajar como peón para reunir dinero para comprarme un lote y trabajar, todavía ahora estoy como partidario, eso me permite vivir a mi y a mi familia.
De mi pueblo todos hemos salido, sólo los viejitos se han quedado, muchos nos hemos venido al Chapare, otros a Caranavi y otros a Santa Cruz, todos los jóvenes hemos salido, porque allá ya no da para vivir y todos hemos salido en busca de tierras a todo lado para vivir; y aún para los que se han quedado la tierra es pequeña y no alcanza para todos".

PRODUCCION LOCAL, CONSUMO, INGRESOS :

La zona es productora principalmente de hoja de coca, cítricos, bananos, plátanos, papayas, yuca, arroz, etc. Su ingreso económico principal del agricultor de esta zona, es de la venta de coca, a decir del entrevistado, los otros productos no tienen el precio real del costo de su producción, y que en lugar de ganar, se pierde por el alto costo del transporte.
Semanalmente salen 6 camiones cargados de plátano y bananos que es lo que más se vende despues de la coca. Otro producto que sale con mucha frecuencia de la zona es la madera de mara, cedro, almendrillo, negrillo, laurel, tejeyeke, lo cual no tiene que ver con los agricultores.

COCA EN LA ECONOMIA DEL HOGAR :

"Nosotros vivimos sólo de la coca, si quisiéramos vivir de los otros pr ductos, no alcanza para nuestras necesidades, sería casi imposible vivi sólo con los otros productos, porque se vende bien barato y nos cuesta tanto producir, por eso y o creo que todos siembran coca, sino de qué m viviríamos nosotros y nuestro hijos, y aveces ni con la coca podemos vi porque su precio baja tanto que no conviene venderla pues no se gana na y todo se pierde y ahí uno tiene que buscarse como trabajar y poder viv es dificil nuestra situación".

Todos los colonos de esta zona tienen sembradios de cocales que es su p cipal fuente de ingreso económico.

"Para nosotros la coca legalmente debería costar 250.00 Bs., sólo asi cubriría su costo de producción, todos creen que con la coca ganamos, pero no es asi, sólo nos permite vivir mínimamente y un poco también la fruta pero no se gana como piensan, nosotros seguimos pobres vivien do de nuestro propio trabajo, ni los que tienen tierras y peor nosotros los partidarios, por eso defendemos de lo que vivimos, sino con qué viviríamos".

MIGRANTES TEMPORALES :

"Los que vienen y se van siempre son los peones, vienen por tres o cuat meses y se van y otros vienen cada tres meses estan semanas y se van, l que vienen por primera vez siempre se enferman, algunos no aguantan y s van otros resisten y se acostumbran no más".
Por ser la zona una de las más productoras de coca, producto que gen de bastante mano de obra sobretodo en la etapa de cosecha, entonces dá mayor migración de población temporal a esta región.

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"Otras personas de mi comunidad vienen a trabajar como peones así como éste joven, despues se van también unos a la comunidad y otros a otros lugares a buscar trabajo, de aquí entran más por Eteramazama, antes de q la mina caiga, los de mi comunidad se ivan a las minas de COMIBOL a trabajar como mineros, pero ahora se vienen aquí".

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

"Todos los que hemos venido al Chapare, ha sido en busca de trabajo, sino a qué más hubiéramos venido, si en mi tierra hubiera riegos, más terrenos y cómo vivir, yo volvería a mi tierra, pero no hay es bien pobre, por eso todos hemos salido de allá porque es triste la vida allá, la tierra no alcanza, aunque aquí nos abusan, nos maltratan los "leos", se llevan nuestras pocas cosas, hacen todo, nosotros seguimos porque aquí podemos trabajar y tener algo que comer, por eso nos quedamos, sino fuera por eso nos iríamos, porque quien va a querer vivir con los abusos de los "leos", eso es lo que no nos gusta, nos atropellan no parecen humanos".

SINDICATOS Y ASOCIACIONES :

La zona corresponde a la Federación de Trópico de Cochabamba, Federación dirigida por Evo Morales, y que se caracteriza por ser la más combativa en la lucha por la defenza de la hoja de coca, razón de ello, no se redujo las plantaciones cocaleras por instrucciones del Sindicato.
"Yo, recien empezaré a participar en el Sindicato, porque todavía estoy como partidario, pero apoyo igual al Sindicato, porque es el único que nos defiende y nos apoya, por eso ellos no quieren al Sindicato y siempre le estan peleando, (los leopardos), una vez casi lo matan a nuestro dirigente, y todo porque defendemos a la coca".
"Nosotros apoyamos en todo a nuestro Sindicato, aparte de afrontar al problema de la hoja de coca resuelve los problemas de linderos, y hasta otros problemas pequeños, y si algun peón o partidario tiene problemas con el colono, tambien resuelve esos problemas".

"Sabe nuestro Sindicato que Ud. está haciendo estas preguntas?.... porque si no sabe, nosotros tampoco sabemos nada".

IBTA, PDAR, CREDITO, DIRECO, UMOPAR/DEA, GRINGOS :

IBTA:

"Nosotros no conocemos el trabajo del IBTA, a más de algunos cursillos que he asistido, pero todo queda en cursillos no más porque no nos dan recursos para la agricultura; sé por otros compañeros, que las plantas que venden son muy caras, y ese costo elevado no podemos cubrir menos c do no sabemos si resultará o no, hay algunos promotores que dicen estar ciendo la prueba, pero aún no hemos visto resultados.
Ellos no se acercan a nosotros ni nosotros a ellos, todos dicen que ell (los de IBTA), son "leopardos" vestidos de civil, será verdad eso?.... eso nos hace dudar, porque además sabemos que los mismos que dan plata a los "leopardos", dan plata a los del IBTA y al DIRECO, entonces los tres tienen que cumplir con el mismo objetivo no ve?.... creo que por eso la gente no se atreve a trabajar con ellos, todo nos enteramos de los que u poco se han acercado a ellos, y ellos pasan no más y visitan a los que t bajan con ellos, nosotros quisiéramos también conocer pero tambien dudar cómo será, si ellos estan haciendo un trabajo en contra de nosotros o re mente será de apoyo, aquí la gente más es lo que duda. En esto el Sindi cato dice: 'que trabajen los que quieren con el IBTA', es mentira que no prohibe, porqué tendría que hacerlo, acaso uno gasta plata del Sindicato cada uno gasta su plata en lo que quiere, y si quiere gastar trabajando con el IBTA, asi lo hace; ellos dicen que los que no queremos trabajar c el IBTA es porque somos "pichicateros", eso es mentira, no por vender nu tra coca vamos a ser "pichicateros". Otros compañeros dicen 'es perder tiempo no más, porque para trabajar con el IBTA se necesita mucha plata' dicen que sus plantas cuestan 15 U, y se necesita fungicidas y todo, y nosotros no tenemos para pagar eso".

"Sobre el crédito, no sabemos nada, porque aquí nadie ha reducido y eso es un requisito que piden, no tenemos crédito de nada, aquí vivimos de nuestro trabajo no más, nadie nos ayuda, en lugar de ayudar más bien vie nen los leopardos con la DEA y destruyen los caminos que han hecho los propios campesinos, ninguna institución nos apoya con nada".

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SINTESIS, CONCLUSIONES :

- La mayor parte de los colonos provienen de Potosi y Oruro.
- Como en las anteriores entrevistas, los motivos que originaron la migración hacia el Chapare, en este caso tambien es la falta de tierras y riego, lo cual agudiza el proceso de pauperización del pequeño productor de zonas deprimidas del altiplano boliviano.
- La economía familiar se basa eminentemente en la venta de hoja de coca,
- Por la actividad del cultivo de coca, esta zona atrae más que otras a l los peones, llamados "población flotante".
- Al igual que los demás, el entrevistado considera al Chapare como su única alternativa que le permite vivir lo cual hace que se aferre más.
- La manera cómo se ha encarado al problema de la producción de hoja de coca, hace que el Sindicato de esta zona, se fortifique más y consolide su defenza de la hoja de coca.
- La producción de hoja de coca, obedece más a la imperiosa necesidad de "tener de qué vivir", que a la política del narcotráfico.
- El "trabajo" que realiza UMOPAR en la zona, influye al trabajo que pretende el IBTA, creando suceptibilidad y total desconfianza en el colono.
- No se considera al trabajo del IBTA como alternativa, señalan de que el problema no es técnico, es social, y requiere de respuestas sociales e inmediatas, y lo que el IBTA les ofrece no son alternativas y además son a mediano y largo plazo.
- No existe crédito alguno en la zona, en razón de que se negaron a reducir sus cocales.
- Se identifica en la zona al IBTA, DIRECO y UMOPAR/DEA, como uno sólo con diferentes nombres.

DATOS BASICOS :

Micro Región II/ Sindicato Valle Ivirza/ No. de entrevistados: 1/ 6-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

"No conozco cuándo se fundó la comunidad, cuando me vine por aquí, ya había colonos de todas partes, yo vine en el año 1972".
La zona tiene una colonización espontánea y dirigida; El proyecto IBTA trabaja con huertos establecidos con macadamia, coco, guanábano, maracuyá, sus suelos en su mayoría son malos, los menos malos estan asentados por colonos "dirigidos" en su colonización.

MIGRACION: HISTORIA Y CIRCUSNTANCIA :

"Yo nací en Villa Tunari, de ahí me vine en busca de tierras a través del Instituto de Colonización en 1972, aquí trabajo y aquí esta mi familia me vine porque necesitaba; tierra para trabajar, en Villa de dos o tres has. no más teníamos, no alcanzaba, además como me casé, necesitaba tierra y me vine a este lugar porque era más cerca y el ambiente era más fresco, si hubiera tenido más tierra en Villa Tunarí, me hubiera quedado allá no más, pero no había.
Antes de venir por este lado, he vivido en Santa Cruz dos años, trabajaba como albañil y como carpintero, pero el trabajo no era seguro, aveces había y aveces no, generalmente no había por eso me volví porque el trabajo aquí era seguro; si ese trabajo hubiera sido seguro y me permitiera vivir con mi familia yo trabajaría como albañil o carpintero, pero como todo es por contrato no más, se acaba el contrato y no hay más trabajo es terrible cuando no se tiene trabajo.
Aparte de este chaco, tengo otro por lado de Izarzama en Sindicato Bolivar yo mismo atiendo, tengo mi partidario, antes tenía otro lote más por Germán Buchs, pero como no había camino, lo vendí y recién ahora hay camino por ahi".

PRODUCCION LOCAL, CONSUMO, INGRESOS :

La zona se caracteriza por ser eminentemente citrícola, aparte de la producción de coca, también esta la producción de bananos, plátanos, piña, la economía de los colonos se basa en estos productos.
Existen también en la zona pequeños transportistas que son colonos y que hacen servicio local y otros hasta la ciudad de Cochabamba.

COCA EN LA ECONOMIA DEL HOGAR :

"Yo creo que el precio legal de la carga de hoja de coca debería ser de 200 Bs. porque así más o menos cubriría su costo, nosotros vivimos generalmente de la venta de coca, los otros productos se venden muy baratos y aveces ni se vende y todo se echa a perder, porque ni para su transporte se gana, no conviene.
Todo lo que gastamos, todo lo que pagamos a los peones, sale de la coca de acuerdo a su precio, pagamos a los peones por cosecha de una tirada, se paga el 1% del costo de ese momento, por ejemplo ahora cuesta 150.00 Bs. y nosotros pagamos al peón 1.50.00 de Bs., lo que más da vida en el Chapare es la coca y después los cítricos, pero en nada se gana".

MIGRANTES TEMPORALES :

"La población temporal es sólo de peones que vienen a trabajar en época de cosecha de coca y de arroz, es donde más jóvenes vienen a trabajar, y en otras épocas, pocos son y trabajan en desyerbes u otras cosas, esta población aparece cada tres o cuatro meses por aquí, despues dos o tres semanas se van de nuevo, no se si se iran a sus pueblos o a trabajar a la ciudad, unos a Santa Cruz y otros a Cochabamba, los que se quedan trabajando son los que han venido de lejos, desde Potosi, Oruro o La Paz, se quedan porque cuesta más plata el retornar de nuevo, yo tengo un peón durante todo el año, pero en la cosecha contrato a más".

"Otros retornan a su lugar después de 6 meses y luego vuelven de dos o tres meses al Chapare, la mayoría o casi todos son campesinos pobres, sin tierra y los que tienen tierra es muy pequeña y es de sus padres, los que vienen son jóvenes entre 15 y 26 años de edad, y como todos tenemos partidarios y peones, porque solos no podríamos trabajar en los chacos, entonces siempre necesitamos de ellos".

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

"En ninguna otra parte produce todo como aquí, aunque no se venda siempre hay para comer, no es como en otros lugares que cuentan, dicen que produce una sóla cosa y aveces ni eso y no tienen qué comer, por eso sale la gente de sus tierras, aquí hay bastante fruta para los chicos, eso es lo mejor que tiene el Chapare, produce todo; antes pensé en salir y me fui para el lado de Santa Cruz, pero en la ciudad si uno no trabaja no puede vivir y peor si tiene familia, por eso prefiero estar en mi tierra no más yo soy chapareño de nacimiento y aquí no más me quedaré".

SINDICATOS Y ASOCIACIONES :

"Todos estamos afiliados al Sindicato, todos los que tenemos chacos, cumplimos todo lo que se decide en las reuniones, hacemos tambien tareas comunales, en nuestro sindicato se resuelven todos los problemas de la comunidad, es nuestra organización más seria".

IBTA, PDAR, CREDITO, DIRECO, UMOPAR/DEA, GRINGOS :

"Nosotros queremos que haya otras plantas en nuestros chacos y que el IBTA vende, yo voy a comprar recién de ellos, pero ellos debieran dar más plazo para pagar, porque es muy corto el tiempo que dan y no creo que podamos además cuestan caras no más, ellos dan asesoramiento técnico, dan cursillos donde nos enseñan de cuánto por cuánto se cava para cada planta, eso

por una parte nos parece bien, pero no vienen seguido ellos, debieran visitar continuamente para ver cómo estan las plantas, motivar el trabajo a los agricultores, pero no es asi, ellos hacen más para las plamtas que introducen y para nuestras plantas nativasn nada, recuerdo que una vez yo tenía plantas de sandía que estaban un poco mal, y pedí al técnico que me la viera y él, me dijo que no tenía tiempo y que volvería, pero no volvió y cuando volví a insistirle, me dijo que lo fumigara con "Tamarón", eso me dijo sin ver a mi planta, y yo, asi lo hice, lo fumigué y lo arruiné peor y perdí todo, no ha dado nada, desde esa vez nunca más le volví a decir nada al técnico, lo que aprendemos en los cursillos aveces nos puede servir, pero ellos nunca van a nuestros chacos, a ver nuestras plantas, a ver de qué se trata, a ver de cerca las enfermedades y explicar ahí mismo, asi yo creo que aprenderíamos más, y tuvieramos más confianza con ellos".

"Nosotros no hemos participado en la feria de Chipiriri, porque esos días estuvimos muy ocupados los de la comunidad, teníamos un jochi que tuvo crias y todos estábamos en eso. Yo sólo me he acercado al IBTA para trabajar con ellos, ellos me han aceptado, recien no más he empezado, en esto no dice nada el sindicato, sólo por voluntad propia he ido al IBTA, voy a ver si conviene o no, pero yo quiero otras plantas, no se si daran o no".

Crédito:

"He reducido mis cocales con el objetivo de prestarme plata de la PL-480 no sé cómo será en eso, otros dicen que no conviene, recien voy a averiguar si es asi o no, el problema es que necesitamos plata por eso me he animado a ir a la PL-480".

Umopar:

"Ellos sólo cometen abusos con nosotros, se llevan todo lo que pueden, asustan a las mujeres y a los niños, cada vez pasan por aquí, sólo cometen abusos ni siquiera agarran a los verdaderos narcos, sólo llevan a campesinos inocentes".

SINTESIS, CONCLUSIONES :

- La zona alberga en su mayoría a colonos que vinieron en busca de tierra para sembrar, su principal ingreso económico es de la venta de hoja de coca y luego de frutas como cítricos y bananos.
- Todos los colonos a decir del entrevistado, dependen de la economía de la coca.
- De acuerdo a la entrevista, existe una gran afluencia de población temporal en esta zona, población que principalmente es atraida por el trabajo que exige la hoja de coca; todos los colonos tienen un partidario o más en sus chacos, población que en muchos casos no se los considera como población temporal, ya que estos "partidarios", estan en busca de tierras que les permita trabajar para vivir. Dichos "partidarios", en su mayoría son de Potosi, Oruro, La Paz, y las alturas de Cochabamba.
- Todos los entrevistados hasta el momento, afirman que el Chapara es algo asi como "la tierra prometida", más para quienes provienen de lugares totalmente deprimidos, como es la puna y el altiplano.
- Se advierte un respeto especial hacia el Sindicato, del cual acatan todas las decisiones que de él emanan.
- Respecto del trabajo del IBTA, existe una duda porque recien estan iniciando con las UPDs., lo cual todavía no ha tenido resultados, sin embargo, se ha hecho cinco módulos de aves, los cuales ahora no estan funcionando por falta de mercado.
- La falta de confianza que generó la PL-480 en los colonos de esta zona, originó que se plantaran nuevos cocales.

DATOS BASICOS :

Micro Región VII/ Sindicato Cooperativa Ichoa Ltda./ No. de entrevistados: 1/ 6-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

"La comunidad es nueva, todos hemos venido de otros lugares cuando se estaba construyendo la carretera hacia Santa Cruz, esta zona recién se pobló desde entonces"
El Proyecto IBTA, recién empezó a trabajar en esta zona que es relativamente nueva, las propuestas del proyecto hacen referencia a la pecuaria en sentido que sus suelos son inadecuados para otros productos.

MIGRACION: HISTORIA Y CIRCUNSTANCIAS :

"Yo soy de la comunidad "Las abras", provincia Azurduy del departamento de Chuquisaca, allí naci y en 1968 me vine para Yapacaní ya tenía mi tierra allá pero era muy chica y en 1985, me vine para este lado, aquí compré este terreno de un amigo que le ofreció, son 50 has. más o menos, es para ganadería, me vine con mi familia, si allá hubiera tenido más tierra quizá me hubiera quedado, pero mi chaco era muy pequeño y estaba lejos de la carretera, y salí de Sucre, porque allí mucha sequia y pobreza ni tampoco había educación ni atención en salud.
Aquí no más nos quedaremos, ya hemos puesto mucho trabajo aquí y estamos con toda mi familia, en Sucre estan sólo mis hermanos y voy cada 3 años a visitarles.
Todos los que hemos venido al Chapare, siempre ha sido en busca de trabajo porque en otros lugares no hay".

La mayoría de los pobladores de esta zona, viven desde hace 5 ó 6 años, y vinieron cuando se construyó la carretera los terrenos fueron adquiridos mediante la Cooperativa Ichoa desde 25 a 60 Has. en su generalidad, migraron por el lado de Yapacani.

PRODUCCION LOCAL, PRODUCCION, INGRESOS :

La zona pretende ser ganadera, casi todos los colonos se dedican a esta actividad, sin embargo de ello, tambien existen plantaciones de coca, lo cual significa el sustento de estas familias, también se produce arroz lo cual es para el consumo de las familias.
Existen 92 familias desde el rio Bulo Bulo hasta el Ichoa, todos son agricultores y algunos además son transportistas pequeños.

COCA EN LA ECONOMIA DEL HOGAR :

"Cuando había la venta de coca, había mucha gente, ahora no se ve asi, se han ido la mayoría, la coca ha bajado mucho, la carga debiera costar 300.00 Bs. así podríamos pagar lo que cuesta producir, nosotros vendemos coca y pocas veces arroz, recien estamos empezando con la ganadería, no sabemos cómo nos irá, también vendemos plátano y bananos pero en eso no se gana nada".

MIGRANTES TEMPORALES :

"Aquí todos trabajamos con peones, algunos creo tienen sus partidarios, yo tengo dos peones todo el año y en periódos de cosecha, aumento más peones, la mayoría son de Montero y vienen a trabajar sólo a la cosecha de coca o de arroz y luego se vuelven a su pueblo, algunos se enferman y hay que hacerles curar, en esta zona hay paludismo que azota fuerte, bronquitis y parásitos y como ellos no estan tan acostumbrados, se enferman rápido y eso también tenemos que pagar, es un problema porque aquí no estamos atendidos con nada de salud".

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

"No tenemos otro lugar para irnos, aqui produce todo aunque sea sólo para comer, este lugar es bueno para la ganadería, yo tengo 30 cabezas y ojalá de, es mucho trabajo pero que vamos ha hacer, necesitamos vivir de algo y por los hijos tenemos que trabajar aquí no más, ya hemos puesto trabajo y dinero y tenemos que seguir, por eso nos quedaremos aqui".

SINDICATOS Y ASOCIACIONES :

"Nosotros estamos organizados en nuestro Sindicato, todo conseguimos con nuestro Sindicato y acatamos disciplinadamente lo que ordena y empujamos a nuestros dirigentes a luchar por nuestra comunidad, por ejemplo sabemos que el PDAR, a donado a Villa Andrade para su escuela y no asi a nosotros por eso ahora nos hemos reunido y hemos decidido que vamos a pedir tambien esa ayuda para nuestra escuela porque nosotros también necesitamos".

IBTA, PDAR, CREDITO, DIRECO, UMOPAR/DEA, GRINGOS :

"El IBTA a nosotros nos esta dando un asesoramiento técnico, hemos aprendido algunas cosas como mejoramiento de forrajes para nuestro ganado, ellos han explicado cómo seleccionar la semilla, las épocas de cosecha de la fermentación de semilla, tambien en los cítricos, hemos comprado plantas muy caras de cítricos, de cocos y no han dado, es decir no se han adaptado y hemos perdido casi el 80 % de las plantas y el IBTA no nos devuelve nada, ellos deberían saber antes de vendernos si va a dar o no y no nos hubiéramos endeudado en bano, porque en eso gasto al vacío no más a sido, y ellos nos exigen al contado cuando compramos, ellos no nos dicen qué plantas sirven o nó para nuestra zona, parece que no conocen los suelos y venden no más, en eso ellos deberían orientarnos.
En los cursillos tampoco esa parte no nos enseñan, sobre los suelos y eso debe ser lo más importante, eso vamos a reclamar nosotros porque no sabemos con exactitud para qué sirven nuestros suelos y cómo podremos explotarlos, para eso creo que debe estar el IBTA".
"Las plantas de pasto se han adaptado y esas plantas ellos nos han regalado de la Estación de Chipiriri, pero las que nos han vendido y que costaron caras, se han perdido, eso nos ha preocupada y nos preocupa mucho. nosotros pensamos que el IBTA debe tener más práctica en los suelos para que nos enseñen más con eso; otra parte que necesitamos y no nos enseñan todavía es la parte de sanidad animal, no nos han dado nada de eso y necesitamos urgente, antes en esta zona estaba otro técnico, a ese se le veía más seguido, era Vallejos, ahora a este nuevo poco lo conocemos y de vez en cuando no más viene, creo que no se intereza con nuestras necesida

des, no hemos reclamado todavía eso nosotros porque recién hemos hablado en el Sindicato, el anterior técnico venía semanalmente, y este nuevo no viene mucho, y como son funcionarios del gobierno, les sugerimos que nos atiendan más seguido, porque siempre necesitamos cuando se enferma nuestra planta, nuestros animales, necesitamos que nos hagan conseguir más variedades de pastos para el ganado, sabemos que cada año llegan nuevos pastos".
"Por otro lado quisieramos que el IBTA canalice y se comercialice la semilla de pasto que nosotros producimos porque no sabemos a dónde vender, eso nos preocupa mucho; pensamos también en un establo para la vacunación de nuestro ganado que alcanza más o menos a 1.500 cabezas, pensamos que si el IBTA tuviera las posibilidades nos podría ayudar, eso también vamos a hablar en el Sindicato".
"Lo urgente para nosotros es tener la asistencia de un veterinario, ya que aqui todos somos ganaderos y nos orientes más sobre el cultivo de pastos porque aquí hemos decidido que todos nos vamos a dedicar 100% a la ganadería nuestra asociación se llama AGAPLE-Trópico cochabambino".
"Tenemos mucha mortalidad con el ganado, no sabemos qué hacer, hemos pensado solicitar a PDAR que investigue estas enfermedades y porqué algunos se han muerto en las crías casi hasta el 50%, dicen que es deficiencia de alimentación, y las vacas adultas orinan sangre y el veterinario que ha venido, no tiene medicamentos con qué curar ni botiquin, eso nos preocupa mucho porque tenemos que pagar al PL-480 y estamos perdiendo mucho ya, queremos pedir ayuda al PDAR y vamos a mandar una carta".
"El IBTA debe hacer sus investigaciones por todas las zonas porque en su estación de la Jota bien ha dado el coco, pero aqui se ha perdido todo y de eso también nosotros nos hemos endeudado no más, al ver eso creo se han animado a capacitarnos más para la pecuaria, vamos a tener un cursillo de agropecuaria en Chipiriri, no se exactamente la fecha".

Crédito:
"Nosotros en nuestra cooperativa, todos hemos decidido reducir todo nuestro cocal para que el PL-480, nos preste dinero y nos ha prestado a cada uno, a mi me dió 3.000 U, con eso hemos hecho ampliación de praderas, compra de cabezas de ganado y una motocierra, pero el interés es muy exagerado, y en 10 años debo devolver el interés y el capital prestado, pero no tenemos todavía ganancia nosotros, estamos con problemas de nuestro

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ganado".

"Con el PL-480, hemos plantado braquiaria humidícola y no ha resultado, todo se ha vuelto paja y ahora eses crédito hemos perdido igual que los cocoss esas plantas hemos comprado con los técnicos del PL-480, todo ha sido un fracaso y ellos saben, pero nosotros igual tenemos que devolver esa plata prestada, ahora estamos asociando braquiaria con cutsu, es otro tipo de pasto y ojalá resulte porque ya no podemos más perder, no sabemos cómo todavía resultará esto está asesorado por el IBTA".

SINTESIS, CONCLUSIONES :

- La zona se caracteriza por ser ganadera aún sin resultados positivos.
- La mayoría de los colonos que poblan por esta zona, han migrado por el lado de Yapacaní, los mismos que se han organizado en una asociación de ganaderos.
- Se cultiva en menor esacal coca, pero significa el ingreso más alto en relación a otros productos que se cultiva en la zona.
- La población temporal que va por esta zona es del lado de Santa Cruz con mayor frecuencia, y el promedio de Has. es de 45 Has. aproximadamente, lo cual requiere mayor cuidado y trabajo, entonces, cada agricultor tiene uno o más de uno peones permanentes.
- Al igual que los demás colonos, el entrevistado tiene puesto sus esperanzas en el Chapare, y no ve fuera de allí otra posibilidad de trabajo para vivir.
- La organización sindical, juega un papel determinante en estas comunidades, se toman decisiones conjuntas y que pueden o no afectar de manera individual diferente.
- Se advierte cierto grado de desconfianza al trabajo del IBTA, al PL-480 por razones de experiencias anteriores (como es el caso de los cocos y el pasto de braquiaria), que sólo salió con una deuda el agricultor.
- No se nota el apoyo total de las instituciones a esta zona, donde el agricultor ha puesto toda su decisión de cambiar su cultivo de coca.

DATOS BASICOS :

Micro Región IV/ Comunidad La Estrella/ Sindicato La Estrella/ No. de afiliados 180/ No. de entrevistados: 1/ 7-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

"Estos lugares se poblaron más a partir de 1981, vivian muy pocos y los que que vivian sólo estaban en épocas y despues se ivan a sus otras tierras, la mayoría de los pobladores somos de Cochabamba en esta zona, somos del Valle Central, Vinto, Parotani, Colomi y algunos de Potosi, no se cuando exactamente se fundó, ya había lotes con dueños, unos vendian y otros compraban".
El IBTA en la zona recien pretende trabajar, realiza cursillos y tiene una UPD.

MIGRACION : HISTORIA Y CIRCUNSTANCIAS :

"Yo nací en Quillacollo, mis padres me trajeron muy pequeña a Chipiriri donde ellos tenian un chaco ahi me crié, después de mucho tiempo, me compré aqui un lote de 9 Has. y me vine sóla en el año 1984, todos mis hijos estan en la ciudad, sólo yo vivo aquí desde que me separé de mi esposo antes yo era profesora, pero el salario de profesora no me rentaba para poder vivir, eso me animó más a volver a ser agricultora como cuando era niña, además que me gusta el trabajo y lo hago personalmente, no sólo hago trabajar, a mi me gusta mi trabajo y lo hago.
Cuando era profesora o cuando ejercía mi profesión, he estado en Caracollo durante un año, también he estado en Villazón, al sud del país por dos años, luego estuve en Sacaba otros dos años, en Independencia durante 6 años, yo era casada con un Pastor evangelista y por eso viajaba siempre, luego me vine aquí y trabajé un año como profesora, pero el sueldo no alcanzaba ni para el pasaje para ir a cobrar el sueldo, por eso preferí volver a ser agricultora, ahora salgo a la ciudad cada 6 meses y sólo como a modo de descanzar unos días y nuevamente retorno a mi chaco. Voy a verlo a mi padre que se fue a la ciudad a trabajar como sereno después que murió mi madre, él se volvió a casar y por un accidente ya no regresó

a su chaco; de esa manera es que yo llegué aquí".

PRODUCCION LOCAL, CONSUMO, INGRESOS :

La zona produce principalmente coca, cítricos, bananos, plátano, yuca, papaya, sin embargo existen terrenos que sólo producen coca y arroz por ser suelos deficientes (suelos bajos).
"Antes cuando se producía bastante coca, existian como 10 transportistas ahora sólo son 3 eso es porque la coca ha bajado de precioy todos vivimos de la venta de hoja de coca".

COCA EN LA ECONOMIA DEL HOGAR :

"Para poder vivir sólo con la venta de la hoja de coca, debería de costar la carga 200.oo Bs. eso nos permitiria cubrir los gastos de la producción, el jornal de los peones y otros gastos que se realiza, el pago al peón es según cómo está costando la hoja de coca, se paga el 1% del costo de venta en el momento. Todos en esta zona vivimos de la economía de la coca, los otros productos tambien vendemos, eso nos ayuda un poco, el problema que tenemos con estos otros productos es que no existe un transporte adecuado, y si existe nos cobra mucho y preferimos dejar que se eche a perder porque no vale la pena llevar a la ciudad ya que se gasta más, cuantas veces nos hemos quedado en el camino con nuestras cargas de yuca porque el transportista nos quería cobrar mucho o porque no hay en qué llevar, en cambio en la hoja de coca, hay transporte para llevar, no se echa a perder y se vende, entonces todos preferimos vender de lo que más vamos a ganar, todos hacen eso y nosotros también porque necesitamos vivir de algo no ve?....".

MIGRANTES TEMPORALES :

"Viene mucha gente a buscar trabajo como peón, son más varones los que vienen, las mujeres que vienen son familiares de algún colono o partidario, en cambio los varones que son más andariegos, vienen sólos, vienen más a la cosecha de la coca y después se van a trabajar a otros lugares pocos retornan a sus lugares de origen, y si salen del Chapare es sólo hasta la ciudad donde trabajan como cargadores o albañiles y después de

nuevo vuelven al Chapare a trabajar, todos ellos son jóvenes buscando dónde van a hacer su vida, y como aquí ya no hay chacos para repartirse porque todo ya tiene su dueño, éstos jóvenes son los que viajan por todo el Chapare, antes se iva a las zafras de Santa Cruz, otros se ivan hasta la Argentina a la Zafra, y ahora se viene al Chapare a la cosecha de la coca".

PERSPECTIVAS SOBRE LA VIDA EN EL CHAPARE :

"Aquí produce todo y aunque uno no venda nada, tiene qué llevarse a la boca, no es como en otros lugares que sólo es tierra, aquí hay facilidad para el desarrollo de las plantas, no sufrimos por falta de riego, hay mucha agua, demasiada, segura estoy de que nadie se iria asi no más del Chapare, dónde encontraría lo que aquí hay, es sólo de trabajar, aunque cuesta mucho pero hay para poder comer aunque sea yuca y arroz, todo se puede hacer aqui pero lo que más daño nos hacen son los "leos" que tratan como inhumanos, cometen abusos, se llevan nuestro dinero y todo lo que pueden para después venderlo".

SINDICATO Y ASOCIACIONES :

"Nuestro Sindicato jamás dijo que no pudiéramos trabajar con el IBTA o con los que quisiéramos nosotros, no se porqué siempre hay gente que cuando no logra trabajar con la gente echa la culpa al Sindicato, no piensan que es porque no les tenemos confianza o porque no queremos finalmente, pero nuestro Sindicato nunca nos prohibió, ni tampoco el Dirigente Evo Morales nunca dijo que no fuéramos a la feria, eso es problema de cada uno, el que quiere va y el que no no, pero sabemos que siempre hablan en contra el Sindicato, eso no es extraño. Ahora en estos cursillos del IBTA hasta los del Sindicato estan participando, los que menos tenian interés.
El Sindicato esta para nosotros para defender nuestros intereses, cumplimos con lo que se decide".

IBTA, PDAR, CREDITO, DIRECO, UMOPAR/DEA, GRINGOS :

"Como le decia anteriormente, todo el que quiere, puede trabajar con el IBTA, hace más de 5 años que estan ellos por aquí, al principio nadie quería recibirlos, primero porque se pensaba que ellos son también parte de los de DIRECO y de UMOPAR, y segundo porque todo lo que ellos ofrecian no se igualaba a lo que se ganaba con la coca, por eso todos preferian trabajar con la coca porque era y es lo que más se vende hasta ahora, sólo que ha habido tiempos en que la coca ha bajado mucho y ya no teníamos con qué vivir, por eso muchos hemos decidido trabajar con otros productos y algunos nos hemos comprado plantas del IBTA, como cítricos, cocos, recién ahora mucha gente se esta animando, porque antes ellos trabajaban sólo con un promotor que era muy especial y no quería conversar con nosotros, todo era para él, nunca pudimos ver lo que hizo, no nos comentaban nada ni el promotor ni los del IBTA, en bano no más se decía que era promotor, porque no promovía, y los que nos hemos animado a trabajar con el IBTA, no ha sido por ver y conocer lo que han hecho con el promotor, sino por que el precio de la coca, varía mucho, aveces está más o menos y otras baja demasiado que no conviene venderla, entonces en estas etapas si tenemos otras plantas podremos vender y tener para vivir, por eso es que la gente se aferra a la coca porque es lo que más se vende, otros aunque rebaje su precio venden porque en sus chacos no da más que coca y arroz entonces de qué van a vivir ellos. Ahora somos muchos los que participamos en los cursillos del IBTA, antes eramos pocos, ahora hemos crecido, antes los del Sindicato mismo se oponian a trabajar con el IBTA, ellos, pero no nos prohibian que nosotros trabajemos, pero si ellos no querian trabajar y ahora ellos estan también en los cursillos, y se oponian más porque el promotor era muy especial, en eso los del IBTA cuando escogen a su promotor deben ver que sea una persona que se lleve bien con todos, que les muestre lo que esta haciendo y no que se lo oculte, el IBTA trabajaba sólo con dos no más, toda explicación era para esos dos,
Nos hemos organizado en asociaciones de los diferentes rubros de esta zona y de las otras plantas que da el IBTA, somos como 18 en cada rubro, pero en los cursillos participamos como el 25%"

"Hemos visto que la coca no asegura nuestra economía, por eso nos hemos entusiasmado para trabajar con el IBTA, sólo que ellos deberían venir más seguido, parece que no tienen mucho personal para atender debidamente a todas las zonas como debe ser; existen planes de trabajar con módulos de animales (aves, cerdos), pero eso es sólo plan por el momento.
Otra cosa es que quisieramos proyectos que permitan la instalación de una procesadora de yuca ó plátano, eso necesitamos y eso los del IBTA deben promover, también deberían facilitar la adquisición de las plantas y no cobrar tan caras como son ahora, o mejor vendernos semillas y enseñarnos cómo debe ser su germinación y no sólo de coco, cítricos, queremos también de frijoles, de soya y lo que es más importante, debieran asegurarnos el mercado, porque de nada vale que sembremos no más sin saber despues a dónde vender, eso ellos no se preocupan.
Otra cosa es que los del IBTA, sólo trabajan con hombres, a las mujeres no nos toman en cuenta, sólo cuando somos mujeres solas o viudas podemos participar en los cursos y todo, todo parece que sólo fuera para los hombres, nosotras también quisieramos estos cursos y otros que necesitamos como mujeres, además los técnicos estos cursos debieran dar en quechua, ellos parece que no quieren hablar en quechua, asi entenderian todos, porque cuando hablan sólo en castellano, algunos no más entienden y otros no".

Crédito:

"Algunos que hemos reducido nuestro cocales, los de DIRECO no nos han pagado nada hace ya más de tres meses, nosotros hemos reducido para prestarnos de la PL-480 y para eso necesitamos certificados de reducción y título de propiedad para tramitar el préstamo, no se cómo estará eso pero escucho mucho descontento de gente que se ha prestado, en realidad no conozco todavía si convendrá o no".

UMOPAR/DEA:

"Ellos siempre andan amedrentando a la gente, han destruido los caminos que los propios campesinos se han hecho, ellos no construyen nada, todo destruyen y abusan a la gente pobre, sufrimos por eso nosotros".

SINTESIS, CONCLUSIONES :

- La zona corresponde a la llamada "zona roja", afectada por el narcotráfico, su principal producción es la hoja de coca.
- La mayoría de los colonos procede de las diferentes zonas de Cochabamba, el valle, la puna, y demás.
- La mayoría de los pobladores tiene basada su economía en la venta de hoja de coca, y son los bajos precios constantes que determinaron buscar otros productos para cultivar en la zona que es muy variada en suelos.
- Todos los migrantes temporales son los llamados "peones", que se trasladan en busca de trabajo por todo el Chapare siempre en periódos de cosecha.
- Se considera al Chapare como la única alternativa de sobrevivencia para el colono que es el lugar donde encontró la posibilidad de trabajar para seguir viviendo.
- Existe una clara posición respecto del Sindicato, al que defienden en todo momento y se identifican con tal posición, es la máxima organización, donde se decide los aspcetos más importantes que afecten a la comunidad.
- Existe un entusiasmo de trabajar con el proyecto IBTA, más que por repercusión propia del proyecto, por una estrategia de diversificación agrícola que le permita la sobrevivencia en períodos del bajo costo de la hoja de coca.
- Poco o nada se conoce respecto al PL-480.
- Todos sensuran la actitud de los grupos represores, ningún colono manifiesta nada positivo de estos grupos.

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DATOS BASICOS :

Micro Región IV/ Sindicato Ishinuta/ Entrevista a Dirigente Andrez Flores.
7-9-90

ACTIVIDADES DEL PROYECTO :

"Nosotros somos 207 afiliados al Sindicato, de este total recien el 20% se está interezando en trabajar con el IBTA, antes trabajaba uno sólo, ahora la comunidad a elegido a uno para que sea el promotor, nuestro propósito es trabajar con plantas de pimienta y el proyecto lechero del 415.
El problema que tenemos es que el IBTA vende sus plantas muy caras, quisiéramos que nos rebajen y que sean más frecuentes las visitas de los técnicos, que analicen en primer lugar nuestras tierras para decidir qué producto rendiría mejor, ellos en eso primero deben orientarnos, recién este mes vamos a comenzar a trabajar con el IBTA, iremos a conversar con el encargado principal para ver si nos pueden dar al crédito las plantas o cómo será de ser posible esto yo creo que los interezados van a aumentar.
Antes el IBTA no venía y cuando venía sólo venian a "farrear", así se los conocía, ahora a cambiado mucho, el ingeniero viene siempre día por medio.
Yo quería empezar con 50 plantas para ver si dará o nó, y otros también pero el IBTA nos dijo que debe ser con 300 plantas y eso a desanimado a muchos, cómo sin saber si será buen o mal resultado vamos a empezar con mucho, primero queremos ver con esas 50 plantas si va a rendir o no, además cada planta cuesta 5.oo Bs. y en 300 se hace harta plata y no tenemos y lo que pedimos era que nos den 50 plantas al crédito a un tiempo de año y medio y nosotros ya hemos preparado un terreno de un cato, pero el ingeniero dice si no es 300 entonces nada, estamos preocupados por eso.
El precio del coco es de 15.oo Bs. y la macadamia es en dólares, por eso casi nadie se está animando por esta planta y a traves del Sindicato vamos a decidir para ir a hablar y solicitar. Yo creo que ellos (IBTA), quieren rescatar rápido el costo de sus plantas y de eso la gente se ha dado cuenta de que si no venden a su tiempo, se va a perder todo.
Algunos tenemos plantas de injerto de naranja, pero ellos sólo nos asesoran para estas plantas, no asi para nuestras nativas que aveces tienen enfermedades, debieran asesorar para todas las plantas".

DATOS BASICOS :

Micro Región IV/ Sindicato Eteramazama/ 149 afiliados/ Federación del Trópico de Cochabamba/ No. de entrevistados: 1/ 7-9-90

LA COMUNIDAD, ACTIVIDADES DEL PROYECTO :

"No se cuándo se fundaría esta comunidad, cuando yo vine aquí, ya había gente viviendo, yo vine en 1981 y desde 1983 comencé a trabajar como promotor con el IBTA, yo era el único que trabajaba con el IBTA, en nada más hacía trabajo el IBTA en esta zona porque no había interes de la gente, tenía mucha desconfianza".

MIGRACIÓN: HISTORIA Y CIRCUNSTANCIAS :

"Yo soy de Tupiza, del lado de Remedios, salí de allí en 1975 y me fui a Tarija a trabajar como constructor durante tres años, de ahí me fui a Santa Cruz, pues decian que allí había más trabajo y cómo ganarse y viví en Santa Cruz otros tres años pero allí trabajé como agricultor en Casarave nucleo 24, pero como no había camino, lo vendí y me vine por este lado, primero empecé a trabajar como peón en Puerto Patiño durante un año y sobre el dinero que tenía ahorré un poco más y me compré este terreno, siempre quise algo asi, porque en Casarave no se podía vender el arroz que producíamos los que compraban daban preferencia a los cambas y a nosotros que éramos kollas o de otro lugar no, entonces no se podía vivir asi, por eso me animé a buscar otras tierras y pensé en el Chapare y me vine sólo, cuando me fui a Santa Cruz, fui en grupo con unos tarijeños, pero aquí me vine solo.
Yo voy cada año a mi pueblo, los de allá la mayoría se han ido hacia la Argentina, ivan allá a trabajar en la zafra y se quedaban no más ya porque encontraban trabajo para vivir mejor y todos los que vivimos o hemos venido por estos lados somos de diferentes lugares y hemos venido buscando mejor vida y creo que hemos encontrado, eso si, hay que trabajar mucho y eso aveces a algunos no les gusta, no quieren prosperar".

PRODUCCION LOCAL, CONSUMO, INGRESOS :

La zona es productora de cítricos, bananos, plátanos, arroz, yuca, frijol y principalmente coca que es lo que más vende el productor.
"Además de todos los cultivos que producen los demás, yo tengo cacao, café coco, pimienta, macadamia, cítricos mejorados, caupi, tengo todo esto porque yo trabajé como promotor con el IBTA durante 6 años, pero de todos los productos lo que más se lleva al mercado es la hoja de coca, para los otros cultivos no hay mercado, por ejemplo yo estuve en la feria de Chipiriri vendiendo nescafé, pero sólo vendí ahi no más, no hay mercado en otras partes ni para el guanábano, ni tamarindo, ni maracuyá que también tengo pero no sé dónde vender y eso me preocupa mucho porque yo debo todavía al IBTA de todas estas plantas, debía como 700 $US, y las plantas todavía no han dado fruto, entonces he pagado con la venta de mis cocales, debo aún más de la mitad, y eso voy a pagar con la venta de coca, sino de dónde voy a sacar para pagar, porque si no tuviera la coca, no podría pagar ni una planta que saqué del IBTA, y yo empecé a trabajar con ellos porque siempre me interesé en tener nuevas plantas y me compraba para practicar si puede o no dar en mi terreno, he estado durante 6 años con el IBTA, pero eso me ha traido serios problemas con mis compañeros, me decian que soy agente de la DEA o del DIRECO que estoy trabajando en contra de la coca y todo, me querian botar de la comunidad, me amenazaban, yo quedaba tranquilo no más, porque todo era mentira, yo no influia para que hagan perder la coca ni nada pero ellos no entendian, recién ahora se interesan un poco al ver que yo les llevo chocolate, les visito y estamos asistiendo a cursillos, recién uno se ha hecho, todavía no han pedido más cursillos quizá más adelante pidan otros cursillos.
También he tenido pollos, bien me ha ido con eso, he vendido a la misma comunidad, tenía como 200 pollos, pero ni viendo eso se interesaban, estaban más aferrados sólo a la coca, es verdad que es lo único que nos permite vivir, pero yo creo que debemos tener otras plantas también por eso me animé a trabajar como promotor tanto tiempo y no me arrepiento, ahora ya no soy promotor.
Recién ahora se estan acercando un poco al IBTA y se estan animando a tener otras plantas como hice yo; mis compañeros primero quieren ver si va a dar o no en su terreno porque si se deshacen de la coca, con qué van a

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pagar las plantas que saquen al crédito, por eso no nos deshacemos de la coca".

COCA EN LA ECONOMIA DEL HOGAR :

"Como le digo en esta zona todos vivimos de la producción de la hoja de coca, incluso yo que tengo otras plantas, si no hubiera tenido mis cocales no hubiera podido pagar nada, todo me ayuda la coca para pagar, la coca cosechamos 4 y hasta 5 veces al año y en diferentes cantidades, entonces es lo que más nos rinde, todos pagan sus deudas o compran alguna cosita cuando se cosecha y se vende la coca, después todos estamos sin plata cuando no se cosecha la coca".

"El costo real de la hoja de coca debiera ser 300.oo Bs, ese costo cubre el costo de producción, porque el costo menos de eso no cubre sus gastos y el pago al peón es de acuerdo al costo en la venta, en la cosecha de arroz es de 4 ó 5 Bs. más la comida, se paga de cada 12 Lbs. que se cosecha el 1% del precio del costo de la coca".

MIGRANTES TEMPORALES :

"En esta zona todos trabajan con partidarios y peones casi todo el año, los partidarios estan todo el año, los peones son por temporadas, mayormente vienen de Sucre y otros de Cochabamba. Los peones deambulan siempre, nunca son permanentes, se van donde les van a pagar más y se van a pizar porque ahí les pagan más del triple y ellos quieren quedarse aquí, conseguirse un chaco, algunos reunen su plata para comprarse un lote, otros se enferman mucho, cada vez sacan al hospital de Chipiriri a curarlos, son gente joven que andan en busca de trabajo, todos son campesinos pobres que buscan tierras, por eso se van donde más plata pueden ganar y más rápido".

PERSPECTIVA SOBRE LA VIDA EN EL CHAPARE :

"Yo creo que nadie se iria de aquí, ni las enfermedades ni las represiones de los "leos" ni nada haría que nos vayamos de aquí porque es el único lugar donde tenemos de que vivir, todo nuestro trabajo esta aqui, yo por ejemplo si pensara en irme a otros lugares, sería como querer ser joven de nuevo sólo asi uno puede volver a empezar, eso ya no es posible y yo ya empecé aqui y mi residencia principal es aqui, aqui esta mi familia y todo".

"En ningún otro lugar como aquí produce todo, si uno tiene interés en trabajar nos va bien pero dónde fracasamos es cuando no hay dónde vender y eso es nuestro problema, no hay dónde vender, podríamos producir todo pero dónde vendemos, sólo perderíamos no más, nosotros producimos lo que se vende, si se vendiera más los cítricos, todos se dedicarian más a plantar cítricos".

SINDICATOS Y ASOCIACIONES :

"Todos trabajamos con nuestro Sindicato somos 149 afiliados, ahora yo soy Presidente del Comité del Pueblo, todos somos agricultores, los del pueblo que son comerciantes son también colonos, todos pertenecemos al sindicato, ahí se decide los problemas que tenemos, por ejemplo dicen que estos terrenos pertenecen al Banco de Cochabamba, a una sociedad de profesionales y hemos entrado en juicio y nadie ha ganado, se ha quedado asi no más la cosa, y en eso el Sindicato nos apoya, además nosotros sabemos que "la tierra es para quien la trabaja" y no para el que es patron no más".

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IBTA, PDAR, CREDITO, DIRECO, UNOPAR/DEA, GRINGOS :

IBTA:

"Como le conté, yo trabajé con el IBTA durante 6 años, soy ex-promotor del IBTA. Ser promotor consiste en tener interés de trabajar con nuevas plantas, poner a disposición nuestro terreno, participar en la organización de la comunidad en algún cargo es decir en el Sindicato, tener cumplimiento y voluntad, pero todo esto a mi me ha significado ganarme enemigos entre mis propios compañeros, enemistarme con mis vecinos, todo eso me he aguantado, recien ahora se me acercan antes cuando era promotor ni me miraban, ahora que no soy promotor, recien vienen a visitarme y yo les hago conocer mis plantas y les invito todo".

"El IBTA, debería tener un puesto de información en cada comunidad donde ha tenido un promotor, porque si deja asi no más, es un trabajo a medias, por ejemplo hay compañeros que quisieran saber, conocer un poco más de lo que es el IBTA, y no pueden siempre ir hasta la Estación ya sea a comprar folletos o a averiguar, es muy lejos, debe dar a conocer esas cartillas que tiene y serís bueno que tenga a la venta en un puesto de información comercial en la Central Sindical de cada zona y el encargado puede ser el que ha sido promotor, así todos se enterarian y se informarian más, porque los ingenieros no tienen tiempo para explicar algunas cosas como esas, así creo yo que el trabajo del IBTA fuera más completo.
Otra cosa que preocupa es que el IBTA no llega a los lugares donde se los necesita más, debería tener más personal para llegar hasta esos últimos lugares, parece que el proyecto no tiene alcance ni en sus movilidades".
"Ahora ellos deben ver un precio más barato para las plantas que venden, son muy caras y no todos pueden pagar, si uno quiere trabajar con el IBTA tiene que tener no más un monto de capital, porque de otro modo no es posible, uno se endeudaría no más y tal vez pierde hasta el terreno, eso es grave para nosotros".

Crédito:

"No tengo todavía crédito porque no he reducido mis cocales, dicen que por una Ha. reducida van a prestar 5.000 U con el interés del 13%, pero si reduzco así, me van a quedar sólo dos catos de coca, además como noso-

tros no tenemos títulos de propiedad, y eso también piden para prestarse de la PL-480, no se cómo haremos, yo ya reducido, pero si no me van a prestar, voy a volver a plantar coca porque es mi único sustento ya que no se puede vivir de nada más".

"A nosotros nadie nos ayuda, en todo nos ponen obstáculos, yo, he viajado a Costa Rica cuando era promotor y allí he visto que a los agricultores les dan de todo tipo de facilidades, les dan crédito y les aseguran todo en cambio aquí todo es para la suerte de uno no más si produce estamos bien y si no estamos arruinados y no nos dan nada, por eso no puede hacer nada de lo que he visto en Costa Rica. Por ejemplo yo quiero poner plantaciones de piña, cada plantita cuesta 0.50 ctvs. de Bs. y a una Ha. entran 44.000 plantas de piña, ajustando eso es mucha plata y caras, aunque son de variedades pero son caras, todo eso nos desanima".

UMOPAR/DEA;

"Ellos sólo abusan y asustan a la gente, nosotros vivimos con miedo por un lado de los "leos" y por otro de los narcos que son un peligro para nuestros niños, hay cambas disparando y nuestros niños tienen que ir a la escuela un poco lejos, eso nos preocupa mucho de ambos lados".

SINTESIS, CONCLUSIONES :

- La mayoría de los pobladores tiene un promedio de 8 años de vivir en esta zona.
- Como en todos los casos, el motivo principal para la migración fue el buscar tierras para trabajar.
- La zona es eminentemente cocalera, su principal ingreso para las familias es de la hoja de coca, lo cual les permite erogar otros gastos y que a decir de los productores, ningún otro cultivo con el precio que cuestan les permitiría gastar.
- Todas las familias cultivan coca, y viven de esta economía.
- El hecho de ser una zona cocalera, atrae mucha población temporal la misma que viene en busca de trabajo y con perspectivas de adquirir un terreno para posteriormente quedarse definitivamente en el Chapare.

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- Absolutamente todos los entrevistados opinan de que su vida está en el Chapare, y bajo ninguna circunstancia abandonaría, argumentando de que en el Chapare produce todo aunque sea sólo para comer.

- El Sindicato representa la máxima autoridad en toda instancia, se toma las decisiones bajo la venia del Sindicato.

- De acuerdo a la conversación con el ex-promotor, no es por efecto del trabajo del IBTA, que la gente haya decidido a intentar trabajar con ellos, es más bien la baja del precio de la hoja de coca que motiva a los productores a buscar nuevas estrategias de sobrevivencia, diversificando sus productos y diversificando su actividad económica, de ahí que en la zona existen comerciantes en el pueblo que a la vez son también colonos y producen coca.

- Es alguien que ha trabajado muy de cerca y durante mucho tiempo que opina que el trabajo del IBTA, es incompleto si no llega a la divulgación general y buscar los medios para ello.

- No existe credibilidad en el crédito, existe suceptibilidad en cuanto al pago de DIRECO y el productor se siente totalmente desamparado en su intento de mejorar.

- Todos consideran los precios de las plantas que el IBTA ofrece, como algo muy caro y que no les permite un rédito inmediato.

- A pesar de estar conscientes del peligro que significan los "narcos" y por otro lado los de UMOPAR, los productores no intentan salir hacia otros lugares.

DATOS BASICOS :

Feria de Shinahota/ Micro Región III/ No. de entrevistados: 1/ 9-9-90

"Yo soy vendedora de verduras, temprano los domingos vengo y agarro de las rescatistas que llegan de Cochabamba, yo vendo en montoncitos, y aquí siempre estoy todos los domingos. Yo primero soy agricultora, tengo mi chaco en esta zona, pero también me dedico a vender sólo verduras y frutas los domingos que es feria.
Antes las que venian a vender eran todos de Cochabamba, venian y se ivan el mismo día, otros se quedaban para ir a otro lado hasta terminar de vender lo que habian traido, pocas van desde aquí a traer de Cochabamba, cuesta más el transporte y no se gana nada, por eso todos los que vendemos aquí no más preferimos agarrar las verduras y vender.
Ahora esto esta vacío, antes se llenaba pero eran otras las que vendian traian de todo, había todo, todos los locales estaban llenos de gente, ahora esta vacío, hay poca venta y sólo son los días domingos que se ve un poco más de gente.
No sólo somos agricultores, otros tienen sus casetas de ropas, otros somos vendedoras en la calle no más, aquí no sirve para sembrar verduras por eso traen desde Cochabamba.
La mayoría de los comerciantes tienen también sus chacos, pocos deben ser los que no tienen y no creo que no tengan, deben tener y alguien se los debe cuidar seguramente, siempre estan los mismos vendedores, aquí no más viven, otros vienen de Chimoré, de Villa Tunaria a comprarse algunas cosas que necesitan.
Los peones que vienen, llegan a trabajar a los chacos, algunos vienen a buscar peones aquí, pero la mayoría llegan a los chacos directamente".

Todas las vendedoras de verduras son mujeres, algunos varones venden artículos como linternas, pilas, agujas, jabones, etc. y pequeños puestos ambulantes, a decir de ellos, todos tienen sus chacos y sólo por ganar un "poco más", los domingos vienen a vender a Shinahota.

APPENDIX D

COST OF PRODUCTION BUDGETS

CROP ACHIOTE

YEAR	CASH COST OF MATERIALS	YIELD 450kg /Ha.	PRICE 0.9/ kg	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	292			-292	192	21	213	-505	-505	-505
2	113			-113	69	21	90	-203	-177	-166
3	155	450	0.9	250	102	26	128	122	93	82
4	139	520	0.9	329	117	21	138	191	126	105
5	139	900	0.9	671	117	21	138	533	306	241
6	139	900	0.9	671	117	21	138	533	266	198
7	139	900	0.9	671	117	21	138	533	232	162
8	139	900	0.9	671	117	21	138	533	201	133
9	139	900	0.9	671	117	21	138	533	175	109
10	139	900	0.9	671	117	21	138	533	152	89
11	139	900	0.9	671	117	21	138	533	133	73
12	139	900	0.9	671	117	21	138	533	116	60
13	139	900	0.9	671	117	21	138	533	101	49
14	139	900	0.9	671	117	21	138	533	87	40
15	139	900	0.9	671	117	21	138	533	76	33
16										
17								SUM	1382	703
18								TOTAL	92/Yr	47
19								IRR=38.1		
20										

SOURCE:

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COST OF PRODUCTION BUDGETS

CROP COCA

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	66	0.25		94	737			-643	-643	-643
2	2793	0.45		87	264			-177	-154	-118
3	6418	96		1262	504			758	576	509
4	6418	96		1262	504			758	501	418
5	6418	96		1262	504			758	436	343
6	6532	96		1148	504			644	322	239
7	6418	96		1262	504			758	330	230
8	5024	72		736	504			233	88	58
9	5024	72		736	504			232	76	47
10	3630	48		210	504			-294	-84	-49
11	3630	48		210	504			-294	-73	-40
12	3040	36		-160	504			-664	-144	-74
13	112	2		48	114			-66	-12	-6
14										
15										
16										
17								SUM	1368	978
18								TOTAL	195/Yr	140
19								IRR=26.3		
20										

SOURCE: IBTA/CHAPARE

COST OF PRODUCTION BUDGETS

CROP MAIZ Yr1; CAMOTE Yr2; COCONUT

YEAR	CASH COST OF MATERIALS	YIELD	PRICE	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	1149	27.2	10.8	-855	231	30	261	-1116	-1116	-1116
2	1088			-182	201	50	251	-433	-378	-355
3	266			-266	63	50	113	-379	-288	-255
4	218	16620	0.2	3106	165	66	231	2875	1900	1584
5	218	27700	0.2	5322	237	66	342	4980	2864	2251
6	486	33240	0.2	6162	276	66	342	5820	2910	2159
7	486	33240		6162	276	66	342	5820	2532	1769
8	486	33240		6162	276	66	342	5820	2200	1449
9	486	33240		6162	276	66	342	5820	1915	1187
10	486	33240		6162	276	66	342	5820	1665	972
11	486	33240		6162	276	66	342	5820	1449	797
12	486	33240		6162	276	66	342	5820	1263	652
13										
14										
15										
16										
17								SUM	19916	11094
18								TOTAL	1660/Yr	924
19								IRR=84.9		
20										

SOURCE :

COST OF PRODUCTION BUDGETS

CROP MAIZ Yr.1, PASTORE,SEOWSON 4 Has.

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	341	160	10	1259	492	15	507	752	752	752
2	268	1449 1.25	0.35 50	302	179	15	194	108	94	89
3	268	1449 1.25	570	302	179	15	194	108	82	73
4	265		570	305	179	13	192	113	75	62
5	265		570	305	179	13	192	113	65	51
6	194		570	376	173	13	186	190	95	70
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17								SUM	1163	1097
18								TOTAL	194/Yr	183
19										
20										

SOURCE: _____

COST OF PRODUCTION BUDGETS

CROP PALMITA

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	2102			-2102	282	24	306	-2408	-2408	-2408
2	729	2200	1	1471	261	24	285	1186	1035	973
3	715	2200		1485	381	37	418	1067	810	717
4	715	2200		1485	381	33	414	1071	708	590
5	715			1485	381		414	1071	616	484
6	715			1485	381		414	1071	536	397
7	715			1485	381		414	1071	466	326
8	715			1485	381		414	1071	405	267
9	715			1485	381		414	1071	352	218
10	715			1485	381		414	1071	306	179
11	715			1485	381		414	1071	267	147
12	715			1485	381		414	1071	232	120
13	715			1485	381		414	1071	202	99
14	715			1485	381		414	1071	176	81
15	715			1485	381		414	1071	153	66
16	715			1485	381		414	1071	133	55
17	715			1485	381		414	1071	116	45
18	715			1485	381		414	1071	101	36
19	715			1485	381		414	1071	88	30
20	715	2200	1	1485	381	33	414	1071	76	25
								SUM	4370	2447
								TOTAL	218/Yr	122

SOURCE: IBTA/CHAPARE

IRR=45.9

COST OF PRODUCTION BUDGETS

CROP PINEAPPLE Yr.2-4: Gandul Yr.3-4

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18
1	7234			-7234	756	36	792	-8026	-8026	-802
2	966	30000		9534	354	63	417	9117	7959	747
3	945	60000		15555	534	63	597	14958	11368	1005
4	945	60000		15555	534	58	592	14963	9891	688
5										
6										
7								SUM	21192	1638
8								TOTAL	5298/Yr	409
9										
10										
11										
12									IRR = 129.9	
13										
14										
15										
16										
17										
18										
19										
20										

SOURCE: IBTA-CHAPARE
Experiment Station Data, 1989

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COST OF PRODUCTION BUDGETS

CROP RICE Yr.1: BANANA

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	433	35	10.8	-55	312	63	375	-430	-430	-430
2	59	144	2.8	344	111	17	128	216	189	177
3	31	394	2.8	1071	177	17	194	877	666	589
4		394	2.8	1103	201	13	214	889	588	490
5		394	2.8	1103	201	13	214	889	511	402
6		394	2.8	1103	201	13	214	889	444	330
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17								SUM	1968	1558
18								TOTAL	328/Yr	260
19								IRR=117.3		
20										

SOURCE:

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COST OF PRODUCTION BUDGETS

CROP RICE Yr.1, BEANS Yr.2, DRY PEPPER

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	3090	35	8.3	-2799	516	53	569	-3368	-3368	-3368
2	458	17	23	67	420	53	473	-540	-471	-443
3	443	400	1.2	37	636	51	687	-650	-494	-437
4	368	1660	1.2	1552	660	46	706	846	559	466
5	368	2800	1.2	2992	780	46	826	2166	1245	979
6	368	2800		2992	780	46	826	2166	1083	804
7	368	2800		2992	780	46	826	2166	942	658
8	368	2800		2992	780	46	826	2166	819	539
9	368	2800		2992	780	46	826	2166	713	442
10	368	2800		2992	780	46	826	2166	619	362
11	368	2800		2992	780	46	826	2166	539	297
12	368	2800	1.2	3992	780	46	826	2166	470	243
13										
14										
15										
16										
17								SUM	2656	542
18								TOTAL	221/Yr	45
19								IRR=26.3		
20										

SOURCE:

Best Available Copy

COST OF PRODUCTION BUDGETS

CROP RICE Yr.1. CITRUS

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	514	35	8.3	-223	294	65	359	-582	-582	-582
2	113			113	78	18	96	-209	-182	-171
3	173			173	60	31	91	-264	-201	-177
4	202			202	57	30	87	-289	-191	-159
5	252	143	1.65	16	141	43	184	-200	-115	-90
6	328	408	1.65	345	153	43	196	149	74	55
7	274	1428	1.65	2082	330	43	373	1709	743	519
8	360	1428		1996	321	43	364	1632	617	406
9	298	1428		2058	336	43	379	1679	552	343
10										
11										
12										
13										
14										
15										
16										
17								SUM	715	144
18								TOTAL 79/Yr		16
19								IRR=24.5		
20										

SOURCE:

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COST OF PRODUCTION BUDGETS

CROP RICE Yr.1. CORN, BEANS, COWPEAS Yr.2. COFFEE Yr.4-14. TEMBE Yr.6-14

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPREC IATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	1343	35	8.3	1052	636	34	670	1722	1722	1722
2	144			1483	288	38	326	1157	1010	949
3	336			336	84	38	122	458	348	308
4	380	10.8	50	159	219	52	271	112	74	62
5	539	35.9	50	1254	302	52	354	900	518	407
6	682	43.1 400	50 0.18	1545	347	52	399	1146	573	425
7	609	45.5 600	50 0.18	1772	347	52	399	1373	597	417
8	609	45.5 600	50 0.18	1772	347	52	399	1373	519	342
9	609			1772	347	52	399	1373	452	280
10	609			1772	347	52	399	1373	393	229
11	609			1772	347	52	399	1373	342	188
12	609			1772	347	52	399	1373	298	154
13	609			1772	347	52	399	1373	260	126
14	609			1772	347	52	399	1373	225	104
15										
16										
17								SUM	3043	1529
18								TOTAL	217/Yr	109
19								IRR=19.7		
20										

SOURCE:

ST OF PRODUCTION BUDGETS

OP RICE Yr.1. COWPEAS/PEANUTS Yr.2. COFFEE

AR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPREC IATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	594	30	8.3	-345	390	44	434	-779	-779	-779
2	20	218 589	23 16	787	261	44	305	482	421	395
3		9.8	37.5	368	126	60	186	182	138	122
4		32.6	37.5	1222	267	60	327	895	592	493
5		39.1	37.5	1466	297	60	357	1109	638	501
6		41.3	37.5	1549	300	60	360	1189	594	441
7				1549	300	60	360	1189	517	361
8				1549	300	60	360	1189	449	296
9				1549	300	60	360	1189	391	243
10				1549	300	60	360	1189	340	199
11				1549	300	60	360	1189	296	163
12				1549	300	60	360	1189	258	133
13				1549	300	60	360	1189	225	109
14				1549	300	60	360	1189	195	90
15										
16										
17								SUM	4275	2767
18								TOTAL	305/Yr	198
19								IRR=75.7		
20										

URCE :

COST OF PRODUCTION BUDGETS

CROP RICE Yr.1; PAPAYA; GINGER Yr.2

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	94	35	8.3	197	594	50	644	- 447	-447	-447
2	374	14000 177	0.1	1840	261	90	351	1489	1300	1066
3	54	14000	0.1	1346	222	90	1034	786	528	255
4	54	14000		1346	222	86	308	1038	686	378
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17								SUM	2325	1525
18								TOTAL	581/Yr	381
19								IRR=304.9		
20										

SOURCE :

COST OF PRODUCTION BUDGETS

CROP RUBBER

YEAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	496			-496	216	39	255	-751	-751	-751
2	684			-684	144	39	183	-867	-757	-711
3	684				144	39	183	-867	-659	-583
4	684				144	39	183	-867	-573	-478
5	684				144	39	183	-867	-499	-392
6	684				144	39	183	-867	-434	-322
7	684				144	39	183	-867	-377	-264
8	138	1125	1	987	222	65	287	700	265	174
9	138	1125		987	222	65	287	700	230	143
10	138	1125		987	222	65	287	700	200	117
11	86	1200	1	1114	402	65	467	647	161	89
12	86	1200	1	1114	402	65	467	647	140	72
13	204	4200	1	3996	468	65	533	3463	654	319
14	204			3996	468	65	533	3463	568	263
15	204			3996	468	65	533	3463	495	215
16	204			3996	468	65	533	3463	429	177
17	204			3996	468	65	533	3463	374	145
18	204			3996	468	65	533	3463	326	118
19	204			3996	468	65	533	3463	284	97
20	204	4200	1	3996	468	65	533	3463	246	80
								SUM	322	1492
								TOTAL 16/Yr		75

IRR=15.8

SOURCE:

OST OF PRODUCTION BUDGETS

ROP TEA

EAR	CASH COST OF MATERIALS	YIELD -/-	PRICE -/-	GROSS FARM INCOME	FAMILY LABOR	DEPRECIATION	TOTAL NONCASH COSTS	NET FAMILY INCOME	PRESENT VALUE AT 13 %	PRESENT VALUE AT 18 %
1	1797			-1797	585	28	613	-2410	-2410	-2410
2	81	4800	0.18	783	639	28	667	116	101	95
3	81	5400		891	639	28	667	224	170	151
4	81	5400		891	639	28	667	224	148	123
5	81	5400		891	639	28	667	224	129	101
6	81	5400		891	639	28	667	224	112	83
7	108	5760	0.18	929	669	28	697	232	101	71
8	108	5760		929	669	28	697	232	88	58
9	108	5760		929	669	28	697	232	76	47
10	108	5760		929	669	28	697	232	66	39
11	108	5760		929	669	28	697	232	58	32
12	108	5760		929	669	28	697	232	50	26
13	108	5760		929	669	28	697	232	44	21
14	108	5760		929	669	28	697	232	38	18
15	108	5760		929	669	28	697	232	33	14
16										
17								SUM	1196	1531
18								TOTAL	80/Yr	102
19								IRR=3.4		
20										

OURCE: IBTA/CHAPARE 4/90
COSTO DE PRODUCCION DE SISTEMAS AGROPECUARIOS

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APPENDIX E

Persons Interviewed
As of Tuesday, September 11, 1990

SARSA/IDA

Michael Painter
Carlos Perez

IBTA/Chapare

Gumerindo Acosta
Leon Vallejos
German Inturino
Franklin Lastra
Arturo Quispe
Rolando Escobar
German Inturias
Romulo Loyaza
Sergio Torrico
Wilfredo Ramirez
Jose Espinoza
Javier Guevara
Alex del Carpio
Jorge Aldunate

DAI/TR&D

Jim Graham, Chief of Party
Ira "Buck" Richards
Wayne Hickey
Douglas Pool
Joshua Dickinson
William McDowel

Experience Incorporated

Joe Lopez, Chief of Party
Alfredo Alvarado

PDAR

Jorge Gutierrez, Director of Planning
Enrique Jalden
Lucio Colque

University of Central Florida

Allyn Stearman

ASAR

Carlos Quinton, Director
Juan Antisana
Mario Villaroel
Hugo Bustamante

ISE

German Quinones, Director

Radio Esperanza

Victor Teran Rios
Florencio Fernandez

PROCIPLA

Segundo Alandia B., Director
Mario Coca Moranti
Eloy Blanco Padilla
David Villaroel
Jose Loyaza Castro

Vision Mundial

Victor Branes

CEDEAGRO

Lica. Marta Garcia, Director
Ricardo Mercado

Peasant Farmers/High Valleys

Aiquile Province

Uchuchajara Watershed

Tacko Tacko Grande: 6 farmers (group interview-- males)
Wara Wara: 8 farmers (group interview--males)

Tipajara Watershed

Tipa Tipa: 1 farmer (male)
Two communities, united by irrigation project:
(farmers working on drainage canal running across highway): 5 farmers (group interview--males)

Tipajara Watershed

Rumicancha: 4 women (group interview--females)

Mizque Province

Mayra: 7 farmers

<u>Peasant Farmers/Chapare</u> (does not incude Rhinda's interviews)

Subregion I:

Gualberto Villaroel: 1 farmer/ex-IBTA promotor (male)

Subregion II:

Dr. Ernesto Daza Ondarza: 1 farmer/syndicate leader (male)
Colonia Villa Imperial: 1 farmer (--male; this interview conducted simultaneously with the one above).

Subregion III:

Senda B: 2 farmers (group interview--males)
Ibuelo: 1 farmer/syndicate leader (male)
San Luis: 5 farmers (group interview--males)

Subregion IV:

Eterazama Cooperative: 4 farmers (group interview--males)
Mariscal: 1 farmer (male)

Subregion V:

San Mateo Bajo: 5 farmers (group interview--males)
Paratito: 1 farmer (male)

Subregion VI:

Colonia Recta e Ivirgarzama: 1 farmer (male)
Ivirgarzama: 1 farmer (male)