



# Rural Development Services

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## THE BOLIVIAN TRADITIONAL PRACTICES PROJECT A Proposal and Justification for Stage II

By

John K. Hatch

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## I. INTRODUCTION

### A. Overview of Stage I: Research from the Bottom-Up

The Traditional Practices Project in Bolivia (AID/MACA 511-113) is one of the most unique research undertakings ever sponsored by the Agency for International Development. It will make textbook authors out of some 120 near-illiterate peasant farmers. It is an attempt to document the subsistence practices of Bolivian Indians by allowing participating rural households to describe these practices--in their own words, from their own perspective--for the benefit of outsiders and also themselves. The result will be history's first Encyclopedia Campesina.

In April 1979 USAID/Bolivia and the Bolivian Ministry of Agriculture (MACA) approved a proposal from Rural Development Services, a New York-based consulting firm, for a 30-month project to document traditional agricultural and livestock practices among indigenous communities of that nation's Highlands, Temperate Valleys, and Tropical Lowlands regions. The purpose of this project was to prepare a detailed and extensively illustrated manual of peasant farming knowledge. The document would feature what rural families do, how they do it, and the rationale for these practices. To the extent possible the project would promote the active participation of farmers in data collection and narrative tasks. While outsiders would assist in compiling and editing the textbook, its authors were to be the farmers themselves.

To implement this novel project, 127 rural households from 13 villages were selected on a voluntary basis to keep daily diaries of farming activities. One local supervisor per community was selected to assist with journal monitorship and summation tasks. Three Indian-born Bolivian professionals (one per region) were chosen to assist with narrative descriptions. Through countless farm visits and participant observation, these professionals have extensively interviewed farmer-participants to document their production strategies, labor use, farming rituals, construction and use of tools, management of animal stocks, marketing behavior, and many other aspects. Over 5,000 photographs and slides documenting all aspects of subsistence farming activities have been collected. Detailed summaries of production costs, consumption, sales, and net income have been prepared--usually several per community--for some 25 grain, forrage, and vegetable crops. Moreover, farmer-participants themselves--both individually and in groups--have prepared hundreds of pages of detailed narrative describing dozens of crop, livestock, and subsistence enterprises. In two nation-wide conferences, project participants have prepared sophisticated visual aids and given dozens of lectures on their traditional production practices--communicating their expertise across language and cultural barriers.

One year into the project it was recognized that even though the quantity and quality of information was exceeding all expectations, this information was being provided from a one-sided perspective: that of the male head of household. So in July 1980 a Women's Component was annexed to the ongoing project. Three Bolivian female technicians, all fluent in the indigenous languages, were hired to work with the wives of project participants to document the contributions of rural women to production and subsistence activities. Through repeated farm visits and participant observation by these technicians, large amounts of information have been gathered on the role of women in crop tasks, livestock maintenance, artesan crafts production, on-farm processing of crop and animal products, marketing activities, health and hygiene practices, food preparation, and many other responsibilities. Profiles of the typical diets of representative households--types of meals, their ingredients, how they are prepared, and their cost--are presently being developed. Also in preparation is an inventory of health problems and how they are cured or treated traditionally.

The project has acquired a life of its own which continually takes it beyond the expectations of its initial design. What was originally conceived as a "manual" of traditional practices is rapidly becoming an Encyclopedia Campesina. This is the first time in history that such a comprehensive self-description of peasant farming systems has ever been written. However, aside from the final product itself, the process of creating it has generated fascinating benefits for the participants. For most of them keeping a daily journal has afforded them the opportunity to up-grade atrophied writing skills. Many have learned how to measure net income by crop or livestock enterprise, their first experience with farm management record-keeping. For all participants it is the first time outsiders have taken their knowledge seriously; and the growing awareness that their knowledge is equally as important as modern science has given them both new self-respect as well as the desire to test new innovations. The participants are unanimous in their desire for the project to continue into a second stage--this time to combine traditional with modern practices, and with appropriate access to credit, technical assistance, and marketing services.

#### B. Rationale for Stage II: Synthesis of Old Knowledge and New

Stage I has enabled farmers and outsiders alike to identify the many strengths of traditional production systems. It is now appropriate to identify which pieces of modern technology best fit with proven traditional practices to create a viable synthesis of old and new. In this process the project participants should be more than passive clients of recommendations generated by agricultural researchers and extensionists. Stage II should afford peasant farmers co-equal status as agricultural scientists; they should help select and test themselves which new elements are most appropriate for their own farming circumstances.

The proposed Stage II of the project will seek to create a technical training opportunity for selected farmer-participants at regional agricultural research facilities. It will promote a dialogue confrontation between two kinds of seasoned agricultural experts--farmers and researchers. From this dialogue and co-design activity a variety of technological package recommendations will be identified for field experimentation. Stage II will then provide lobbying and service brokerage support to assure that farmer-experimenters have timely access to the credit, technical assistance, and marketing resources they need to implement on-farm experiments of the chosen technological packages. Stage II will also document these experiments both photographically and quantitatively for the purpose of creating training materials for promoting the subsequent replication of the most successful packages. Finally, Stage II will train participating farmer-experimentors in communication techniques for replicating innovations among other farmers.

### C. Gaining Economic Power: A Teachable/Replicable Skill

The most critical constraint to replicating improved technology among the rural poor is not the lack of appropriate practices. Rather, the central problem is inadequate farmer access to the resources needed to finance or otherwise implement the new practices. These resources include production credit, technical assistance, mechanization, transport, processing, and marketing services. Such resources do exist, often in great abundance. But rarely are they made readily available to peasant farmers, and rarely do the rural poor lobby effectively to obtain them.

The basic issue here is the powerlessness of peasant farmers. Stage II of the project will seek to demonstrate that such powerlessness is not fundamentally a structural problem; it is based rather on inadequate knowledge. These producers lack the skills and experience to lobby for available resources. Even though resources are often targeted specifically for small farmer use, the delivery system is too inefficient to place these resources among their intended users, or even to find such users in the first place, without substantial lobbying pressure from the rural poor themselves.

Stage II will address the following questions: (1) How can powerless farmers be taught to productively (non-violently) acquire economic power? (2) How can they be trained to inventory available resources and monitor their distribution? (3) How can they be trained to prepare credit requests and financial project proposals? (4) How can they be trained to plan resource use sufficiently in advance to insure timely availability, and once requested how can they provide follow-up of financial proposals to hasten their approval? (5) Once resources are received, how can farmers be trained to administer them efficiently with appropriate bookkeeping and budget controls? (6) How can they be trained to evaluate whether resources used resulted in a net gain or loss to the users?

In sum, the project would represent a continuing effort to demonstrate that there are no limits to what peasant farmers are capable of doing, provided they are given the opportunity to learn new skills which in turn give them access to new opportunities. Stage I demonstrated that the rural poor have extensive knowledge, that they are agricultural professionals in the truest sense. It demonstrated that near-illiterate farmers can be taught to keep accurate records, prepare narrative descriptions of their knowledge, design complex visual aids, give orderly lectures, and to work together collaboratively on an inter-community and cross regional basis--overcoming language and cultural barriers.

Stage II will demonstrate that peasant farmers can become agricultural scientists, experimentors, and extensionists. It will show that gaining access to economic resources--i.e., acquiring economic power--is a teachable and replicable skill.

## II. DETAILED PROJECT DESCRIPTION

Stage II of the project would be divided into two distinct components. The first, or Technology Component, would be conducted exclusively with male household heads. Initially the project would work only with the some 120 existing farmer-participants (those who have been keeping daily journals) and their 13 communities. Subsequently the project would replicate technology, skill training, and resource brokerage services among up to 40 additional communities.

The second, or Women's Component, would be conducted exclusively among the wives and daughters of the currently 120 participating rural households. The project would teach the women to keep daily journals emphasizing livestock management, nutrition, health/higiene practices, and marketing activities. After one year the project would promote the organization of artesan or other productive ventures on a group basis, support improved nutrition or health care initiatives, and teach resource procurement and management skills to female leaders.

Each of these components is described in greater detail in the following pages.

## A. TECHNOLOGY COMPONENT

### 1. Purpose and Objectives

The purpose of this project component is to demonstrate that peasant farmers can be trained to (1) co-design, test, and evaluate packages of improved farming technology which incorporate the strengths of traditional and modern knowledge; (2) teach proven practices to other farmers and communities with rapid replication; (3) inventory available development resources, lobby successfully for their use, and effectively manage resource flows. In brief, the project seeks to demonstrate how the rural poor can effectively participate as agricultural scientists, extensionists, fund-raisers, and managers.

### 2. Bolivian Professional Staff

The three Indian-born Bolivian professionals presently employed in Stage I would be contracted for an additional two-year commitment. Each would be responsible for the supervision and implementation of the project in a single region--Highlands, Temperate Valleys, or Tropical Lowlands.

Each professional would perform the following functions. First, he would conduct a comprehensive inventory of all development resources currently available for small farmers or rural communities in his region. This inventory would include what resources exist, what prerequisites govern their distribution, who administers them, how can they be obtained, for what purposes, and in what amounts. The professional will continually up-date this inventory, communicating its contents to participating farmer-leaders and communities. The professional in charge of the Highlands region will have the additional responsibility of monitoring all deliveries of resources from international donors, and alerting the other regions if they qualify for these resources.

Second, the professional will serve a resource brokerage role between the resource supplying institutions--e.g., Agricultural Bank, Community Development Service, Ministry of Health, Regional Development Corporation, etc.--and the participating rural communities. As a broker he will train farmer-leaders to prepare project proposals. He will accompany community delegations in visits to resource agencies, assuring that their proposals are given a reasonable hearing. He will accompany farmer-leaders in following up on proposals to hasten their approval. By the end of two years it is expected the Bolivian professional will have taught his resource lobbying and brokerage skills to at least two leaders per rural community, and to no less than ~~40~~ communities.

Third, the Bolivian professional will maintain a schedule of bi-weekly or monthly visits to participating communities for purposes of supervision, skill training, and general liaison requirements between

communities. In the case of farmer-participants conducting experimental trials of improved technology, he will visit them at a minimum of two-week intervals to supervise production records and assure adequate photographic documentation of the experiments. For skill training and technical assistance in project proposals, lobbying, resource management and evaluation, the professional will visit each participating community at least monthly, and more frequently as necessary. In many cases he will take farmer-leaders from one community to participate in the training of leaders from other communities; similarly, he will bring farmer-trainees from less intensively assisted communities to visit with and learn from the experience of more intensively assisted communities.

### 3. Farmer Training

Several forms of farmer training are contemplated. First, for each region the project will budget 30 days per year of scholarships for technical training. These resources will finance the lost work time of selected farmer-leaders, plus their transportation and room and board expenses, to study at a modern experiment station of the government, university, or private sector located in the region. On these occasions the farmers will study new practices, dialogue with experimentors about technical requirements, and work out technology package designs to be tested at the local level. Distribution of the scholarship money will be at the discretion of the Bolivian professional responsible for each region. He may decide to train 5 farmer-leaders for six days, 10 farmers for three days, etc. However, the maximum amount in training subsidy which a single community can receive per year will be fixed at 6 man-days at \$15/day or \$90. Additional trainees and training costs beyond this amount will have to be financed by the rural community.

The second training scheme will take place in regional conferences held twice a year. Participants will be limited to 25 carefully selected farmer-leaders per region. In most cases these trainees will also be conducting experimentation of new technological packages under the monitorship of the Bolivian professional. The skills to be taught conference participants will be the following: (1) How to prepare a credit request or financial proposal (including project planning and design); (2) How to administer a project (basic bookkeeping, budgeting, and financial controls); (3) How to evaluate project performance; and (4) How to lobby for resources. The regional training conferences will be taught by external project personnel, who will also develop a set of training manuals on the above subjects for use by farmer-trainees. The Bolivian professionals will provide periodic supervision and follow-up of skill training at the community level.

A third training scheme is to be conducted among the farmers themselves, with leaders intensively trained by the project returning to their communities to teach their skills to other farmers of their own or neighboring communities. In the latter case, trained leaders will accompany the Bolivian professional in visits to other communities to explain (a) new technology which has been tested successfully, (b) how they went about lobbying for credit and other resources, and (c) providing recommendations for how their example can be imitated (or mistakes avoided) by other communities. To teach project planning and design skills, or techniques of project administration, leaders of new communities will be invited to visit for a few days at communities with already successful projects, observing how real life projects are designed and managed.

#### 4. External Technical Assistance and Supervision

The project will continue to employ the short-term services of an external supervisor, Dr. Aquiles Lanao, a Peruvian Economist and Accountant who supervised Stage I with great effectiveness. Dr. Lanao will visit the project once every three months, spending a week in each region. Every second visit he will conduct a 3-day farmer training conference in each region. Dr. Lanao will supervise the Bolivian professional staff, counsel them in their resource lobbying, and up-grade their skills for supervision and training of farmer-leaders. He will likewise assist with the design of project bookkeeping and accounting systems at the community level. Finally, he will participate in the writing and testing of training manuals developed for use by farmer-leaders. Dr. Lanao's commitment will be approximately 96 days per year, of which 72 will be devoted to supervision and 24 days to farmer training.

Overall project administration would be the responsibility of Dr. John K. Hatch, President of Rural Development Services. Dr. Hatch would have final responsibility for designing the project methodology, for preparing progress reports, for final evaluation of performance, and for write-up of a package of four farmer training manuals on the subjects of project proposals, administration, evaluation, and lobbying techniques. Dr. Hatch's commitment will be approximately 60 days per year, of which 24 will be spent in Bolivia (in supervision and farmer-training activities) and 36 days in the U.S. for design and write-up activities.

### 5. End-of-Project Conditions

By the end of the project 150 economic summaries of modernized technology packages will have been completed, or 50 per region. Some 12 filmstrips or slideshows will be developed covering as many crop or live-stock enterprises. Farmer-participants will have received 180 person-days of technical training at regional experiment stations. Some 75 farmers will have been trained in the specific skills of credit requests and project design, project administration, project evaluation, and resource lobbying. Four manuals on these subjects will have been written for farmer use. Resource brokerage services will have been provided to about 50 rural communities. Of these, 13 will have received intensive assistance to prepare them as precedents for replication by other communities.

The break-down of project achievements on an annual basis is presented below:

<u>Indicator</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>
-Modernized technology packages selected and tested	12	12	24
-Film strips or slideshows on above	-	12	12
-Economic summaries on above	75	75	150
-Farmers receiving technical training at regional experiment stations (person-days)	90	90	180
-Farmers trained in project design, administration, lobbying skills	75	75	75
-Regional training conferences held	6	6	12
-Training manuals completed	-	4	4
-Communities assisted intensively	13	13	13
-Communities assisted non-intensively	13	26	39

### 6. Budget for the Technology Component

The total two-year budget for the project's technology component is estimated at US\$315,310, of which \$148,705 corresponds to the first year and \$166,605 to the second. Of the total budget 51% would finance the costs of local technical assistance provided by Bolivian professionals, 9% would finance the training costs of participating farmers, and 32% would cover the costs of external supervision, technical assistance, and write-up. Manual/filmstrip development would consume 8%.

A detailed break-down of budget estimates is presented below.

ESTIMATED BUDGET FOR THE TECHNOLOGY COMPONENT(US\$)

<u>Description</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>
<b>A. LOCAL TECHNICAL ASSISTANCE (US\$159,850)</b>			
1. Salaries: 3 Bolivian Professionals <sup>(1)</sup>	35,000	35,000	70,000
2. Per Diem: 3 x 12 x \$320/month	11,520	11,520	23,040
3. Local Transportation <sup>(2)</sup>	16,800	13,800	30,600
4. Material and Equipment	4,800	1,800	6,600
	<u>68,120</u>	<u>62,120</u>	<u>130,240</u>
5. Contingencies (5%)	3,405	3,105	6,511
6. Overhead (33% of salaries)	11,550	11,550	23,100
SUB-TOTAL	<u>83,075</u>	<u>76,775</u>	<u>159,850</u>
<b>B. FARMER-TRAINING (US\$29,400)</b>			
1. Scholarships for technical training	1,350	1,350	2,700
2. Regional Training Conferences <sup>(3)</sup>	10,650	10,650	21,300
3. Materials	2,000	2,000	4,000
	<u>14,000</u>	<u>14,000</u>	<u>28,000</u>
4. Contingencies (5%)	700	700	1,400
SUB-TOTAL	<u>14,700</u>	<u>14,700</u>	<u>29,400</u>
<b>C. EXTERNAL TECHNICAL ASSISTANCE (US\$101,860)</b>			
1. Salaries <sup>(4)</sup>	27,840	27,840	55,680
2. Per Diem: 134 days/yr. x \$50	6,700	6,700	13,400
3. International Travel <sup>(5)</sup>	3,200	3,200	6,400
4. Local Travel: 134 days/yr. x \$15/day	2,010	2,010	4,020
	<u>39,750</u>	<u>39,750</u>	<u>79,500</u>
5. Contingencies (5%)	1,990	1,990	3,980
6. Overhead (33% of salaries)	9,190	9,190	18,380
SUB-TOTAL	<u>50,930</u>	<u>50,930</u>	<u>101,860</u>
<b>D. MANUAL AND FILMSTRIP DEVELOPMENT (US\$24,200)</b>			
1. Manuals 4 x 250 copies x \$10/copy		10,000	10,000
2. Filmstrips: 12 x \$1,000 each		12,000	12,000
3. Contingencies: 10%		2,200	2,200
SUB-TOTAL		<u>24,200</u>	<u>24,200</u>
GRAND TOTAL	<u>148,705</u>	<u>166,605</u>	<u>315,310</u>

1. Altiplano: \$1000/mo. x 14 mos./yr; Valles: \$800/mo.; Tropico: \$700/mo.
2. Includes vehicle insurance (\$1,200/yr.), complete set of tires for each of existing vehicles (\$3,000) in first year, and \$350/month per vehicle (3) for gasoline and maintenance.
3. Includes lost labor time reimbursement (\$5-8/day x 12 days x 51 farmers) total: \$11,016; also food and lodging (\$10/day), transportation (\$1,000/yr) and materials (\$1,082 per year).
4. Dr. Lanao: \$165/day x 96 days/yr.; Dr. Hatch: \$200/day x 60 days/yr.
5. Includes 7 RTs Ayacucho-La Paz x \$400/each, and 3 RTs New-York-La Paz at \$1,200 each.

## B. WOMEN'S COMPONENT

### 1. Purpose and Objectives

The purpose of the Women's Component is to demonstrate that rural women--like rural men in Stage I of the project--can be trained (1) to keep daily records of their subsistence activities, and (2) to participate in the development of detailed narrative and photographic descriptions of these activities. In its second year the project seeks to demonstrate that female leaders can be skill-trained effectively to design projects, lobby for resources, and manage these resources successfully. The project will also attempt to show how these skills, once acquired through intensive training in selected communities, can be replicated through imitation by other communities.

### 2. Bolivian Technical Staff

Three Indian-born Bolivian female technicians, who have been employed by the project since July 1980, would be contracted for an additional two-year commitment. Each would be responsible for the supervision and implementation of the Women's Component of the project in a single region--Highlands, Temperate Valleys, or Tropical Lowlands.

The functions of the female technicians would be the following: (1) Complete a monthly farm visit to all rural women participants to supervise the completeness and consistency of the contents of their daily journals; (2) observe, participate in, and document narratively and photographically a wide variety of subsistence activities conducted by women; (3) interview female participants about events and activities of interest to the project; (4) assist in the training of rural women for project design, management, and resource lobbying; (5) assist groups of female participants in locating available resources and lobbying to obtain them; and (6) promote the replication of skills for women from one community to another.

### 3. Journal-Keeping

Under Stage I of the project, 120 rural households participated in the keeping of daily journals. This was a task conducted prominently by men. In the last year an intense interest in journal-keeping by women has developed. The Women's Component is intended to capitalize on this interest, transferring journal-keeping responsibilities from men to women. Illiteracy is far higher among Indian females than males, but the project will attempt to show that virtually all rural households can overcome this constraint by using school-aged children as scribes.

As was the case in Stage I, a flexible and simplified journal format will be used. The idea is not to force consistency in record-keeping from one household to another but to encourage spontaneity. However, certain subject descriptions will be routinely requested on a daily basis: (1) What did the family eat? (2) What illness was observed in any family member, and how was it treated? (3) What illness was observed in livestock and how treated? (4) What did the family sell off-farm, and what did it buy? (5) Activities conducted by female members of the family during the day.

Additional detail will be reported in-depth by the female technician during visits to project participants. For example, if a certain illness is reported, the technician will inquire about its causes, its symptoms, attempted treatment, the rationale for the treatment, and its results. This approach has already been demonstrated successful in Stage I. Women members of participating households have developed a bond of trust with the project's female technicians. They are accustomed to giving information about the family diet, ailments, health practices, sales, and purchases. Capitalizing on this established rapport, the Women's Component will extend data collection over a longer period of time.

As was the case in Stage I, female journal-keepers will be given an honorarium for taking the trouble to make daily entries. An average payment of \$8 per month is anticipated. This represents a \$3 increase per month over what was paid in Stage I.

#### 4. Training of Female Participants

Female journal-keepers will be brought together for a regional conference of three days duration twice a year. The first two conferences will be devoted to discussions of subsistence practices--for example, food preparation, artisan crafts, medicinal preparations, etc.--with emphasis on variations between communities or households and the rationale for these differences. Aside from promoting potentially useful exchange of traditional knowledge, such conference activities are intended to give female participants experience (training) in public expression of their ideas, working in small discussion groups, and in cooperating with women of other communities.

In the second year the subject matter of the conferences will shift to training in specific skills of project design, project management, and resource procurement. It is expected that the same training materials developed for use by male participants (in the Technology Component) will be used in the Women's Component.

Because a precedent has already been established among male participants in the 13 intensively assisted communities, it is expected that the Woman's Component can advance on a slightly more rapid timetable than was the case with the men. For this reason it is expected that mid-way through the second year of the project's Stage II, trained female leaders will be asked to cooperate in the replication of their skills among women's groups of neighboring communities. If this expectation proves to be realistic, as many as 13 additional communities will be assisted on a non-intensive basis to organize and implement projects. Female leaders from groups with organized projects will visit at least one new community to report on how they went about planning their project, lobbying for resources, and managing the outside resources they received. Several female leaders from the new community will be invited to visit the intensively-assisted community to see its real-life operations, how it is managed, and its results. It is expected that replication of projects through simple imitation from one community to another will proceed with very limited outside technical assistance.

#### 5. External Technical Assistance and Supervision

Of the three Bolivian female technicians presently working with women, one is highly experienced and considerably more educated than her counterparts. For this reason she will be utilized as a national supervisor for the Woman's Component. She will dedicate one out of every three months (four months per year) to field supervision of the female technicians in the two other regions. This will greatly reduce the need for external supervisory inputs, a role to be provided by Dr. Aquiles Lanao, the project's overall external supervisor. It is expected that Dr. Lanao will contribute 30 days of work per year to the Women's Component--as an add-on to his visits for the Technology Component--of which ten days will be allocated to each region. Of these ten days, a total of six will be devoted to training conferences and four to field supervision.

Overall methodological and administrative responsibility for the Woman's Component would be the responsibility of Dr. John K. Hatch, President of Rural Development Services. Dr. Hatch would design or adapt the journal-keeping, narrative preparation, and photographic documentation methodologies. He would prepare as editor-in-chief the resultant subject-matter manuals and filmstrips. He will also be responsible for write-up of progress and final reports on the project, including a detailed evaluation. Finally, he would assist with skill-training in the subjects of project preparation, management, and resource lobbying. Dr. Hatch's commitment would consist of 42 days per year, of which 12 days (one visit) would be spent in Bolivia and 30 days in write-up activities in the U.S.

6. End-of-Project Conditions

By the end of Stage II of the project, the Woman's Component will have generated two-years time series data for some 120 rural households concerning (1) nutrition, (2) health, (3) marketing, (4) livestock management, and (5) general activities of rural women. It will have trained some 120 rural women in group organization, project design, resource lobbying, project administration, and evaluation. A total of 26 communities will have been assisted, 13 on an intensive basis and 13 non-intensively. Subject-matter manuals on rural nutrition, health/higiene practices, petty marketing, and livestock management will have been prepared. Some 12 film strips on these same subjects will have been prepared.

The break-down of project achievements on an annual basis is presented below:

<u>Indicator</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>
-Daily journals kept	120	120	120
-Regional conferences held	6	6	12
-Rural women skill-trained in project development		120	120
-Communities assisted intensively	13	13	13
-Communities assisted non-intensively		13	13
-Manuals written		4	4
-Filmstrips developed		12	12

7. Budget for the Women's Component

The total two-year budget for the project's Women's Component is estimated at US\$207,775, of which \$93,362 corresponds to the first year and \$114,413 to the second year. Of the total budget, 36% would finance the costs of local technical assistance (Bolivian female technicians); 29% would finance training activities for rural women; 23% would finance external supervision, technical assistance, and write-up; and 12% would finance manual and filmstrip development.

A detailed break-down of budget estimates is presented below.

ESTIMATED BUDGET FOR THE WOMEN'S COMPONENT (US\$)

<u>Description</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>
A. LOCAL TECHNICAL ASSISTANCE (US\$75,810)			
1. Salaries: 3 Bolivian female technicians(1)	16,100	16,100	32,200
2. Per Diem(2)	8,640	8,640	17,280
3. Local Transportation: \$250/mo.	3,000	3,000	6,000
4. Equipment and Materials	4,800	1,800	6,600
	<u>32,540</u>	<u>29,540</u>	<u>62,080</u>
5. Contingencies (5%)	1,627	1,477	3,104
6. Overhead (33% of salaries)	5,313	5,313	10,626
SUB-TOTAL -	<u>39,480</u>	<u>36,330</u>	<u>75,810</u>
B. RURAL FEMALE TRAINING (US\$60,984)			
1. Payments for notebook-keeping \$8/mo. x 14 mos./yr.	13,440	13,440	26,880
2. Regional training conferences \$15/day x 8 days/yr. x 120	14,400	14,400	28,800
3. Materials: \$10 x 120	1,200	1,200	2,400
	<u>29,040</u>	<u>29,040</u>	<u>58,080</u>
4. Contingencies:(5%)	1,452	1,452	2,904
SUB-TOTAL	<u>30,492</u>	<u>30,492</u>	<u>60,984</u>
C. EXTERNAL TECHNICAL ASSISTANCE(\$46,781)			
1. Salaries(3)	13,350	13,350	26,700
2. Per Diem: 50 days x \$50/day	2,500	2,500	5,000
3. International Transportation (4)	1,600	1,600	3,200
4. Local Transportation	630	630	1,260
	<u>18,080</u>	<u>18,080</u>	<u>36,160</u>
5. Contingencies (5%)	904	904	1,808
6. Overhead (33% of salaries)	4,406	4,407	8,813
SUB-TOTAL	<u>23,390</u>	<u>23,391</u>	<u>46,781</u>
D. MANUAL AND FILMSTRIP DEVELOPMENT (\$24,200)			
1. 4 manuals x 250 copies x \$10/copy		10,000	10,000
2. 12 filmstrips x \$1,000/each		12,000	12,000
3. Contingencies (10%)		2,200	2,200
SUB-TOTAL		<u>24,200</u>	<u>24,200</u>
GRAND TOTAL	<u>93,362</u>	<u>114,413</u>	<u>207,775</u>

1. One Bolivian female supervisor at \$550/mo. and 2 technicians at \$300/mo. x 14 mos/year. Supervisor would cover Valles region, the other two technicians Altiplano and Tropicó respectively.
2. For supervisor, \$320/mo.; for other technicians \$200/mo.
3. Dr. Lanao: 30 days x \$165/day; Dr. Hatch: 42 days x \$200/day.
4. Includes 1 RT New York-La Paz (\$1,200) and 1RT Ayacucho(Peru)-La Paz (\$400) per year.

### III. COST BENEFIT ANALYSIS OF THE PROJECT

#### A. Technology Component

The Technology Component of the project will cost US\$315,310 over a two-year period. The project would intensively assist 13 rural communities at a total cost per community of \$24,255. A total of 75 farmers would conduct improved technology experiments, or 150 trials over a two-year period, which would result in a project cost per trial of \$2,100.

These trials are expected to yield a total of 12 viable technological packages (four per region), each package with appropriate net income and photographic documentation to promote its rapid replication. Assuming only 50 farmers adopt any new package each year (i.e., that each project participant is imitated by two neighbors), a replication nation-wide of 600 farmers would be achieved by the end of the project period, reducing the project cost to \$467 per adopter. If this adoption rate remained constant, with each adopter imitated the next year by another adopter, within two years there would be 2,700 adopters, further dropping the project cost to \$116 per adopter.

The above figures are considered extremely conservative. Provided that copies of project filmstrips and net income analysis were made available to the Bolivian Agricultural Extension Service (IBTA), replication of demonstrated packages could be multiplied many times more.

But the project is also designed to teach project design, resource lobbying, and project management skills. Nation-wide, some 75 farmers will be trained in these skills. Moreover, the project's Bolivian professionals will serve as resource brokers to assure that first the 13 intensively-assisted communities receive production credit and other services, but also that additional communities--some 39 in all--also receive such benefits. In the first instance, the project would insure that the 75 initial participating farmers receive sufficient resources to conduct their trials. Assuming \$200 per farmer as the average value of such assistance, the project would generate \$15,000 each year. Assuming further that similar assistance would be generated for all subsequent adopters (600), the project could conceivably mobilize \$135,000 by the end of the second year, exclusively for the purpose of financing technological innovations identified by the project. However, in the second instance the project will assist farmer leaders to mobilize resources for community-wide development undertakings. If only \$5,000 was obtained for each community assisted (intensively and non-intensively), some \$260,000 would be raised. Thus, through teaching resource mobilization skills and providing resource brokerage services, the project could potentially pay for itself.

B. Women's Component

The Women's Component of the project would cost US\$207,775 over a two-year period. The project would intensively assist 13 rural communities at a total cost per community of \$15,982. A total of 120 women (or households) would keep daily journals. Each family would receive \$112 per year in honorariums to perform this task, a direct income benefit in itself. The project cost per participating household would be \$1,731.

Data from the journals plus additional narrative and photographic descriptions organized into subject-matter pamphlets or manuals would be useful to a wide range of institutions, domestic and international. Such materials would be directly useful for training and project design purposes to the Bolivian Ministry of Health, the Nutrition Institute, the regional development corporations, private sector voluntary organizations, and others. The same materials would be immediately useful to USAID and other international donor agencies interested in supporting project activities directed at rural women. Universities in Bolivia, other Latin American countries, and the U.S. would use project-generated materials as reference resources. Hence, potential users of the project's outputs could number many hundreds, even thousands of individuals.

The women's Component would also train 120 rural females in project design, management, and resource lobbying skills at a cost of \$1,731 per trainee. The project's resource brokerage services would assist these women, once organized in community and multi-community groups, to obtain outside resources to finance health/nutrition improvements and/or productive (income-generating) enterprises. Assuming 13 initial female groups in the intensively-assisted communities, the mobilization of \$5,000 in outside resources per group would generate a total of \$65,000. To demonstrate project replicability, an additional 13 women's groups in non-intensively assisted communities will be subject to promotion under the project. It is possible that resource generations under the project could reach one-half the cost of the Women's Component.

JOHN KEITH HATCH

ADDRESS

OCCUPATION

Economist and Consultant specialized in the design, management, and evaluation of projects serving the rural poor.

EDUCATION

Ph.D., Economic Development, University of Wisconsin, 1974  
M.A., Economic History, University of Wisconsin, 1969  
B.A., History, Johns Hopkins University, 1962

PROFESSIONAL EXPERIENCE

1976-Present: President, Rural Development Services

RDS is a consulting firm which I established in mid-1976. It currently employs five full-time professionals and has to date completed over 50 contract assignments in 18 countries of Latin America, the Near East, and Asia. RDS clients include the Agency for International Development, U.S. Department of Agriculture, Peace Corps, World Bank, Cooperative League of the U.S.A., American Institute for Free Labor Development, Agricultural Missions Foundation, Michigan State University, Bendix Corporation, and General Mills.

As a consultant I have completed field assignments in the following subject areas and countries:

RESEARCH on traditional farming practices and indigenous technology (Bolivia, Peru), agrarian reform and collective farms (Dominican Republic, Peru, El Salvador, Honduras), agrarian unions and peasant federations (El Salvador, Honduras, Guatemala, Costa Rica, Dominican Republic, Ecuador, and the Windward Caribbean islands of Barbados, St. Vincent, St. Lucia, Dominica)

RURAL PROJECT DESIGN for small farmer credit (Guatemala, Honduras, El Salvador), farm management services (Paraguay, Bolivia, Peru, Ecuador), skill training of farmers and rural paratechnicians (Paraguay, Bolivia, Peru, Colombia, Dominican Republic), rural nutrition (Colombia, Ecuador), integrated rural development (Ecuador), self-help construction of rural infrastructure (Bolivia), agrarian union

management support services (El Salvador, Guatemala, Honduras, Costa Rica, Dominican Republic), integrated agricultural research and extension (Bolivia), national agricultural cooperative development strategy (Thailand).

EVALUATION of the PL480--Title III Program (Indonesia, Bolivia), Cooperative Assistance Program of CLUSA (India), Peace Corps Program (Costa Rica).

POLICY-MAKING contributions to AID Agricultural Sector Assessment Guidelines, AID Agricultural Sector Policy Statement, organization of a Policy/Evaluation Unit within the Office of the Assistant Administrator of AID (AA/LA).

1973-1976: Consultant, Development Alternatives Inc., Washington D.C.

Directed the firm's Latin American Division; conducted case studies of 13 rural development projects in Paraguay, Bolivia, Peru, Ecuador, Colombia, and Mexico; provided technical assistance as a consultant in farm management services (Chile, Ecuador), agricultural credit (Peru), earthquake relief (Peru), evaluation instrument design for community development activities (Bolivia), and pre-feasibility studies for integrated rural development projects (Liberia)

1971-1972: Fulbright-Hays Research Fellow, Peru

Conducted doctoral dissertation research on traditional agricultural practices by working as a hired laborer on the farms of 31 peasant farmers. Wrote a profusely illustrated manual of peasant farming technology.

1969-1971: Administrative Assistant, Midwest Universities Consortium for International Activities, University of Wisconsin

Assisted grantees (faculty and students) in the preparation of research proposals; assisted the MUCIA Review Committee in the review, budgeting, financial monitorship, and follow-up evaluation of research grants.

1962-1971: Peace Corps

Served as a Volunteer in community development in Colombia (1962-4), instructor in community development at Peace Corps training programs in Kansas City and Los Angeles (1964-5), Associate Peace Corps Director in Peru (1965-7), and Project Director for three training programs preparing volunteers for work with agricultural cooperatives in Peru (1968, 1969, and 1971).

CONFERENCES, ADVISORY POSITIONS

- International Conference on Rural Development Agents, Cali, Colombia, 1977
- Conference on Rural Poverty sponsored by the Overseas Development Council, Racine, Wisconsin, 1977
- Advisor to the Assistant Administrator of the Agency for International Development for the design of a Policy/Evaluation Unit in the Latin American Bureau, Washington D.C., 1978
- Negotiator and USDA Representative to establish a PL480-Title III Program between the U.S. and the Government of Indonesia, 1978
- International Conference on Rural Development sponsored by AID, Skyland Lodge, Virginia, 1979
- Seminar on Data Collection Methodology Among Illiterate Farm Households, Michigan State University, 1980
- International Health Conference sponsored by the NCIH, Washington D.C., 1980

PUBLICATIONS

- Minor C. Keith: Pioneer of the American Tropics, Keith and Ramirez S.A. (Costa Rica, 1962)
- The Peruvian Corporation: Serpent or Subsidy?, University of Wisconsin (Madison, 1969)
- The Corn Farmers of Motupe: A Study of Traditional Farming Practices in Northern Coastal Peru, University of Wisconsin, Land Tenure Center Monograph No.1 (Madison, 1974)
- With Morss, Mickelwait, and Sweet, Strategies for Small Farmer Development: An Empirical Study of Rural Development Projects, Westview Press (Boulder, 1976)
- The Art of Subsistence: A Study of Traditional Farming Practices Among Bolivian Peasants (in preparation)

LANGUAGES

- Spanish (complete fluency)  
Portuguese (basic comprehension)  
French (basic comprehension)

CURRICULUM VITAE

Name: Mario Aquiles Lanza

Wife: Lucinda

Children: 7 (4 dependent children)

EDUCATION: UNIVERSITY: San Marcos National University - Faculty of Economic and Commercial Sciences, Perú

Peruvian National War College (Centro de Altos Estudios Militares) Perú 1962.

Histabrut (General Confederation of Workers) Israel

DEGREES: Certified Public Accountant

Doctor in Economic Sciences

Diploma from Peruvian National War College (Centro de Altos Estudios Militares) - Civilian Representative of the Ministry of Finance (Ministerio de Hacienda y Comercio)

Diploma from Histabrut, Israel - Course: 'Role of Cooperativism in a Developing Society' April-August 1963. Extracontinental Scholarship OAS/Israel Government.

LANGUAGES: Spanish: reading, writing and speaking fluency  
Quechua: reading, writing and speaking fluency  
English: reading and listening comprehension.

WORK EXPERIENCE:

1972 to date:

Lanza Flores Consultores S. R. L. President.  
Provides consultancy and technical services for research and project implementation in different fields as economic, cooperative, social, educa-

tional, agricultural, industrial and financial; with emphasis in the following activities:

- a) Project Management
- b) Feasibility and Design of Development Projects.
- c) Survey marketing
- d) Specialized technical training
- e) Financial Procedures
- f) Auditing and Accounting
- g) Project implementation
- h) Publicity and Information Services

May 1976 to date

Consultant, Rural Development Services  
1687 Broadway, Apt. 304  
Ann Arbor, Michigan 48105  
U. S. A.

Specialist in agricultural cooperatives community development and design of evaluations systems.

**Services Performed:**

PERU 1976-78, with CENCIRA; design of a project monitoring evaluation system for agro-industrial manpower training program. Training of campesino paratechnicians for producer cooperatives.

PARAGUAY 1976-78, with USAID/Asunción and SEAG the design of a small farmer management services program and in the training of paratechnicians.

HONDURAS 1977, with AIFLD and USAID/Tegucigalpa research study and development assistance proposal for the National Association of Honduran Peasants (ANACH).

EL SALVADOR 1977, with AIFLD; an evaluation of the AIFLD/Histadros project to assist peasant federations as UCS.

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GUATEMALA, with AIFLD; research study and evaluation of the AIFLD/Histadrut proposal to assist the peasant federation.

BOLIVIA 1977, institutional capability analysis of DESEC (Center for Social and Economic Development)

DOMINICAN REPUBLIC 1977, with USAID/Santo Domingo a research study of the Asociatives Agrícolas - Fincas Colectivas.

February 1974 to date

Consultant Development Alternatives Inc.  
1823 Jefferson Place NW  
Washington, D. C. 20036 - U. S. A.

Specialist in agriculture cooperatives, management and accounting systems, and community development

Services Performed:

BOLIVIA 1977, consultancy and support to the regional staff of RRNA/DAI for the SNDC.

BOLIVIA 1975, administrative capability analysis of SNDC.

CHILE 1975-77, with Agrarian Reform Research and Training Institute (ICIRA); design of a small farmer management services program.

PERU 1975, with ORDEZA (Earthquake Relief Agency) design of a project monitoring and evaluation system.

Jan. - Dec. 1971

Caritas del Perú  
Project Director

June 1963 - Nov. 1970

Peace Corps/Perú Cooperative Program  
Technical Representative.

Provide professional support to the Peace Corps.

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Director in the Cooperative and Small Industry Program Development consisting of an average of 60 Volunteers in Perú. This support includes: Supervision and technical support to Volunteers, site visits, relations with counterparts and host country ministry and agency officials, program development, site selection, preparation of training material, maintaining records and evaluating results on a semi-annual basis indicating the tangible benefits of the program and the cost; consulting and advising the Peace Corps Director as to the placement and transfer of Volunteers working in cooperatives; assisting the Volunteers in planning meaningful involvement in Cooperative/Small Industry Development work; supervising their programs, conducting seminars and conferences to stimulate the sharing of various projects ideas among Volunteers.

July 1965 - June 1968

Cooperative League of the USA representative for Peace Corps Perú's Cooperative Program (Contract Overseas Rep (COR)).

Same as from June 1963 to date.

Jan. 1964 - June 1965

Deputy Director - Latin American Training Center CUNA (Credit Union National Association) Lima, Perú

Organize, execute and supervise the accounting, auditing, business administration courses in Perú, Bolivia, Ecuador, Colombia, Panamá, Venezuela and Chile.

Oct. - Nov. 1964

Collaborated with the Chief of Community Development and Local Government Division, AID/Perú, in the organization and drafting of laws for the Cooperativa Eléctrica Comunal del Centro.

Jan. 1964

Regional Director, Lima Economic Census, Direction of Statistics and Census, Ministry of Finance

Organize, evaluate and supervise 5,500 censuses for the economic census of Lima.

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PEASANTS WHO WRITE A TEXTBOOK ON SUBSISTENCE FARMING  
Report on the Bolivian Traditional Practices Project

By

John K. Hatch

Rural Development Services

Textbooks are normally written by college-trained professionals or academicians. But in Bolivia a unique project is underway to make textbook authors out of 127 peasant farmers, none of whom has received more than five years of primary schooling. All are Aymara or Quechua Indians--direct descendents of the precocious Inca Civilization which dominated South America's rugged Andean highlands over four centuries ago. Since early 1979 these would-be authors have been keeping daily records, giving demonstrations, answering questions, preparing narratives, being photographed, and even lecturing--all for the purpose of creating a textbook which represents their knowledge to the outside world.

Their contributions will culminate in a detailed and profusely illustrated document, to be completed by late 1981, which explains indigenous production systems and subsistence strategies from the perspective--and where possible in the very words--of the peasants them-

selves. While avoiding value judgements as to what practices are good or bad, appropriate or superstitious, the textbook will describe the crop and livestock tasks of typical rural households on an individual enterprise basis--who does what, how, when, and why. It will also document the farming and subsistence system as a whole--infrastructure maintenance, marketing and barter, household manufactures, construction of tools, and off-farm employment. The textbook will carefully examine the rituals by which the Indians predict the weather, attract rain, ward off hail or frost, enhance animal fertility, and coax from the Earth Mother and mountain spirits a fuller harvest. In close contact with the wives and daughters of participating farmers, the project will also describe family diets and nutrition, hygiene, childbirth, and health practices in general.

The singular importance of this undertaking lies in its highly participatory approach to learning what traditional farmers know. It is a project designed to listen, not predicate solutions. It accepts the rural poor as teachers, not just respondents. It gives them fundamental control over the research instruments and information flow.

The project is funded jointly by the Agency for International Development and the Bolivian Ministry of Agriculture.\* It is adminis-

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\* Given that the project is at its mid-point, and is generating research results and methodologies of great interest both within and outside Bolivia, it was selected for continuation by USAID despite the recent military coup (July 1980) and cut-off of U.S. economic assistance.

tered by Rural Development Services, a small consulting firm based in New York which specializes in the design, management, and evaluation of projects assisting small farmers in the Third World. As President of RDS, I have the distinct honor to be the Editor-in-Chief of the forthcoming textbook.

### Subsistence Specialists

The fact that the project's peasant-authors possess exceptional farming skills can not be doubted; they have to be experts in order to survive in settings such as Bolivia's Altiplano or near-perpendicular Valles, which represent some of the most challenging locations for agriculture to be found anywhere in the world. Many of the project's participants farm at altitudes ranging from 10-15,000 feet above sea-level, where the vegetative growth cycle of common grain crops is prolonged up to 250 days, and where farmers are continually punished by frequent hail, frost, winds, drought, and even floods. Soils are rocky, shallow, easily eroded, and require sophisticated management to forestall erosion. Not only is their land of marginal quality to begin with, and too steep to mechanize, but holdings are extremely small with an average of less than 5 acres per family (including fallow and fodder crops for draft animals). Rural households must therefore supplement their subsistence by grazing livestock, producing ceramics or other artisan crafts, and engaging in considerable off-farm employment.

Furthermore, Aymara and Quechua households subsist with farming tools that are predominantly homemade--from wooden plows to hoes and sickles. They must conduct their farming activities without benefit of bank credit for financing modern inputs. They must supply most of their fertilizer requirements with the manure of their animals. They must supply most of their own food, obtaining what they can not grow themselves through barter transactions or very limited cash expenditures. They must make most of their own clothes, blankets, sacks, rope, kitchen or household furniture, and construct their own shelter and storage facilities. They must meet educational expenses, social obligations, medical emergencies, and a few daily consumption necessities within a per-capita income constraint of about \$150. Under such conditions as these, even the most astute farmers of more temperate climes might easily starve to death.

These subsistence specialists, whom modern man has regarded for decades as "backward" or "primitive", are at long last coming to be appreciated for their own wisdom. In an age of shrinking land, water, and energy resources--coupled with a clamor for "appropriate" technology--there has developed a renewed interest in documenting and preserving the extant knowledge inherent in virtually self-sufficient, subsistence-oriented farming systems. On the one hand such systems may hold many insights that can guide more efficient utilization of presently available resources. On the other, subsistence agriculture must be much better understood if its productivity is to be transformed suf-

ficiently--through synthesis of traditional practices and modern science  
...to allow Third World nations to feed their swollen populations more  
successfully.

"We Too Are Agricultural Engineers"

The origins of this undertaking to create a textbook written by  
subsistence farmers go back to 1972 and Peru. In that year, under a  
Fulbright-Hays research fellowship, I spent two crop cycles (winter and  
summer) hiring myself out as an unpaid laborer to some 30 small farmers  
from Peru's northern desert coastal region. These producers were genuine-  
ly flattered that a university-trained outsider would wish to study and  
acquire their expertise. And once initial incredulity with our bizarre  
classroom relationship, <sup>was overcome,</sup> my "professors" simply reveled in their teach-  
ing roles. Rather than wait for my naive questions, they usually volun-  
teered long and fascinating explanations about their practices which  
my ignorance prevented me from discovering with an appropriate inquiry.  
In turn, I was overwhelmed by the wealth of knowledge these farmers pos-  
sessed, by the dizzying complexity of their operations, of their options  
and responses, and by the inevitably technical and practical rationale  
which justified every decision made or practice employed. These insights  
I systematically collected into what eventually became an illustrated  
manual of traditional farming technology entitled The Corn Farmers of  
Motupe (University of Wisconsin, Land Tenure Center Monograph No.1, 1976).

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The opportunity to repeat and improve upon this experience came to me in Bolivia in 1978. Here the idea was not for a gringo outsider to work farm tasks with indigenous farmers (because of insuperable language and perhaps cultural barriers), but rather to find Indian-born Bolivian professionals willing to conduct such work in their regions of origin, and willing to listen to peasants rather than lecture them. I found two such rare individuals in early 1979--an Aymara anthropologist and a Quechua sociologist.

With the help of these very dedicated and sensitive professionals five Aymara communities and 43 subsistence farmers were selected to participate in the project from the Altiplano region, while three Quechua communities and 44 farmers were selected to represent the Valleys region. Participation was made strictly voluntary, requiring the approval of both the Indians involved and their community authorities. The selection of communities themselves followed criteria of representivity but also was limited only to those villages where residents showed a genuine interest in the project.

In the end we encountered the same phenomenon as in Peru. Farmers responded enthusiastically to the opportunity to describe their farming skills to outsiders--and be listened to seriously. They saw in the textbook project a chance both to legitimize their common sense as well as their heritage of practical wisdom and mystical science--accumulated and transmitted by word-of-mouth over countless generations

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--which they and their ancestors have relied upon for survival from time immemorial. One of the project's very first and most avid supporters was a 60-year-old farmer with no formal education. He gave the project perhaps its most succinct and eloquent justification when he announced publicly: "...You (outsiders) have studied at the university and learned to work with your eyes. We (farmers) have no diploma or degree, and we only know how to work with our backs and our hands. But we too are agricultural engineers!"

#### Making Authors Out Of Illiterates

In every participating village there are 6-12 rural households that belong to the project. Many of the male household heads are illiterate. Those who can read and write do so only in Spanish--the language they learned in school--but the large majority can communicate verbally only in Aymara or Quechua. As for adult females, very few have gone to school and speak more than a handful of Spanish words. But virtually all households have a son or daughter or grandchild that has or is attending school. Hence literacy skills are concentrated in the young, and it is they for the most part who are responsible for daily narrative and record-keeping duties on which the project is so dependent.

Each participating household keeps a daily journal of its activities. Essentially the family is asked to record what each of its mem-

bers does each day. When crop tasks are involved the journal entries should record the crop and its location, which task(s) occurred, who participated (family and hired labor), what animals and inputs were used, and if a harvest task the quantity harvested. On market days the family records its sales and purchases. When on-farm maintenance, exchange labor with neighbors or relatives, or off-farm employment occurs these tasks also are recorded. A running tally of livestock tasks as well as animal births and deaths is also kept. At the option of the journalist, descriptions of family celebrations, community fiestas and sports events, trips to the city, and even participation in religious or political activities--all may be mentioned in the family journal. Beyond a minimum target of specificity for crop and livestock reporting, the keynote is on flexibility. Some families write a page a day, others even more, still others only a few terse lines. Many families compete with each other for presentability of their records; they adorn the journal pages with drawings of animals, birds, and flowers, or frequently render page headings in gothic script.

The project pays each journal-keeping family the sum of \$5 per month. But beyond this symbolic payment it is apparent the participants derive a psychic income. Many enjoy the writing task. For them it is a pastime that affords a pleasant distraction at day's end, and they take great pride in the care and appearance of their journals. All visitors to the farm are asked to sign their names under the most recent

journal entry. The project has been careful to insist that the journals are the exclusive property of the participants, they should never be loaned to third parties without the family's permission, and once the project has completed its analysis of the journals they will be returned --carefully bound in hardcover with the family's name engraved and with copies of photographs taken of the family--as a permanent record of their participation.

The project has also introduced a visual image record-keeping system in those cases of families with no literacy skills, or who have volunteered to document a "control" plot (intensively supervised) for a selected crop. The visual instrument (see Annex A) consists of a cardboard sheet with a grid containing images of crop inputs (labor, seed, fertilizer, animals, irrigation water, etc.) aligned with other images representing crop stages (land preparation, planting, cultivation tasks, and harvest). On this format the illiterate farmer keeps track of units of inputs used or yield by using simple scratch-marks. These scratches are subsequently counted by the Bolivian professionals during their farm visits, converted into numerical and monetary units, and used for economic analysis (cost and net income) of the referenced enterprise. A similar visual instrument (see Annex B) is used for monitoring livestock enterprises.

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Making Peasants Out Of Professionals

The Bolivian professionals visit all participating farmers (up to 45 in a region) at least once and usually twice a month. During these visits family journals are supervised, corrected where necessary, and data disaggregated by information categories--by crop, by livestock enterprise, market purchases and expenditures, off-farm activities. Once each crop cycle the professional prepares with the farmer a detailed map of his holdings which displays the distribution of crop lots and their utilization. And once a month the professional brings the family its journal payment.

But the primary purpose of the professional's visit is to participate in a learning activity planned by the farmer. Usually the "class" concerns a crop task, but occasionally the professional gets a demonstration in tool-making, castrating an animal, making chufio (freeze dried tubers) or chicha (fermented corn beer), pottery-making, tanning hides, hauling water, or other activities. During his participant-observation classes the Bolivian professional usually will conduct an interview with his farmer-teacher using a tape recorder. The transcripts of these interviews--translated from Aymara or Quechua to Spanish--are subsequently included in narrative reports on activities observed which the professional submits monthly to the project's editor in New York. Eventually, these transcripts will allow textbook descriptions to convey a peasant "flavor" by using direct quotations from, and terms used by, the farmers themselves.

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Over time the Bolivian professionals have also assembled hundreds of slides of project participants conducting different subsistence activities. The farmers themselves have become quite adept at posing in different work postures, in suggesting useful close-ups and angles, and in planning photographic sequences. Of course, such cooperation is also motivated by the potential notoriety of public exposure. For twice each year the Bolivian professionals give slide-shows of their mammoth collections in all participating communities. It is expected that much of the photographic material will eventually be worked into the textbook itself, as well as into a variety of crop-specific slide shows or filmstrips.

#### The Project At Mid-Point

After 18 months in operation the project has assembled a great wealth of material. For each participating family a careful sketch exists of all its holdings, the distribution of land use, and how this pattern evolves over time. We have complete inventories of livestock herds and their seasonal variation. For each of 14 crops in the highlands and 18 crops in the valleys region there now exists a detailed task profile, a production calendar, and a set of production cost and net income summaries for representative farmers. Over 75 in-depth task narratives or interviews have been written. Many participants have already completed one journal and are beginning a second or even third.

During a three-day conference of project participants in January 1980, farmers from the highlands gave traditional practices lectures to their colleagues from the valleys, and vice versa. This novel interchange between "experts", possibly the first of its kind ever, was accomplished using a three-stage translation process of Aymara to Spanish to Quechua and back again. Working also in small discussion groups with newsprint and marker-pens, the participants generated enough descriptive material on their respective crop and livestock technologies to fill a 48-page Proceedings document--itself representing the first farming manual written exclusively by Bolivian peasants. The conference also provided the occasion for a hotly-contested Aymara-Quechua soccer championship that ended in a zero-to-zero draw, as well as a closing ceremony where many tears were shed, and a celebration in which one steer and 250 gallons of chicha were consumed in the space of four hours. The event greatly solidified the commitment and enthusiasm of the farmers towards the project.

In April 1980 the project was extended to Bolivia's Tropical Lowlands region in order to document how indigenous technology changes and is adapted as these farmers become colonists. There are 34 households participating from six communities representative of both old and new colonizations. A third Bolivian professional was hired to supervise the project in this new region.

The project has also been expanded with the addition of three female technicians, all indigenous language speakers with rural promotion experience. They have been entrusted--in the three regions--to work exclusively with the female members of households participating in the project. Experience has demonstrated that our knowledge sources to date were male dominated, and many areas of rural family subsistence activity involving predominantly women could not be accurately described through the man's perspective. The project's new female staff will live two-thirds of every month in the villages and will participate actively in tasks involving rural women. To ease the potential burden of their presence on respondent households, each female staff member has an expense account for buying bread, sugar, salt, kerosine, and other gifts-in-kind for host households. In written narratives and interviews the <sup>female</sup> ~~women~~ staff will cover the role of <sup>rural women</sup> ~~females~~ in crop and livestock tasks, in produce marketing and barter activities, in home manufactures, and other economic activities. They will describe what rural families eat, the ingredients and preparation involved for typical dishes, and will calculate the cash and in-kind costs of these diets. Finally they will describe practices of personal hygiene, study childbirth and other medical events, and document morbidity and malnutrition.

In conclusion, the project promises to deliver a great deal. That it can offer so much is no tribute to the ingenuity of its designers but rather a testimony to the energy, initiative, and enthusiasm the

project has received and continues to generate from rural households. It does so because it treats them with respect. For most of the participants this is the first time that outsiders have credited them with knowledge that is worth listening to. Even if the much-awaited textbook of traditional practices does not meet all or most of the expectations its preparation is awakening, the process of researching the document may prove as useful as the final product. For the farmers it is providing them with a new self-image. For the outsiders it is making us progressively more humble about the extent of our ignorance. In the end this textbook project may achieve its greatest result by demonstrating once again the wisdom of the ancient proverb: .

It is incredible how much one must learn  
To realize how very little he knows.

New York City, September 1980

## LIST OF PHOTOGRAPHS

1. Santiago Tórrez Quispe, Aymara peasant and participant in the Traditional Practices Project, pictured here with his daily journal and his family. Santiago also helps to supervise the journal keeping of six of his neighbors (Community of Jaruma, Altiplano).
2. Demecio Rosales, Quechua peasant, writing in his daily journal (Community of Puca Puca, Valles).
3. Three young boys who keep journal records for their respective parents. Note the decorations they have drawn on the journal pages. (Community of Yuca, Altiplano).
4. Supervisor's journal, which disaggregates the data from an individual farmer's journal. Note the gothic script heading on the page, which reads: "Enterprise of Potatos and Chuño".
5. Aymara peasant posing with his journal inside his onion patch (Community of Jaruma, Altiplano).
6. Santiago Tórrez Quispe (see above) supervising the journal of one of his neighbors.
7. Meeting of project participants with the regional supervisor to review journal entries and check their consistency with crop summaries (Community of Huayculí, Valles).
8. Bolivian professional participating in a lesson of harvesting potatos (Community of Melga, Valles).
9. Patrocínio Ortuño, a Quechua peasant, demonstrating how he cuts wheat with a sickle (Community of Huayculí, Valles).
10. A project participant demonstrating different classes of potatos he has harvested--1st, 2nd, 3rd., and 4th quality.
11. A project participant demonstrating how he cuts oats.
12. Residents of the community of Puca Puca, supplying their water needs for domestic use from the local watering hole, which is located 1.5 kilometers from the village.
13. Wife of a project participant, milling corn for tortillas in a stone batea.



**Libros de Dece y Chuso**

Fecha	Descripción	Dece	Chuso	Fecha	Descripción	Dece	Chuso
1. 1. 10	Compras de ropa	100	50	11. 1. 10	Compras de ropa	100	50
1. 2. 10	Compras de ropa	100	50	11. 2. 10	Compras de ropa	100	50
1. 3. 10	Compras de ropa	100	50	11. 3. 10	Compras de ropa	100	50
1. 4. 10	Compras de ropa	100	50	11. 4. 10	Compras de ropa	100	50
1. 5. 10	Compras de ropa	100	50	11. 5. 10	Compras de ropa	100	50
1. 6. 10	Compras de ropa	100	50	11. 6. 10	Compras de ropa	100	50
1. 7. 10	Compras de ropa	100	50	11. 7. 10	Compras de ropa	100	50
1. 8. 10	Compras de ropa	100	50	11. 8. 10	Compras de ropa	100	50
1. 9. 10	Compras de ropa	100	50	11. 9. 10	Compras de ropa	100	50
1. 10. 10	Compras de ropa	100	50	11. 10. 10	Compras de ropa	100	50
1. 11. 10	Compras de ropa	100	50	11. 11. 10	Compras de ropa	100	50
1. 12. 10	Compras de ropa	100	50	11. 12. 10	Compras de ropa	100	50

4.



5.



6.



7.

8.

9.







NOMBRE DEL GANADERO \_\_\_\_\_

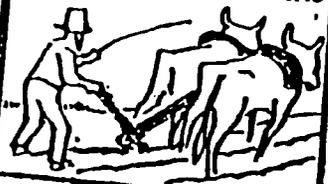
AÑO GANADERO \_\_\_\_\_

# RENDIMIENTO DEL RUBRO GANADERO

NOMBRE Y RAZA DE LOS ANIMALES \_\_\_\_\_

DETALLE		CABEZAS	VALOR UNITARIO	VALOR TOTAL
EXISTENCIA INICIAL				
	TOTAL			
INGRESOS	Nacidos			
	Comprados			
	Ventas			
	Consumo			
	TOTAL			
GASTOS	Comprados			
	Insumos			
	Mano de Obra			
	Muertos			
	TOTAL			
GANANCIA DEL TRIMESTRE				
EXISTENCIA INICIAL				
	TOTAL			
INGRESOS	Nacidos			
	Comprados			
	Ventas			
	Consumo			
	TOTAL			
GASTOS	Comprados			
	Insumos			
	Mano de Obra			
	Muertos			
	TOTAL			
GANANCIA DEL TRIMESTRE				
TOTAL INGRESOS A MEDIO AÑO				
TOTAL GASTOS A MEDIO AÑO				
GANANCIA A MEDIO AÑO				

DETALLE		CABEZAS	VALOR UNITARIO	VALOR TOTAL
EXISTENCIA INICIAL				
	TOTAL			
INGRESOS	Nacidos			
	Comprados			
	Ventas			
	Consumo			
	TOTAL			
GASTOS	Comprados			
	Insumos			
	Mano de Obra			
	Muertos			
	TOTAL			
GANANCIA DEL TRIMESTRE				
EXISTENCIA INICIAL				
	TOTAL			
INGRESOS	Nacidos			
	Comprados			
	Ventas			
	Consumo			
	TOTAL			
GASTOS	Comprados			
	Insumos			
	Mano de Obra			
	Muertos			
	TOTAL			
GANANCIA DEL TRIMESTRE				
TOTAL INGRESOS EN EL AÑO				
TOTAL GASTOS EN EL AÑO				
GANANCIA EN EL AÑO				

	MANO DE OBRA FAMILIAR 	MANO DE OBRA CONTRATADA 	ANIMALES 	MAQUINARIA 	AGUA DE RIEGO 	SEMILLA 	FERTILIZANTE Y ABONO 	INSECTICIDAS 
PREPARACION DEL TERRENO 								
SIEMBRA 								
LABORES CULTURALES 								
COSECHA 					PRODUCCION COSECHADA			

NOMBRE DEL AGRICULTOR \_\_\_\_\_

AÑO AGRICOLA \_\_\_\_\_

# RENDIMIENTO DEL RUBRO

CULTIVO Y VARIEDAD \_\_\_\_\_

EXTENSION SIEMBRADO \_\_\_\_\_ HAS.

DETALLE DE GASTOS		CANTIDAD	PRECIO	VALOR TOTAL
PREPARACION DEL TERRENO	Mano de Obra Familiar			
	Mano de Obra Contratada			
	Maquinaria			
	Animales			
	Otros			
	TOTAL			
SIEMBRA	Mano de Obra Familiar			
	Mano de Obra Contratada			
	Maquinaria			
	Animales			
	Semilla			
	Fertilizante			
	Otros			
	TOTAL			
CULTURALES	Mano de Obra Familiar			
	Mano de Obra Contratada			
	Maquinaria			
	Animales			
	Fertilizante			
	Insecticida			
	Otros			
	TOTAL			
...	Mano de Obra Familiar			
	Mano de Obra Contratada			
	Maquinaria			
	Animales			
	Otros			
TOTAL				
...	Alquiler del Terreno			
	Pago de Intereses			
	TOTAL			
TOTAL GASTOS DIRECTOS DEL RUBRO				
PRODUCCION COSECHADA				
SUB-PRODUCTOS				
TOTAL VALOR DE LA PRODUCCION DEL RUBRO				
Menos GASTOS DIRECTOS				
GANANCIA (Margen Bruto)				

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