

HPI- 17
Honduras

APPENDIX A

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EVALUATION
OF
HONDURAS PROGRAM

HEIFER PROJECT INTERNATIONAL

WILMER DAGEN

APRIL 1983

TABLE OF CONTENTS

Introduction

Preface

Evaluation Procedures

Narrative of Observations & Recommendations

Notes on Cost Effectiveness

Summary - Comité Evangélico de Desarrollo y Emergencia Nacional

 CEDEN: Tegucigalpa region

 La Ceiba region

 San Pedro Sula region

 San Marcos de Ocotepeque region

Summary - Comisión de Desarrollo y Emergencia

 CODE: Ceibilla, Nacaome, Valle region

Summary of Recommendations - Reproduction Centers

 CEDEN

 Panamerican Agriculture School

 Ministry of Natural Resources

Appendices:

- A. Copy of Evaluation Survey Form
- B. Goat Project Production Reports / CEDEN
 1. Tegucigalpa region w/ area map
 2. La Ceiba region w/ area map
 3. San Pedro Sula region w/ area map
 4. San Marcos de Ocotepeque w/ area map
- C. Goat Project Agreement Form / CEDEN
- D. Control Sheets for milk production & reproduction / CEDEN

INTRODUCTION

I must confess that I accepted the invitation to assist in the evaluation of the HPI program in Honduras with an open mind but also a strong bias. That bias reflected my involvement with HPI supported projects in the mid 1970s when most animals were imported at relatively high cost with minimal success. Little emphasis was given to community organization and training at that time, the main objective being the distribution of animals. The resulting problems and failures were a disenchantment. I was expecting to see more of the same during the evaluation process.

I must admit to being pleasantly surprized with the changes that have taken place. In Honduras the emphasis on community organization, training, and local purchase of animals has resulted in noticable and measurable benefits to poor rural families. This has been achieved through the introduction of goats, an animal that I usually considered to be of limited benefit to poor families because the usual lack of good management allowed the environmental damage to be greater than the benefit. It was impressive to see poor families with healthy children due to the consumption of goat's milk.

Reflecting on what I saw in the communities I was impressed with the fact that the goat project is one which fits the traditions and culture, if the aim of our efforts is primarily the young children. Milk is traditionally given to the smallest children and much money is spent to buy it, often in powdered form to mixed with contaminated water. With other foods, i.e. eggs, the children do not get first choice. In the case of eggs, the child may be given an egg only after the father or other working men in the household, and a possible visitor have eaten. And then it still may be more important to sell the egg to buy other necessities, including milk for the child. Tradition does not dictate that the child should have priority for most foods, but for milk this seems to be the case.

Introduction

It would appear, therefore, that the goat project fits well with established traditions and because of this is the best way to meet the nutritional needs of small children since the milk produced will invariably be given to them first.

Time will tell if the goat program will continue to expand and meet people's needs. As with any project there are problems but a sincere, genuine effort is being made by all concerned to overcome them and move ahead. From what I saw and heard in the communities with the program participants I believe this project will have the best, long-term results and benefit of any project that HPI has supported in Honduras to date.

This evaluation was greatly facilitated with the good orientation given at HPI / Little Rock and excellent cooperation provided by Ing. Edgar Fuentes, HPI representative for the Latin America region. My heartfelt thanks for the good support and guidance provided to me.

*Wilmer Dagen
La Ceiba, Honduras
April 1983*

PREFACE

HPI's involvement in Honduras goes back many years with a shipment of goats to the Ministry of Natural Resources as early as 1954.* The writer's personal knowledge of HPI involvement goes back to 1972. At that time HPI had a representative, Willis McAlpin, who lived in La Ceiba and worked closely with the newly organized agriculture university, CURLA (Centro Universitario Regional del Litoral Atlántico). Following McAlpin's departure the representation of HPI in Honduras was carried on by an inter-church agency, Diaconía Evangélica Hondureña. This was probably the first institutional representation arrangement for HPI in Honduras, a pattern which has been followed through the years with mixed results. With the founding of ACORDE (Asociación Coordinadora de Recursos para el Desarrollo) in 1974, Diaconía Evangélica Hondureña was dissolved and the representation of HPI in Honduras was continued through ACORDE. An official agreement was signed designating ACORDE as the authorized HPI representative in Honduras circa 1974. Numerous shipments of a variety of species of animals were made during these years with the animals being distributed to agricultural cooperatives, the Amish Mennonite colony, the Panamerican Agriculture School, and both large and small farmers. Some funds were provided also to make local purchases for improved bulls for Miskito farmers in Gracias a Dios and a few other areas including a settlement of small farmers who were organized by the Catholic church and moved from Choluteca to Olancho--the 'promised land' or Nueva Palestina as they called it. The approach of making local purchases of improved animals was introduced and greatly encouraged during these years.

During the period when ACORDE was the official HPI representative no one person within the organization was assigned to work exclusively or primarily with the animal projects. As a consequence, follow-up in the field was not adequate and the success of individual projects was

Jorge Guevarra Pinel, now working for INFOP, was involved with this early effort to distribute improved breeds of goats in southern Honduras.

very limited. The fulfillment of the 'passing on the gift' agreement of animal recipients was to a large degree non-existent since the vehicle or procedure for doing that was not well established. The preparation and training of individuals or groups before the receipt of animals was inadequate, especially the human element dealing with the purpose and philosophy of the project and the agreement to pass on the gift'.

In 1976 Dr. Gordon Hatcher was working in Honduras for CWS, and during the ensuing years he was responsible for the initiation of the goat distribution program. Following his involvement for several years, Tim Wheeler, originally working with CWS as well, was employed by HPI as country representative for 2 years (1980-1981). Since both Gordon Hatcher and Tim Wheeler worked within CEDEN (Comité Evangélico de Desarrollo y Emergencia Nacional) the representation of HPI was again linked to a national institution. In 1982 Odilio Guevarra was selected to be the person within CEDEN to be responsible for HPI supported projects in Honduras.

When CODE (Comisión de Desarrollo y Emergencia) was formed in 1982 with some former CEDEN staff the representation of HPI again became unclear. For a short time Odilio Guevarra was asked to continue functioning as the HPI representative under the CODE institutional umbrella. This arrangement was suspended shortly thereafter pending further study and Honduras has been without a country representative until the present.

During this period of change and uncertainty Ing. Edgar Fuentes was employed by HPI to serve as the Regional Representative for Latin America from his base in Guatemala. He was given the responsibility to define the situation and to propose the next steps to be taken in Honduras. An Interagency Committee composed of those groups and organizations that had received support from HPI was reactivated. This committee had originally been formed in 1980 as an advisory body to work with Tim Wheeler. Upon reactivation a few new members were added and it was hoped that this group would function as the coordinating body for HPI supported projects

in Honduras as well as receive, evaluate, screen, and recommend proposals for HPI to support. For a variety of reasons this committee was unable to fulfill this function and at the time of this evaluation the in-country representation of HPI was undefined and unclear.

HPI program support in Honduras has been for the most part concentrated during the past 3 years on small animal species--goats, rabbits, ducks, pigs, and bees. The exceptions to this are the local purchase of a few teams of oxen and the recent importation of donkeys for breeding mules. The majority of the time, funds, and effort has been dedicated to the small animal species.

EVALUATION PROCEDURES

A general meeting with representatives of HPI, CEDEN, and the Ministry of Natural Resources (MMRRNN) provided the forum for a discussion of what I perceived HPI wanted to happen in the evaluation process and also gave opportunity for a brief overview of the scope of HPI work in Honduras during the past 3 years, the time period to be covered by the evaluation.

I explained to the group that the overall purpose of the evaluation was very broad with emphasis on the following objectives:

- check on the status of the animals and their rate of production and/or reproduction;
- assure that Program Progress reports will be prepared for HPI;
- find out if the "passing on the gift" philosophy is being implemented;
- work with each group or organization to evaluate and establish improved methods of reporting and self-evaluation;
- make a general evaluation of HPI approach and style;
- begin the process of collecting data and information to explore the cost-effectiveness of the projects; and,
- involve the program personnel in the evaluation process in a mutual and collaborative way.

The next step followed was to analyze the norms of evaluation of HPI and make an overview of the different approaches we could utilize. Together we selected the format of the Anexo VII provided in the Spanish evaluation manual as the basis for the survey of participants. This format is the same as the evaluation criteria outlined in the original AID Grant Agreement with HPI. We noted that some of the information requested in this evaluation system could be obtained from the program reports. To obtain the additional information we prepared a simple form to serve as a guide in the collection of information during the site visits. This form was tested the first day and then revised to provide for the collection of some additional information deemed necessary and to make the question asking and data gathering more uniform. (See Survey Form attached as Annex A)

To determine which areas to visit we took into consideration the level of HPI support provided over the past 3 years, the geographic location, and the availability of personnel from the local organization with whom the evaluation team could obtain information and discuss observations. The locations visited were the following:

- | | |
|-----------------------------------|---|
| 1. Panamerican Agriculture School | El Zamorano, Francisco Morazan |
| 2. CEDEN / Central Region | Coato
Terreritos
Reducto, El Paraiso |
| 3. CEDEN / La Ceiba Region | Lis Lis
Limeras
Ceiba Grande, Atlántida |
| 4. CEDEN / San Pedro Sula Region | Las Minas
Urraco
Agua Sucia, Santa Barbara |
| 5. CEDEN / San Marcos Region | San Marcos de Ocotepeque
Cololaca
San Antonio, Ocotepeque |
| 6. CEDEN / Reproduction Center | Lago Yojoa, Cortés |
| 7. CODE | Ceibilla, Nacome, Valle |
| 8. Ministry of Natural Resources | Nuevo Ocotepeque, Ocotepeque |

In each location the number and selection of the persons to be interviewed was determined by a) the number of communities being served in the area, b) the number of families benefitted in each community, c) the species of animals distributed, d) distances between family dwellings and community, and e) the availability of personnel and vehicles. The evaluation team visited a total of 55 individual program participants.

In addition to site visits the team also met with the Interagency Committee which is composed of representatives of agencies that have received HPI support or are interested in the HPI program.

The evaluation team was permanently composed of the following members:

- | | |
|----------------------|---|
| 1. Edgar Fuentes | HPI Regional Representative for Latin America |
| 2. Jorge Parro Bando | COECAD - HPI Coordinator / Guatemala |
| 3. Samuel Martinez | CEDEN - Program Director |
| 4. Nia Williams | CODE - Coordinator/Small Industry Development |
| 5. Wilmer Dagen | Independent Evaluator |

Ing. Federico Peck, from the Ministry of Natural Resources, was with the team for the first 2 days and took part in the discussions following the field visits.

In each of the CEDEN regions visited we had the able assistance of the following persons:

Tegucigalpa

Francisco Mendez, Promoter

La Ceiba

Nelson Garcia, Promoter

Digna Urquiza, Promoter

Roberto Salazar, Regional Coordinator

Bob Barret, CRWR Volunteer

San Pedro Sula

Norbarto Velasquez, Promoter

Humberto Chinchilla, Promoter

San Marcos de Ocotepeque

Ramiro Hernandez, Promoter

Israel Martinez, Promoter

Jorge Deras, Regional Coordinator

Given the constraints of time and geographic distance the team usually divided into 2 or 3 survey teams so as to reach the most people as possible in the area. Each team was composed of a representative of HPI, a representative of the organization being evaluated, and a representative of another national organization.

Following the site visits each day, each survey team would give a general oral report in the presence of both the field staff and the administrative personnel of the given organization and other members of the evaluation team. Each report gave an overview of the degree of community organization, health of animals, with special reference to any problems needing attention, socio-economic benefits evident in the community as a result of the project, and suggestions or recommendations. During and following the reports there was opportunity for interaction, clarification and discussion.

The final stage of the procedure followed in this evaluation was to visit the main offices of each of the national organizations involved in the evaluation to share the results and observations of the team.

Some of the strengths in the approach and procedures followed in conducting this evaluation in the opinion of the writer were:

1. Field visits conducted by a team rather than a sole individual; a team of persons representing different agencies could provide better insights and feedback than a sole individual evaluator.
2. Evaluation was process oriented rather than statistics oriented giving opportunity for project personnel to learn and respond immediately to the findings and recommendations of the evaluating team.
3. Involvement of IPI Regional Representative provided an element of continuity and perspective to the evaluation process.
4. Local agencies and personnel were very cooperative and receptive to observations and recommendations of the evaluation team.

Some of the weak points in the process could be stated as follows:
Team members from the national organizations were not provided on the same basis. CEDER and MMINRE provided persons to work with the team who were directly involved with the animal projects whereas COB provided a person whose job was independent of the animal projects.

2. The independent evaluator did not state clearly enough to every one's satisfaction the overall criteria utilized in the evaluation, especially those criteria which guided the selection of the areas to visit and the information to be gathered.
3. Unable to visit one of the main Reproduction Centers of the Ministry of Natural Resources due to personnel changes taking place at the center at the time the evaluation team was making field visits.

The most amount of time and effort was spent evaluating the regional programs of one agency, CEDER, which has been the major recipient of IPI support during the past 3 years. An alternative may have been to give more time to other relatively small and new programs to have a better

multi-agency coverage. Whereas this approach may have provided a broader perspective, the impact and usefulness of the evaluation for the programs concerned would have been greatly weakened.

Although HPI has supported the distribution of rabbits, ducks, and pigs as well as goats, the evaluation team concentrated on the results of the goat program. Program inventories indicated that very few animals other than goats survived once distributed in the communities. Some program participants receiving the other animal species were interviewed but major attention was given to the goat program participants, the program that was being emphasized in all the areas visited and by different agencies.

NARRATIVE OF OBSERVATIONS & RECOMMENDATIONS

The main success of HPI effort and support in Honduras is the goat program. The results are evident in the well-nourished children of very poor families. The progress made in this area is due to the emphasis on social preparation and technical training at the community level before distribution of animals and the local acquisition of animals which are more resistant than imported stock.

The two groups receiving HPI support in 1983, CEDEN and CODE, are both working with goat projects. Both groups are for the most part working with the poor in needy rural areas. I would encourage HPI to continue to give emphasis to the goat projects giving minor attention and support to other animal species.

The goals and objectives of the HPI supported programs are not community based. CEDEN was the only group visited that had written objectives for the animal projects and then only on a regional or national level. In some cases it appears they are adhering too strictly to numbers and disregarding the human element, i.e. numbers of animals distributed instead of the nutritional level of the children. It was observed that it may not always be possible to meet the target number of animals to be distributed if the people are still not prepared socially or technically. However, the situation must be analyzed to be sure that the people's lack of preparation is not due to other factors such as poor support from the promoter.

The success of the goat projects is linked closely with the kind of motivation and follow-up provided by the promoter. It is also extremely important to generate enthusiasm on the part of the participants and this has been relatively easier when the goats distributed are producing milk or are 2 - 3 months pregnant, thus producing quicker results. Based on the observation that it is important for the good initiation and success of a goat project to distribute adult animals in production, the programs should consider requesting participants to keep offspring until it is pregnant before returning it in compliance with 'passing on the gift'.

It would require some motivation since families like to fulfill their obligation early and not have the responsibility of caring for it so long but it could be explained that they received an adult animal and should return the same.

In the family setting it was observed that it is usually the women and children who take the responsibility for caring for the goats. However, in all the programs the training and social preparation is for the most part concentrated on men. Women and children should be included in the training process and should in more cases be the actual recipients.

CEDEN was the only group visited that kept records of milk production for the milk goats. The amount and kind of information varied from region to region but an effort is being made to gather more uniform information in 1983. It would be a good process to use the records on production as a teaching tool. With careful analysis of the records together with community participants it should be possible to make some comparisons and relate higher production to such things as better care and food or improved breed.

The fact that the 'passing on the gift' philosophy is working in most communities with goat projects is impressive. The approach practiced in one region where the new recipient receives the goat directly from the donor family should be practiced more widely. This person to person approach makes the experience more meaningful and instills a spirit of caring and giving in the program participants.

The reproduction centers need to improve in order to back up the community level programs providing quality purebred animals for improving the original stock. The centers operated by CEDEN and the Panamerican Agriculture School offer the most potential. Greater communication and cooperation between the centers needs to be developed.

HPI has done well to focus support on working with small animal species, especially goats, and making purchases of animals locally.

Emphasis should be continued in the area of goat production for a minimum of 2 years with special attention being given to at least 1 reproduction center as a support base to the community level programs. Based on the experiences acquired it would be valuable to organize a "Goat Congress" or "Seminar on Goat Production" to involve participant farmers and housewives, personnel from government and private agencies, and others interested or involved in goat production.

Supervision and follow-up should continue with ducks, rabbits, pigs, donkeys, and oxen but without a high level of new inputs. The ducks and donkeys are both expensive to maintain and reproduce. Rabbits and pigs have had limited success in the field. The oxen are a good alternative to the expensive tractors now so prevalent and so easily abandoned in broken down condition. With good selection and preparation of participants this project has potential, and requires limited inputs since animals are acquired with loans which can come from a revolving loan fund.

For lack of coordination the HPI program in Honduras is at a standstill on a national level. It is necessary to find a new approach to provide coordination and HPI representation independent of institutional affiliation for the time being. A reorganized Interagency Committee could serve as the support group to an HPI coordinator working at least 1/2 time. Even though the track record of institutional affiliated official representation of HPI in Honduras is poor an effective program requires continuous coordination and supervision. The time, effort, and financial support invested in Honduras programs by HPI over the past 10 years and the very positive developments in progress especially in the area of goat production at the small farmer level amply justify the designation and support of a person to coordinate the Honduras program.

The Interagency Committee as presently organized is not functional. I propose organizing a program committee within the Interagency Committee to be formed of 3 - 4 representatives of agencies or groups that have received HPI support. This program committee could meet bimonthly with

the HPI coordinator, and would serve in an advisory capacity to the coordinator. The Interagency Committee, formed with representatives of any agency, organization, government or private group with interest in animal production and a basic understanding of HPI philosophy, would function as a general assembly to meet semi-annually or annually for an overview of HPI supported projects and an exchange of ideas and information on animal production--a kind of forum for the exchange of information, not a decision making body.

With good coordination on a national level, building on the progress made to date, the HPI program should continue to develop in Honduras to the benefit of small farmer families.

NOTES ON COST EFFECTIVENESS

During the field visits we included discussions of cost-benefit at each project site. CEDEN was the only organization which had some data in their reports or files which could be used to make some analysis, and then only in some of the regions. Despite the fact that the other organizations did not have available data we did discuss the subject and attempted to impress on everyone the importance and value of looking at cost effectiveness.

In La Ceiba we did a cost-benefit exercise with the CEDEN personnel during our wrap-up session. We decided to calculate the cost of the goats purchased locally for distribution in the communities. The goats had been purchased in Choluteca so it was relatively easy to calculate the cost per animal as follows:

Lps. 60.00	average price per animal
2.50	salary - pro-rated
5.00	travel expenses
2.00	misc. charges
3.25	salary of assistant
2.75	gasoline
10.50	mileage (2 trips were made
	from La Ceiba)
<hr/>	
Lps. 86.00	(\$43.00)

A total of 19 goats were purchased so all the costs were pro-rated for each animal purchased. The cost of each animal delivered to La Ceiba was approximately \$43.00. A small amount would need to be added to cover the cost of transportation from La Ceiba to the community.

In this exercise we were not able to relate the cost of the original animal to the benefit received because records of milk production were not available. We did discuss the usefulness of cost-benefit analysis and how this is helpful to give an idea of what it costs to help a family begin raising goats. It was mentioned in the discussion that it is difficult to put a value on educational development. It was also noted that in our exercise we did not include the cost of training courses and technical assistance provided by CEDEN, a factor that could increase the cost significantly. Another observation was that cost-benefit analysis could be a useful tool to compare the cost effectiveness of goat projects with that of cattle projects for example.

At my request, Nelson Garcia, the CEDEN promoter in La Ceiba, calculated the cost of producing one Kahki Campbell duck up to 16 weeks or 4 months of age. He calculated the amount of feed consumed per day at different ages (4 week increments) and 'discovered' that just for the cost of feed alone it was costing CEDEN Lps. 7.14 (\$3.57) to feed each duck from hatching until it is distributed to the community at 16 weeks of age. This figure does not include the cost of labor, facilities, or mortality. Based on this figure CEDEN has decided that it will be necessary to charge more than Lps. 2.00 per duck which is the present subsidized price.

In the CEDEN region of San Marcos de Ocotepeque the promoter, Ramiro Hernandez, had calculated what it cost them to deliver goats to the communities. We were happy to observe this interest in cost effectiveness. He came up with the figure of Lps. 75.00 per animal which included the price of the animal, transport, travel expenses, and a tariff charged by the local government for each animal exported out of Choluteca. He did not figure in his salary pro-rated which we pointed out as an important factor as well. With the milk production records being kept in this region it will be quite easy to make simple comparisons of the cost effectiveness of this initial investment.

We were able to make another type of cost-benefit analysis in Coato, one of the communities where CEDEN is working in the central region, by comparing the cost of powdered milk with that of fresh goat milk. The day before our visit Francisco Barahona, the community leader, had purchased a can of LIDO powdered milk for his child. This gave us the opportunity to make some comparisons with him. The can of powdered milk which makes 3 liters of milk cost Lps. 4.50 plus Lps. 1.00 for transport to and from Maralta where he purchased it. One can of milk lasts for about 12 days when given as a supplement to breast feeding. The cost of the powdered milk (Lps. 5.50) divided by 12 days equals Lps. 0.46 per day. We also compared the cost of the powdered milk per liter--Lps. 1.83-- with the going rate of Lps. 0.50-0.60 per liter for goat milk in the area.

The record shows that Francisco Barahona's goat produced an average of 2 liters of milk per day for 4 months for a total of 240 liters. At Lps. 0.60 per liter this production was equivalent to Lps. 144.00, or \$72.00. He also sold one of the offspring for Lps 25.00 so that in 1982 his family earned from the goat the equivalent of Lps. 169.00 or \$84.50. If we compare this with the cost of delivering a goat to a family in the La Ceiba region (we could not get figures to calculate the cost of animals distributed in Coato) it is evident that this family earned over and above the initial cost of the animal received in less than 1 year, at least if we do not calculate the cost of training and technical assistance. The added bonus is that the children have also been healthier, the value of which would no doubt offset the costs of training.

The above discussions on cost-benefit, with the examples given, were a good exercise and should be continued. CEDEN is improving their record keeping system and the most recent forms developed by Samuel Martinez, program director, include the income obtained from milk and offspring--data that is necessary to do good analysis of cost effectiveness. It was interesting to note the interest local groups had in looking at and calculating cost effectiveness and I believe they will be looking at this aspect of evaluation more in depth in the future too.

SUMMARY - COMITE EVANGELICO DE DESARROLLO Y EMERGENCIA NACIONAL (CEDEN)

Considering that the majority of HPI support during the past 3 years has been channeled through CEDEN, it is to be expected that most HPI related projects are, at present, in CEDEN program areas. The evaluation team visited HPI related projects in 4 regions where CEDEN is working. (See attached reports for the regions of Tegucigalpa, La Ceiba, San Pedro Sula, and San Marcos de Ocotepeque.)

There are many differences in the quality of projects, methods of reporting, levels of community organization, and style of operation between the regions. The one area where there has been a degree of success in every region is goat raising. Milk production isn't breaking world records but families are getting enough milk to make a difference in the nutrition and health of their small children.

CEDEN field staff are dedicated to their work and were very cooperative in working with the evaluation team. They are making sincere efforts to keep good records and use them as indicators of progress. Their beginning interest in analysis of cost effectiveness was impressive.

The recommendations that follow are the result of the field visits and discussions with field staff and program participants:

1. Improve communication and exchange of information and ideas between regions.
2. Incorporate more women in the goat committees and give more emphasis to their training and participation.
3. Encourage passing on the gift directly between the donor that is 'passing on the gift' and the new recipient in all regions.
4. Improve integration of different aspects of community work, i.e. milk consumption with nutrition.
5. Discontinue providing powdered milk in communities where milk goats have been distributed and foment the sharing of milk or goats with neighbors in need as is done in some communities.

6. Work with community participants to help them become less dependent on CEDEN promoters.
7. Consider leaving a community in phases continuing supervision in some areas of work longer than in others depending on level of self sufficiency.
8. Help community groups and participants learn to use local sources of credit to support their agriculture work.
9. Establish standard procedures and format for reporting in all regions.
10. Conduct future evaluations using field staff of one region to evaluate the program in another region, an approach which also encourages the cross fertilization of ideas and experiences.

CEDEN / TEGUCIGALPA REGION - Maraita, El Paraiso

CONTACT: Francisco Mendez

DATE OF VISIT: February 8, 1983

PLACES VISITED:

COATO	33 families benefited	5 families visited (15%)
REDUCTO	15 families benefited	4 families visited (27%)
TERRERITOS	15 families benefited	7 families visited (47%)

INVENTORY: (See Program Progress report provided by CEDEN)

COATO:

1. No. of participants benefited: 33 families
2. Growth in # of participants: 36% - project was initiated in March '81 with 12 families.
3. % of population benefited: 33% (community consists of 100 families)
4. Livestock growth rates: 18% - total reproduction rate comparing total existing stock (51) plus # of animals utilized (21) to original # distributed (33)
55% - growth rate comparing existing stock (51) to initial stock distributed (33)
5. Socio-economic level: 4 very poor, 1 poor

All the land in the area is of very poor quality so even if farmers own their land they go elsewhere to rent land to cultivate and produce corn and beans. The high incidence of malnutrition has decreased significantly with the availability of goats milk, (i.e. child that couldn't crawl until it received goat's milk at 11 months of age).

6. Achievement of objectives:

The project did not have specific community level objectives this year. CEDEN's national level program objectives and achievements are reported in the Program Progress report provided separately.

7. Socio-economic benefits:

There has been a definite improvement in the nutritional level of the small children. Incidence of illness has decreased resulting in less medical expenses. Amount spent for powdered milk is lower. Goat owners have eaten or sold 21 animals worth Lps. 328 (\$164). The goat project is one of the main reasons for improved communication and self-help evident in the community. Farmers and housewives meet and work together, something that was rare before, and in addition to discussing problems and planning together there is more concern for the problems of their neighbors. Goats are loaned back and forth between families depending where the milk is most needed. The goat hides are used to make bridle reins and chair covers, the manure is used for flowers and crops, and the goats are playmates for the children. One parent mentioned as a benefit the fact that the children learn responsibility caring for the goats.

8. Technical problems:

Some cough and parasites have been in evidence but nothing serious. One goat delivered during the trip from Choluteca to the community and died. The farmer's goat died of unknown causes and he purchased another one locally to replace it. Only 2 male goats for 30 females in a widely dispersed community was seen as a problem by some.

9. Social organization.

Francisco Barahona is the leader of the group composed of all those who have received goats. He also keeps the community level records of milk production, heat periods, and deliveries as well as making periodic visits to families. Clinic promoters visit regularly and any problems noted are communicated to Francisco. The group meets on an informal basis when there are problems or requests to be discussed, and group members take an active part in the discussion and decision making process. The best evidence of cooperation within the group is the sharing of goats among the families, i.e. if the goat of a given

family goes dry and another family with less immediate need has a milking goat they loan it to the more needy family. This kind of sharing was observed several times.

10. Continuation:

The human development and nutrition components of this program seem to be well integrated in this project area. The participants are still somewhat dependent on the CEDEN promoter to acquire veterinary supplies but from all indications the project will continue in the community and sharing between neighbors is practice already well established. As one interviewee responded, "God helps us, we have to help each other."

11. Passing on the gift:

Recipients have willingly complied with passing on the gift returning the first female offspring at 5 months of age. The group decides and responds to local requests for passing on offspring from original recipients and others are returned to CEDEN for distribution in other communities.

General observations:

The level of reproduction is low in Coato because the people in an effort to get as much milk as possible do not breed the animals as frequently as would be possible. They prefer milk over meat production.

Some factors which have contributed to the measured success of the goat project in Coato to date are:

- training and orientation began 6 months prior to the distribution of the first animals,
- each family received only one animal which made it easier to manage and feed, and avoided communicable disease problems,
- provided pregnant or milking goats providing immediate and visible benefit to the recipient families,

- children's health improved quickly, an immediate result that created enthusiasm and encourage the people to consider the milk as medicinal,
- only one kind of animal was introduced until its management was learned well,
- technical assistance and follow-up has been fairly regular and constant,
- the goat project is integrated with other aspects of the development program such as health and nutrition.

Project leaders need to be introduced and become friends with persons who can answer questions and give technical assistance to develop self-sufficiency, i.e instructors at the agriculture school in Zamorano, the Ministry of Natural Resources, commercial outlets of veterinary supplies, and other people who raise goats.

REDUCTO:

The first goats were distributed in Reducto in March 1981, the same time as in Coato but the results have been much different. Fifteen families were benefited initially, but the project has not expanded. The socio-economic level of the people is very poor in an area where the land is extremely poor and unproductive. The families benefited are not organized in any way and they are very dependent on the CEDEN promoter to make decisions regarding disease problems, redistribution, and every other aspect of the project. There is some sharing of milk, meat, and hides between families which indicates some degree of cooperation and community spirit.

There has been a high incidence of mortality, in some instances due to bloat. More training is needed regarding the care of the animals and the treatment of diseases. Additional orientation aimed at building social organization is crucial. It was noted, however, that the economic and nutritional benefits are having an impact.

It would be valuable to do a thorough analysis of the communities of Coato and Reducto to provide reasons for the different levels of community organization and the different levels of reproduction and

mortality in the goats. Such factors as the amount of time spent by the CEDEN promoter in each community, quality of goats distributed in each place, socio-economic level of people, past history of community projects noting success or failure, and others should be considered. Such an analysis may prove useful to the CEDEN promoter in his work with the community people of Reducto.

TERRERITOS:

The distribution of goats in Terreritos took place only 8 months prior to our visit. The team was able to observe the condition of the animals and assess the socio-economic level of the people and benefits to date but growth rate calculations did not apply. The families of the community are poor, owning land of very poor quality, and barely producing enough for their basic needs. The goat project is encouraging increased social organization. A group has been formed by the recipients of goats and meets monthly to share problems and decide on management matters. The male goat is cared for on a rotating basis, one month by each member--evidence of cooperation.

The benefit received from the goats to date has only been, in a few cases, the production of milk which is only beginning because the project is new. The only other benefit has been the manure which is used as fertilizer.

There have been no mortalities and only a minor health problem on one occasion which was cured without any complications. All the recipients have each signed an agreement to return the first female offspring as soon as reproduction begins.

SPECIFIC OBSERVATIONS:

1. The area is very poor and there is no question that the families that received milking goats have benefited, the most obvious evidence being the improved nutritional status of the small children.

2. The first goats distributed in the region were either pregnant or producing milk at the time of distribution, a tactic which creates enthusiasm when direct benefits are felt quickly. However, since recipients 'pass on the gift' when the animal is only 5 months old, the benefits for the new recipients will be delayed. Consideration should be given to having the animals returned at the same age as the animal received.
3. An appropriate technology was observed in the way the dried 'guate' or forages are stored in the trees, out of reach from the goats, so it can be fed to them little by little.
4. Area is characterized by very large families--the average family size of the 5 families interviewed in Coato was 8.4 with one family having 11 children.
5. A few people in the community have cows but they have to rent pasture every year at lps. 5.00/head per month at a location near the mountain. No one in Coato had goats when the project started but they can be maintained near the house all year long. Observed that most families we visited have been growing forage.
6. Two families visited had received ducks, one only recently. Each family received 1 male and 4 females. The family that received them first had been unsuccessful. The ducks don't lay, 2 of them died, and the family ate one. They are fed sorghum and corn.
7. One pig was taken to the area about 2 years ago at the request of the community. The CEDEN promoter did not encourage hog production but the community was only convinced that this was not the best enterprise for their area after seeing how much the pig competed with them for the little grain they can produce. The pig was sold recently.
8. The careful records of milk production and animals redistributed, sold, or consumed should be encouraged and another person named to assist in these widely dispersed communities since at present only one person is responsible.

CEDEN / JA CEIBA REGION

CONTACT: Roberto Salazar, Regional Coordinator

DATE OF VISIT: February 10, 1983

PLACES VISITED: Ceiba Grande 16 families benefited 4 families visited (25%)
Lis Lis 10 families benefited 6 families visited (60%)
Limeras 19 families benefited 4 families visited (21%)

INVENTORY: (See Program Progress report provided by CEDEN)

CEIBA GRANDE:

1. No. of participants benefited: 16 families benefited with 29 goats.
2. Growth in # of participants: 3 families received the first 6 goats distributed in community, now 16 families.
3. % of population benefited: 27% -community population is 372 or approximately 60 families; with 16 families benefited.
4. Livestock growth rate: present inventory is 54 with 4 consumed for a total of 58; with 29 animals distributed initially the overall growth rate is 100%.
5. Socio-economic level: 1 poor 1 small producer
People have their own land, cultivate mostly corn, beans, and rice and live in relatively poor, unhygienic housing. Community is located in coastal area with humid, tropical climate that encourages good production. Malaria is endemic.
6. Achievement of objectives:
The project did not have specific community level objectives this year. Overall organizational objectives and achievements are reported in the Progress report provided by CEDEN.
7. Socio-economic benefits:
Major benefit has been the milk which is available "whenever the children want it" as one participant expressed it. Goats in Ceiba Grande produced a total of 1,250 (1 bottle = 1/5 gallon) of milk

for a market value (Lps. 0,40/bottle) of Lps. 780,00, A total of 4 animals were consumed during the same period with a market value of Lps. 160.00.

8. Technical problems:

Some pulmonary problems and diarrhea. One female goat died while giving birth but the orphan kids were raised on purchased milk.

9. Social Organization:

A community improvement committee (patronato) is in charge of the animal projects. A community lady is responsible for general coordination and supply of medicines. Everyone interviewed reported good cooperation within the community organization.

10. Continuation:

Persons interviewed expressed confidence in their ability to manage the project and continue on their own with the goats. Ducks and rabbits have been unsuccessful and their continuation is unlikely.

11. Passing on the gift:

No animals have been returned to date. In this region the return of animals has been slower because of the policy that participants may fulfill their obligation with offspring from the 2nd delivery.

General Observations:

Goats graze on neighboring ranch--a very large holding of a meat packing company. This has not yet created a problem although it could set the stage for a conflict when the goat herd increases in number.

The community needs more education on nutrition and environmental sanitation. CEDEN needs to integrate better the health program with the animal production program. For example, promoters could relate aspects of animal health, i.e. parasite problems to similar problems in the people's own health--parasites being a major reason for anemia and diarrhea.

One participant (Miguel Hernandez) in addition to 2 goats received a pair of rabbits. He eventually had 12 rabbits which all died within a month of an unknown cause. The family did eat one before they disappeared.

LIS LIS:

1. No. of participants: 10 families benefited with 14 goats.
2. Growth in # of participants: 4 families received the first 8 goats distributed over 2 years ago, now a total of 10 families have received 14 goats.
3. % of population benefited: 10% -total community population is 600 or approximately 100 families with 10 families benefited..
4. Livestock growth rate: present stock totals 40 animals with 14 sold or consumed during 1982 for a total of 54; based on the original 14 animals distributed the overall growth rate is 286%.
5. Socio-economic level: 5 poor
People have land to cultivate and the coastal area has abundant rainfall without severe dry periods but disease, malnutrition and poor hygiene prevent the people from reaping the full potential of the area.
6. Achievement of objectives:
The project did not have community level objectives this year.
7. Socio-economic benefits:
Milk has been the main benefit. One goat gives 2 1/2 bottles (1/2 gallon) a day. One family regularly bought 1 bottle of milk for their child. This cost Lps. 10.00 per month which the father paid by working for 2 days. Now they have their own supply and if the child cries they "can go milk the goat and quiet the child". Another family received goats' milk from one of the first participants in the community and the husband was physically restored and motivated by the experience to get goats for his family. Children are healthier and have to go to the health center less frequently. The sale of offspring provides the school supplies and clothing for the children of another family. A number of goats have been eaten, providing protein to the family diet. Other benefits mentioned by participants are the fact that goats are effective gleaners of the corn fields

after harvest and that now there is a demand for goats and people want to eat goat at Christmas instead of pork--the traditional meat for the season

8. Technical problems:

With the increase in the number of animals per household problems parasites are on the increase. No other problems reported.

9. Social organization:

Two of the first recipients, persons very enthusiastic about goats, have assumed the leadership for the goat project in the community. There is no community level organization related to the goat project and the participants don't have meetings except during the goat management courses given each year. Participants who have problems or questions look up either of the 2 persons that have voluntarily taken responsibility to see that the project continues.

10. Continuation:

The project seems to be on a good footing although a healthy community organization would be an improvement. De facto leadership is confident and knows where to go for advice and basic veterinary supplies. The project has been going over 2 years and prospects for continuation look good although with limited participation.

11. Passing on the gift:

The recipients have returned 5 offspring to date, a low percentage considering that 8 goats were distributed over 2 years ago.

LIMERAS:

1. No. of participants: 19 families benefited with 21 goats distributed.
2. Growth in of participants: 10 families were benefited with first distribution, now 19 families.
3. % of population benefited: 19% -595 total community population or approximately 100 families.
4. Livestock growth rate: 143% overall growth rate based on 51 total animals--37 animals in stock and 14 sold or consumed.

5. Socio-economic level: 4 poor

People have productive land to cultivate and good climate for year round cultivation. They produce more than is required for family needs but marketing channels don't permit small producer to obtain full benefits. Poor health and hygiene much in evidence.

6. Achievement of objectives;

The project did not have community level objectives this year

7. Socio-economic benefits:

Milk and meat have been the major benefits. Families have observed that their children are healthier. One family with a herd of 8 goats now obtains 6 - 7 liters of milk per day and makes a delicious white cheese. Another family sold a good quality male for Lps. 100 and in another case a 4 month old goat yielded 20 lbs. of meat.

8. Technical problems:

The only complaint voiced was cough.

9. Social organization:

Non-existent as relates to goats. The community has a committee responsible for the water project only. Some problems between neighbors have arisen due to loose goats--a factor that could be dealt with in an effective community organization but may grow to cause dissension without an effective forum to defuse it.

10. Continuation:

Goats will continue to reproduce but lack of good community organization may keep the project from growing with new participants.

11. Passing on the gift:

The community has returned 8 animals to date. Policy is to return the 2nd offspring of the same sex as received.

GENERAL OBSERVATIONS:

In the coastal areas where CEDEN/La Ceiba is working the people have more productive land and green forage grown abundantly almost year round--a contrast to many areas of the country where long droughts persist.

Possibly due to this the people seem to have a more carefree attitude about management practices than in more unproductive, dry, and deprived areas. The management style is one in which the animals basically roam as they please, finding their own food, with less importance given to careful observation. Milk production comes easy with very little work. By the same token, with good management, production could be increased dramatically considering the potential of the area, but a change of attitude regarding management style would be necessary.

It was observed that the CEDEN animal project coordinator for the region visits some of the communities with goats very infrequently. Although this low profile helps to create independence, the communities did not seem to be involved in the decision to withdraw and participants visited didn't feel prepared to care for the animals entirely on their own.

In this region each recipient pays Lps. 10.00 toward transportation costs for each goat received. They also agree to return one offspring for each animal received. Lps. 5.00 is paid per rabbit and until now Lps. 2.0 per duck--although the cost analysis prompted by this evaluation may change the latter. This practice of charging a small fee is a good idea.

In most of the households visited it was the housewife who was available to answer questions and who assumes the main responsibility for the goats.

It should be mentioned that one lady visited in Lis Lis (Genoveva de Lara) has had some success with Kahki Campbell ducks. She received 6 ducks, 2 months old, from CEDEN in June '82, and by the time of this evaluation she calculates she has earned about Lps. 300 from the sale of eggs and ducklings. Two of the original ducks died, all her native ducks have died, and numerous ducklings she hatched also died, but she was able to sell a total of 40 ducklings for Lps. 6.00 a pair at 2 months of age. She sells the duck eggs for Lps. 0.30 - 0.50, depending on demand. (Chicken eggs sell for Lps. 0.15.) The 5 ducks she had at the time of our visit eat about 3 lbs. of corn a day (Lps. 0.25/lb.) and lay an average of 3 eggs per day. Despite the problems she was still enthused with the ducks and her family has received benefit. It was good to see one example where the ducks have been productive.

CEDEN / SAN PEDRO SULA REGION

CONTACT: Samuel Martinez

DATE OF VISIT: February 11, 1983

PLACES VISITED: Urraco 9 families benefited 4 families visited (44%)
Las Minas 17 families benefited 6 families visited (35%)
Agua Sucia 10 families benefited 2 families visited (20%)

INVENTORY: (See Program Progress report provided by CEDEN)

URRACO:

1. No. of participants benefited: 9 families
2. Growth in of participants: No animals have been redistributed to date.
3. of population benefited: 35% -9 families out of a total of 26 families.
4. Livestock growth rate:
Initially 10 animals were distributed, 4 died, and the present total is 14 animals. Several animals were delivered in September 1981 and the others in August 1982 so the project is relatively new. The growth rate is 40% at present.
5. Socio-economic level:
All the families of this community are marginal producers owning land provided by the Land Reform Institute which produces slightly above the basic needs. The only infrastructure is a water system and a road. In some cases the goat pens look better than the people's houses.
6. Achievement of objectives:
The project did not have specific community level objectives this year. CEDEN's national level program objectives and achievements are reported in the Program Progress report provided separately.
7. Socio-economic benefits:
The major benefit to date has been the milk with an average production of a little more than 3/4 bottle per family per day. One family visited

consumed one animal thus benefiting from the meat. Since CEDEN is also giving out powdered milk in the community; the nutritional effect of the goats milk may not make as much of an impact as otherwise possible. Community people need a lot of education in health, nutrition, and housing.

8. Technical problems:

The major problems have been diarrhea, cough (probably caused by parasites), and cattle grubs (called torsalo in Honduras). The cause of death of 4 animals is unknown.

9. Social organization:

There is a community improvement committee (patronato) but all the goat recipients are not members and it does not effectively serve the needs of the goat project participants.

10. Continuation:

Although the participants have received training in goat care and management they are still very dependent on the CEDEN promoter for the provision of medicines and general management supervision. The powdered milk program will diminish the impact of the goat milk and may discourage interest in providing good care and management to the more permanent source of milk--the goats. Successful continuation will depend on decreasing dependence on CEDEN.

11. Passing on the gift:

Information available indicates that this phase of the program has not yet been implemented in this community since the project is still in early stages of initiation.

LAS MIAS:

1. No. of participants benefited: 17 families
2. Growth in # of participants: First 7 families received goats in August '81 and second delivery of 10 goats was made in September '82.
3. % of population benefited: 24% - 17 families benefited out of 70 families in the community with a total population of 300.

4. Livestock growth rate: 41%

Initial stock distributed was 17 animals. Present stock totals 18 animals but 6 animals were redistributed, killed, or died so that the overall growth rate is 41%.

5. Socio-economic level:

All families visited could be classified as marginal producers except the teacher who is earning a stable income. All the families received land from the Land Reform Institute but poverty is very evident.

6. Achievement of objectives:

The project did not have specific community level objectives.

7. Socio economic benefits:

Milk has been the main benefit recuperating a malnourished, sickly child in one instance and making another family that had been receiving free cow's milk from friends self-sufficient. In one case the goat has been trained to come to the door at night when the baby cries so it can be milked! One goat has been eaten in the community so far and the manure has been used to fertilize vegetables. The hide of the butchered animal was used to make a pack saddle. The benefits have been many and varied.

8. Technical problems:

Cattle grub (torzaló) are a serious problem and have not been controlled effectively. Although the community has a small stock of veterinary medicines they are dependent on the CEDEN promoter for resupply. Treatment for illness is basically curative and there is a need to take preventative measures as in the case of the cattle grub. To break the cycle of the grub the community will have to organize and bath all cattle and goats at the same time as often as needed to break the cycle.

The male goat brought to the community was sterile. Females were to be pregnant upon delivery but they were not so that reproduction was set back.

9. Social organization:

Two organizations exist in the community, one including the men who received land from the Agrarian Reform Institute and another made up of the housewives. The recipients of goats meet informally about every 15 days or when necessary to discuss problems or make plans. The most recent meeting was held to discuss taking up funds to establish a kit of basic veterinary supplies which group members will be able to purchase at cost.

The community exhibited their organizational strength by deciding which families would receive goats utilizing the following criteria provided by CEDEN:

1. family does not own cattle.
2. family has small children.
3. recipient agrees to return one off-spring for each animal received.

Once families were selected they also were required to take a course in goat care and management and to build a pen. Women go to the group meetings when their husbands are unable to be present. The community has enacted the 'Radio de Habitación' system whereby each household must fence in their own plot since the animals--goats, pigs, and cattle--have free access to open areas in the community.

Another test of the unity of the community came when a large landholder nearby went to the municipality and obtained an order to stop the community from raising goats. The community rallied, sent a commission of community members to see the mayor and won the case. The land holder had to build his own fence. The ability exists and potential is great for this community to work together on other projects.

10. Continuation:

Community organization seems good if properly motivated and interest is high--17 families have received goats to date and 7 more families are requesting animals. The participants visited expressed the opinion that they have been well trained and can handle deliveries and health problems. One fellow expressed the feeling that the project can't stop because everyone is working together.

11. Passing on the gift:

To date 3 offspring have been returned in fulfillment of the agreement to pass on the gift. It is too early for most of the recipients to have offspring but this philosophy seems to be well understood.

12. Cost-effectiveness:

One comparison we made with the teacher was the cost of using dried milk versus goat milk. She buys the Ceteco brand of dried milk for lps. 10.00 for a 2 lb. can. She uses a can per week or spends an average of lps. 1.50 per day when she uses dried milk. So, if the goat provides enough milk for her child every day it is actually worth lps. 1.50 to her although cow's milk is sold locally for lps. 0.50/liter.

OBSERVATIONS:

The goat project which began 2 years ago in Las Minas, is part of the integrated development program being implemented in the community with the support of CEDEN. The community has constructed a small building which they are using for a kindergarden, periodic clinic, and community meeting place. Care does need to be exercised to prevent the child feeding program from diminishing the nutritional impact that the goat milk can have in each family.

The community does need to work to decrease dependency on CEDEN for the supply of veterinary supplies. If managed well and without credit a kit of basic supplies would be very practical. Emphasis must be given to those things the community can do without the CEDEN promoter. Treatment of animals has been basically curative but it is necessary to take preventative action as well, the case in point being the cattle grub.

A boar was taken to the community of Las Minas in September 1982 for breeding purposes. It was originally given to a group of farmers but was not cared for properly under group management. One farmer is now responsible for caring for the boar and receives one piglet from each litter in return for caring for the boar. He had received 8 piglets as of our visit worth lps. 45,00 each for a total of lps. 360,00. This is the only pig that has been distributed in the region. The boar taken to Las Minas is a 3rd generation offspring of pigs shipped by IPI in early 1981. One of the

original HPI pigs was given to a farmer, an offspring was returned to CEDEN to pass on the gift and this pig was given to another farmer. That farmer returned an offspring which was the pig sent to Las Minas--one good example of 'passing on the gift' in practice.

Another example of the impact of the project is the woman who bought a goat for herself after she learned she was not eligible to receive one through CEDEN because she owned a cow. She was convinced however of the value of a goat and purchased her own.

AGUA SUCIA:

One of 3 communities where teams of oxen have been distributed in the region. CEDEN has purchased a total of 7 teams of oxen--4 teams in the San Pedro Sula region, 2 teams in the San Marcos de Ocotepeque region, and 1 team in the la Ceiba region. There are 27 families in Agua Sucia, a land reform community. A group of 5 farmers are responsible for the cattle and oxen of the community. The president of the cattle group had extensive experience with oxen but one ox was stolen from the team he owned previously. The group fenced off a smaller pasture, close to the community, where the new oxen are kept to prevent stealing and carry fodder to them when necessary.

CEDEN provided a loan of lps. 2,000 for a 2 year period and arranged for the purchase of the oxen--very large, strong, and healthy animals. They arrived 10 months prior to our visit. The president is the main caretaker, and gets first priority for using them, followed by the other 4 members of the cattle group. After that anyone else in the settlement may request to use them. The oxen are rented for lps. 12.00/day and they can plow a minimum of 1/2 a manzana (approximately 1 acre) per day. For the past planting season the oxen plowed 6 manzanas for the cattle group members and 12 manzanas for other members of the community. Calculated at 1/2 manzana per day average the oxen plowed the 18 manzanas in 36 days of work. Multiplied by lps. 12.00 per day this work can be valued at lps. 432.00 or a cost of lps. 24.00 per manzana. The going rate in the area for renting a tractor to plow is lps. 20.00 per manzana, so if a tractor had been rented to plow the 18 manzanas the cost would have been lps. 1260.00. Even calculating the

labor of the person plowing with the oxen (in most areas of Honduras a hired farmer earns Lps. 5.00 - 6.00 per day) at Lps. 216.00 for the 36 days the total of Lps. 648.00 for plowing with oxen doesn't come very close to the cost of using a tractor. The time factor seems to be the main difference which in many cases isn't a limiting factor if planned well.

The group caring for the oxen has had 15 years of experience working with cattle. The president had oxen before, and the animals are filling a need in the community. They are repaying the CEDEN loan when funds are available and have paid Lps. 800.00 to date.

The human element has not been overlooked by CEDEN in Agua Sucia. As in many agrarian reform settlements, alcohol and gambling was a problem, causing tensions within the community. CEDEN has noted a significant change in the community in response to courses they have given covering both technical aspects and human development. The farmers are more cooperative now, more willing to work, and have a better spirit. This is an important, long-term development that is hard to measure but nevertheless significant.

IAS CRUCITAS:

A community where the goat project failed. The evaluating team did not visit this community but CEDEN's analysis is that they did not work as they should have with the community leaders. As a result the project depended entirely on the CEDEN promoter. The promoter delivered young goats and it took a long time to see the benefit in milk or offspring, hindering the creation of enthusiasm for the project. All recipients did pass on the gift returning offspring to CEDEN for redistribution. However, when the CEDEN promoter left the project on its own it disappeared, even though the people reportedly liked the meat and milk. The perceived benefit was not worth the cost and community organization was missing.

CEDEN / SAN MARCOS DE OCOTEPEQUE REGION

CONTACT: Jorge Deras, Regional Coordinator

DATE OF VISIT: February 12, 1983

PLACES VISITED: San Antonio 32 families benefited 5 families visited (16%)
Cololaca 30 families benefited 6 families visited (20%)
San Marcos de Ocotepeque 1 family visited

INVENTORY: (See Program Progress report provided by CEDEN)

SAN ANTONIO:

1. No. of participants benefited: 32 families with 34 goats.
2. Growth in # of participants: First goats were delivered on Feb 22/82 with approximately 50% growth during year.
3. % of population benefited: 40% - 32 out of 80 families in community.
4. Livestock growth rate: 14 offspring or 33% growth rate.
5. Socio-economic level: 2 very poor 3 poor
Evaluation visit took place during the dry season. Land is marginally productive and virtually desolate in dry season. Most families have their own land to cultivate but others have to lease land.
6. Achievement of objectives:
The project did not have specific community level objectives this year. CEDEN's national level program objectives and achievements are reported in the Program Progress report provided separately.
7. Socio-economic benefits:
Since the first goats were distributed in February 1982 they have produced a total of 350.5 bottles (1 bottle = 1/5 gallon) of milk at a monetary value of Lps. 175.25. One offspring was sold for Lps. 25.00. The major benefit has been the milk for the children and the old folks who are sickly or malnourished.

8. Technical problems:

One animal died of bloat (tinpanismo) after being fed moist grain. One goat suffered an inflamed udder and another has a blind teat. Several goats are milking themselves. Mojoral, a local aspirin-based medication, has become a cure-all for goats with stomach ache, poor appetite, or whatever ails them.

9. Social organization:

The Homemaker's Club with 17 members is the main unit in the community. In the beginning the men were selected and trained to receive the first group of goats distributed but it was observed that the women were actually the ones who took responsibility for caring for them and milking them. Subsequent training and distribution was done with the women and the Homemakers' Club became the corresponding community group. A good indicator of the social organization in the community is the fact that they were able to castrate all the local male goats--something that is often difficult to accomplish but is important for controlled breeding.

10. Continuation:

The goat project is only a year old in this community and still developing. Some community members interviewed expressed the opinion that they could continue on their own while an equal number felt the assistance and support of CECEN is still necessary. Three training courses on goat raising and management have been given and the women are taking responsibility for the project. The prospects for continuation are good.

11. Passing on the gift:

The project is relatively new but since some animals were pregnant at the time of distribution two families have already returned the first offspring. This phase of the project is off to a good start.

General Observations:

1. Enthusiasm and complete cooperation are best obtained when the goats delivered are producing milk or are pregnant and will deliver within 2 - 3 months after arrival and immediate benefit can be observed.
2. The project has kept good records of milk production.
3. All the participants visited had built good shelters including some with tile roofs for the goats.

COLOLACA:

1. No. of participants benefited: 30 participants with 36 goats.
2. Growth in # of participants: 50% -15 goats distributed in first group.
3. of population benefited: total population unknown
4. Livestock growth rate: 111% -40 offspring from 36 animals distributed over a 1 1/2 year period.
5. Socio-economic level: 5 very poor
All persons visited were classified as very poor because of the poor, unproductive land in the area. The nutritional level of the children varied drastically from very poor to good.
6. Achievement of objectives:
The project did not have community level objectives this year.
7. Socio-economic benefits:
The milk production has been the main benefit. A total of 3,148 bottles produced since June '81 for a monetary value of Lps. 1,574.00. Four offspring have been sold for a value of Lps. 100.00. The nutritional level of children given goats' milk has visibly improved, but one family visited has a severely malnourished child and does not give her goats' milk because the mother says the child only likes the milk distributed at the feeding center. The same family has a malnourished goat also due to poor care. We were informed on one case where the mother was very sick after childbirth and the newborn was nourished with goat's milk.

Other benefits include the use of the manure in the gardens and the case of one gentleman who wants to sell his male offspring as breeding animals, an indication of the improved quality of the animals.

8. Technical problems:

A number of goats do not have a good appetite and have had difficulty adjusting to forages in the area. One goat had severe diarrhea after being fed moist grain sorghum but a change of diet cured it. A number of goats are milking themselves. Cattle grubs is a minor problem. Six animals have died of Carhunco sintomatico (black leg) which is preventable by vaccination. One goat arrived sick and died soon after arrival, cause unknown. There have also been several cases of stillborn or premature births.

9. Social organization:

An organization of families who received goats meets periodically to discuss problems and plans as well as other matters related to agriculture and the community. The system of sharing responsibility for caring for the male goat doesn't function well. Each participant is to care for the goat for 8 days but some have not been cooperative. The community had a small supply of basic veterinary medicines but it has depleted because they were given out on credit to individual participants and the funds are not available to purchase new stocks. Repayment of CEDEN fertilizer loans in this community has also been a problem.

10. Continuation:

Most of the persons interviewed expressed the opinion that they have been trained and can continue with the project but would like CEDEN to continue to visit and share information and ideas. The problems of sharing responsibility for the male goat and bad management of credit indicate the project is not yet beyond risk and may founder if left on its own at this point.

11. Passing on the gift:

Recipients have returned 17 offspring (47%) to date for redistribution. Some had only received their animals in December '82 so it is too soon for them to fulfill their obligation.

12. Cost-effectiveness:

The CEDEN promoter, Ramiro Hernandez, calculated the costs of acquiring and delivering the goats to the community at Lps. 75.00 per animal. (See section on cost-effectiveness for details.)

General Observations:

1. The procedure followed for 'passing on the gift' is unique in that the individuals to receive animals are taken to the community where goats are to be returned and receive the animal directly from the farmer who is passing on the gift. The new recipient signs an agreement to do the same with the donor farmer or housewife. CEDEN only facilitates getting the 2 parties together. This procedure gives deeper meaning to the process since the donor actually meets the recipient.
2. The selection of goats at the time of purchase has improved with experience and most recent purchases are producing more milk. It has also been noted that goats give more milk after the 2nd and 3rd pregnancy.
3. CEDEN promoters in collaboration with the participants have kept a record sheet on each goat distributed which has information on the daily milk production and offspring. Copies of forms used are attached.
4. One participant devised an ingenious way to encourage his goat to drink water by putting corn in the bottom of a bucket of water.
5. Another recipient wanted to return the same goat he received initially and keep the offspring because he observed the offspring was better adapted to eating local forages and was healthier.
6. The CEDEN promoter in charge of purchasing the goats also bought 2 goats trained to pull a cart to demonstrate another benefit that the goats can provide. The goats pull a cart to bring grass to the other goats.
7. The mile goat, called Colonel, that is serving this community is a purebred Alpine that was born in the CEDEN reproduction center.

8. CEDEN needs to analyze the child feeding program since it can be a limiting factor for a successful goat project. At least the program should encourage and teach mothers who have goats to use the goat's milk for their children and wean the children off the dried milk.
9. Health promoter in cooperation with housewives is weighing children under 5 years old every 3 months. This record will make it possible to measure the effect of the goats' milk on the incidence of malnourished children.

SUMMARY / COMISION DE DESARROLLO Y EMERGENCIA (CODE)

CODE has assumed the responsibility of working with the goat cooperative in Ceibilla, Valle. HPI is providing financial support to CODE to work with the cooperative. Although CODE staff are all experienced in the field of development, CODE is a new organization and is in the process of developing their strategy and 'style'. It would be valuable for HPI to visit other areas where CODE is working, especially animal production projects, to get a better feel for the potential of the organization.

The Ceibilla goat cooperative is a unique approach to goat raising in Honduras given it is a cooperative effort and can serve as a model for possible projects in other areas. The success of the project in the harsh climate of Ceibilla is closely linked to the environmental impact of the goats on the terrain.

The cooperative has been existing for 4 1/2 years without the effective encouragement and support of any institution and continues largely due to the determination and energy of the project leader. The project can serve as an entry point for other development efforts in the community of Ceibilla and the department of Valle.

Based on the above I recommend*:

1. that CODE provide more frequent follow-up and supervision providing technical advice and assisting cooperative members in the formulation of goals and objectives for their project.
2. that CODE conduct a survey of the community of Ceibilla and eventually the surrounding communities outlining an integrated development program linked to the goat project.
3. that immediate attention be given to the environmental impact of clear-cutting trees and goat grazing practices on new land, helping the group find a balance between economic needs and ecological concerns.

See project specific recommendations in attached report.

CODE / Ceibilla, Nacaome, Valle

CONTACT: Julian Garcia Gutierrez

DATE OF VISIT: 9 February 1983

PLACE VISITED: Ceibilla Goat Cooperative, HPI supported project
supervised by CODE (Comision de Desarrollo y Emergencia)

INVENTORY: Goats - 41 mature animals
 42 young animals
 83 Total

1. No. of participants benefitted:

The cooperative was organized by the Junta Nacional de Bienestar Social (JNBS), the government social welfare department, with 18 members in November, 1976. When the JNBS gave the initial loan for the initiation of the project there were only 14 members. At present there are only 9 members, all natives of Ceibilla, but one living in Nacaome and another living in Tequicigalpa.

2. Growth in # of participants:

Decreasing - 50% in 6 years.

3. % of population benefitted:

Population figures were unavailable.

4. Livestock growth rate:

With a loan from the JNBS the cooperative purchased 134 female goats. The present inventory includes 41 adults and 42 young animals for a total of 83 animals. The growth rate has declined significantly. At one time they lost over 40 animals in a period of weeks. Early in the project another 15 animals were killed by antagonists. In November 1982 a total of 21 kids were born and are in good health so the downward trend has hopefully been reversed.

5. Socio-economic level; 7 very poor 2 small producers

Cooperative members living in the local community are very poor. The land is poor and unproductive and the climate of the area is harsh with very long dry seasons. The two members living outside the community have attained a higher standard of living.

6. Achievement of objectives:

The goals and objectives of the project are not well defined. The main objective in recent years was to acquire cooperative ownership of some land and this was achieved with the help of HPI over a year ago. Group needs to define specific objectives regarding reproduction, management of land and animals, and cooperative membership.

7. Socio-economic benefits:

The benefits to the group have been very minimal. They have killed a few animals for meat and sold a few male off-spring. They do not milk the goats because the kids need all of it to get a good start in this harsh climate. Much more has been put into the project, i.e. time, work and capital, than has been received by the project participants. The group president has received some financial remuneration for his daily care of the goats.

The recent acquisition of land has provided some income. The group is cutting all the small trees and brush for firewood, selling it to the people producing salt. They expect to earn approximately Iqs. 30,000 (\$15,000) if they clear out the entire property.

8. Technical problems:

Problems have been many, primarily due to parasites and poor nutrition. Even though all the cooperative members owned goats when the cooperative was formed, they had very little experience in proper management practices. The goats they had were responsible for taking care of themselves and their owners weren't even aware of how frequently they bred, etc. The JHPS had given courses but this was prior to encountering the problems and little knowledge was retained at the time. The assistance of government agriculture extensionists was requested but they were unable to solve the problems

and save sick animals. Eventually after many animals were lost the coop member living in Tegucigalpa obtained the assistance of a Swiss friend working for INFOP (Instituto de Formación Profesional). He took an animal to the laboratory and 7 kinds of parasites were identified. The resulting recommendation was to deworm monthly. In the former location it took young goats 6 months to reach the size of 3 month old animals in the new site, largely due to more and improved grazing. So, with regular deworming and more food the technical problems have largely been overcome.

9. Social organization:

The project virtually depends on and revolves around the cooperative president, Julian Garcia Gutierrez. It is his determination and enthusiasm which has kept the cooperative going and without him it would disappear quickly. The group of 7 members that live in Ceibilla meet on Saturdays to talk things over and plan together. At one time each member took his turn caring for the goats. This style of management resulted in problems since some of the members were more committed and careful than others. The group now pays the president a small amount to care for the animals. He is presently paid lps. 90.00 per month or lps. 3.00 per day. The male offspring are sold to pay this salary. When work has to be done such as building fences or cutting firewood, each group member works equal time, and those living outside the area pay lps. 5.00 for a hired person to do their share.

10. Continuation:

Benefits to date have been very minimal and the existence and continuation of the cooperative project has been touch and go. The land purchase has given new life to the group and the nutritional status of the animals has improved markedly. The future of the project is very precarious because it depends almost entirely on the determination and leadership of one person. He has learned very much from the experiences of the past few years and uses every opportunity to pick up new ideas and information, so as long as he is with the project there is a degree of hope. The future

is brighter than it has been, but it depends to a large extent on the ecological impact the present clear-cutting of timber will have on the land and the water supply and the frequency of follow-up visits provided by CODE.

11. Passing on the gift:

This concept was not incorporated into the design of this project since HPI was not involved in its initiation. However, it is a cooperative so benefits are shared by all group members and there is a sense of sharing and giving. There are no plans at present for the cooperative to 'pass on the gift' to another group although this may be something to consider in the future.

12. Cost-effectiveness:

The investment in this project has been great. The full amount will never be known but the cooperative president estimated that the cost of animals, materials, and labor to date is not less than Lps. 17,000 (\$8,500). This does not include the cost of land purchased a year ago for Lps. 10,000. There is a monthly expenditure of Lps. 90.00 for the caretaker. The supervision and technical assistance provided by the JHNS, OIEB, Ministry of Natural Resources, CODE, and others can never be fully valued. Calculations of the total investment may be difficult at this point but some records are available and a close estimate should be attainable.

The original breeding stock purchased locally cost Lps. 30.00 each for 134 females and Lps. 200.00 total for 3 males, for a total value of Lps. 4,220. The going rate at present for breeding stock in the area is Lps. 60.00 each. Calculated at this rate the value of the 41 adult animals the cooperative has presently in existence is Lps. 2,460.

GENERAL OBSERVATIONS

It appears that some assumptions were made by the JHNS when this project was initiated that weren't valid, the main one being that since all the members of the cooperative owned goats they knew how to manage

and care for them. The management of a herd of goats proved to be much different than the style of home management which is characteristic of most animal care in Honduras, letting the animal fend for itself almost entirely. The cooperative members did not really 'care' for the goats they owned, and some members even thought the goats had 3 gestations per year at that point!

The project began in 1976 when the JNBS visited Ceibilla and said the government would give a loan if a goat cooperative was organized. Eighteen families joined the group, acquired some land on loan to try goat raising, and started fencing with the promise of funding in January 1977. The first loan was finally released in October 1977 for wire and cement. When the corral was finished funds for the purchase of the goats was promised but didn't arrive until July 1978. The goats were purchased (134 females and 3 males) and the problems started. Mortality was high and morale low but 9 members of the original group persisted. JNBS cooperative became increasingly infrequent and the loan was eventually written off. Purchased males and a loan for the land purchase were acquired from HPI via CEDEN on the recommendation of Tim Wheeler. When CODE was organized and employed the personnel that had worked close with the cooperative in Ceibilla, the responsibility of the project was transferred from CEDEN to CODE and HPI continues to support the project through CODE. The department of Valle, where Ceibilla is located, has been selected as one area of emphasis by CODE and plans were to do the baseline surveys and establish specific goals for the project in March. As of February CODE had not received any of the financial support from HPI corresponding to the 1983 fiscal year.

During the past 4 1/2 years the cooperative members have learned a lot from experience and the advice of others, but the learning process is not over. The HPI supported purchase of land gave a breath of new life to the cooperative but unless great care is taken that 'new life' may be short lived too. Clear cutting timber, over grazing, soil erosion, and lack of water are all factors that could spell ruin. Careful analysis and planning is crucial.

The group is very open to advice and suggestions and are eager to learn. During his December 1982 visit Edgar Fuentes, HPI representative, recommended they dig a watering hole along the stream bed to assure a water supply during the dry season. This was completed when we visited in February and they had also chiseled out rock to collect water in another area where there was water seepage, both examples of their desire to learn and work.

As the cooperative president says, the cooperative should have begun on a smaller scale with only a few animals until experience was acquired and problems overcome. In his words, "it is better to start with a small store than a supermarket".

Since a lot of goats are traditionally grown in this region of Honduras it is very likely that CODE in cooperation with other agencies and institutions in the area could work with other goat raisers too in the future. This could be a valuable outgrowth of the beginning in Ceibilla.

SPECIFIC RECOMMENDATIONS:

The cooperative of Ceibilla will need careful guidance and close, continuous follow-up for the next few years. The success or failure of the project revolves around the energy and skills of one person presently and a broader based organization is vital for future success.

1. Establish together with cooperative members specific management and reproduction objectives for 1983 as soon as possible.
2. Define responsibilities and rights of each cooperative member including those not living in the local community.
3. Educate the group regarding the ecological impact of clear-cutting timber and overgrazing.
4. Encourage the planting of green belts of grasses and forage trees on the contour for soil and water conservation and feeding.

5. Lay out a small plot of irrigated land for growing forage grasses.
6. Assure close technical follow-up so that recent reproduction gains can be maintained and increase.
7. Incorporate goat project into other development related activities in the community, i.e. nutrition.
8. Plan for the regular exchange of experiences and information between the different geographic areas where CODE is working with goat projects including field trips with actual project participants.

SUMMARY OF RECOMMENDATIONS / Reproduction Centers

There are 4 reproduction centers operating in Honduras that have received HPI support. All the centers are reproducing goats, one center has Katahdin sheep, and one center has donkeys. The location of the centers provides a good mix of different eco-systems in Honduras and are strategically located geographically. The institutional affiliation and location of each center is as follows:

- | | |
|-----------------------------------|-----------------------------------|
| 1. CEDEN | Aldea Guyabal, Lake Yojoa, Cortés |
| 2. Panamerican Agriculture School | El Zamorano, Francisco Morazan |
| 3. Ministry of Natural Resources | Nuevo Ocotepeque, Ocotepeque |
| 4. " " " " | Catacamas, Olancho |

Communication and cooperation between the centers operated by the different private and government agencies is virtually non-existent. There is a need for communication so they can learn from each other's experiences and for coordination so that they have each other to depend on in periods of crisis. It would also be valuable to compare notes on production results in the different climates and environments.

In addition to the specific recommendations for each center (listed with the report on each center) a few general recommendations are in order:

1. Work closely with each specific center to establish improved record keeping for breeding, reproduction data, deaths, and animals distributed as well as records of income and expenses to be used for cost-benefit analysis.
2. Establish irrigated plots of forage grasses at all the reproduction centers.
3. Study ways to overcome the limiting factors of frequent personnel changes--a problem in the Zamorano and Catacamas centers--and erratic, inconsistent release of funds within government affiliated centers.

4. Give priority emphasis and support to the CEDEN center at Lake Yojoa and the Panamerican Agriculture School center at El Zamorano.
5. Work immediately toward a diversification of funding sources for the CEDEN center to decrease dependency on only one source--HPI-- and generate broader interest in the project.
6. Establish a detailed agreement with the Panamerican Agriculture School regarding the establishment of goat and sheep herds and plans for redistribution of offspring to other projects in Honduras.
7. Utilize some straws of semen donate by HPI to the Panamerican Agriculture School to improve the blood lines of goats at the CEDEN reproduction center.
8. Analyze in cooperation with all persons in the Ministry of Natural Resources with some responsibility for the reproduction centers whether the Ministry can effectively operate a center considering the restraints of the management hierarchy, erratic availability of funds, and difficulties providing good community level preparation and follow-up.
9. Transfer best animals from the Ministry of Natural Resources reproduction centers in Nueva Ceotepeque and Catacamas to CEDEN and/or the Panamerican Agriculture School if management problems continue to persist in the government centers.

CEDEN REPRODUCTION CENTER / Aldea Guyabal, Lake Yojoa

CONTACT: Samuel Martinez, Program Director, CEDEN
Alberto Gonzales, Center Caretaker

INVENTORY: (January 31, 1983)

Goats: 5 adult males
 8 young males (3 - 5 months old)
 20 adult females
 4 young females
 37 TOTAL

Donkeys: 1 jack
 4 jennies
 5 TOTAL

BACKGROUND:

For a number of years CEDEN maintained 2 reproduction centers located in Pinalejo, Santa Barbara and in La Ceiba, Atlántida. With HPI support a new property (7 1/2 manzanas or approximately 16 acres) located along the Tegucigalpa to San Pedro Sula highway and near Lake Yojoa was purchased in December 1981. The intent was to consolidate the two centers into one that was well equipped and well managed. A small center still exists in La Ceiba which will eventually be phased out when the new center is equipped to hatch and raise ducks.

Two well constructed sheds have been built to house goats and another one for donkeys. A small storage shed for feed, medical supplies, and tools was also built as well as a house for the caretaker and his family. While the property was partially fenced, improvements have been made with more strands of wire and some additional pasture divisions.

The property borders a river and a small stream flows through it although this stream may be a source of parasites since a piggery is

located upstream. The pastures are relatively well-established and clean.

Goats received by CEDEN from HPI in the past were all taken to the Pinalejo or La Ceiba centers. Some animals from these initial stocks were lost because conditions at those centers weren't adequate. This prior experience is guiding the preparation and management of the new center.

NARRATIVE EVALUATION:

The conditions of the new reproduction center were good at the time of the visit. It can be improved with irrigation, improved source of drinking water for the animals, and irrigated plots of forages.

Several animals have died--one from arthritis and several from Carunco sintomatico (black leg) after delivery to the community--or were killed because they had tuberculosis. A heavy infestation of parasites was successfully treated.

The management of the center appears to be good. Careful records are being kept of breeding, medications given, deaths, and the number of animals distributed and returned. The male goats are kept separate and breeding is controlled to maintain purebred strains. The present procedure is to loan purebred male goats to a given community and then bring them back to the center if they become debilitated or need recuperation, or if the community needs a new male with a different bloodline for breeding the offspring.

The center is only a year old but a good beginning is evident. The future depends on keeping dedicated people in charge and the necessary commitment of financial support. It would be wise for CEDEN to solicit other organizations for support of various aspects of the center. HPI is presently the sole source of financial support for the center and a more diversified base of support is necessary for a stable future.

The main function of the Reproduction Center as viewed from the community has been the supply of purebred males for breeding. In all the communities visited the original goats distributed were all purchased in the country except for the male goats. In order for the goat stock in

the projects to improve in quality and production it is necessary to maintain a source of purebred animals, especially males. The only reliable source of quality purebred animals in Honduras at present is this CEDEN center.

The one jack and four jennies maintained at the center for reproduction purposes looked in excellent condition. They are fed a concentrate to supplement their nutritional needs. The major consideration of this project is the sizable expenditure that is necessary to maintain these animals. Alternatives to the large amounts of feed (100 lbs. daily during the dry season) need to be found to lower costs. Good mules are in demand throughout the country bringing higher prices than horses in most communities. Quality jacks are the key to the production of good mules and the animals at the CEDEN center are the only breeding stock of quality jacks in Honduras at the present time.

SPECIFIC RECOMMENDATIONS:

1. Establish irrigatable plots of quality forage grasses.
2. Investigate methods of purifying stream water as a drinking source or, as a secondary alternative, connect to the community water system.
3. Begin keeping careful and separate records of expenses corresponding to the reproduction center including personnel costs to provide a basis for future cost effectiveness analysis.

Panamerican Agriculture School Reproduction Center / El Zamorano

CONTACT: Dr. Miguel Velez
Departamento de Ganadería

INVENTORY: (February 8, 1983)

Katahdin Sheep:

	Rec'd	Died	Present Stock
Rec'd: October 1981 Adult females	24	- 1	= 23
Adult males	4	- 0	= 4
Total			27
Offspring: October '81 - January '83 Females			10
Males			12
Total			22

Present Stock: 49 total animals.

Goats;

Rec'd: No record of the exact number of animals rec'd from HPI was available; 200 straws of frozen semen were rec'd in October 1981.

Present Stock: 60 adult animals total (1 male & 59 females)

BACKGROUND:

HPI has provided animals to the Panamerican Agriculture School (EAP) since the early 1970s when Kermit Adams was the director. However, for this evaluation we were only concerned with the goats and sheep which have been received more recently. (The writer did not know EAP has also received plus--five boars of five different breeds--until after our visit when Tim Wheeler, former HPI representative, presented a report, so we did not see or get information on these animals.) Since the receipt of the sheep and goats there has been a change of personnel in the department. Following the departure of Carlos Bascha there was a lapse of 6 months

before Dr. Miguel Velez (Colombian) was appointed head of the department. During this interval minimal attention was given to the sheep and goats, and the lack of good management left its mark. The present condition of the animals is fair and even though sufficient amounts of silage or hay were not prepared in advance of the present dry season the school is providing concentrate and making every effort to feed the animals adequately.

The goat herd had been established as a reproduction herd to provide purebred offspring of 4 breeds in Honduras. The Katahdin sheep were originally intended for shipment to Africa or another area of the world, but when the original project did not materialize HPI was looking for a place to send them. They arrived in Honduras in October, 1981.

NARRATIVE EVALUATION:

Dr. Miguel Velez is genuinely interested in building and improving the goat and sheep herd. Educational institutions in Latin America in general are giving more emphasis to goats and Velez would like to see EAP give more emphasis to the study of small animals in the program. Until now the curriculum has not included goats and sheep, but Dr. Velez plans to formalize this area of study. He is making contacts with Winrock International to arrange and fund a Seminar on Small Animals. He also has 3 students assigned to work with the goats and sheep for 3 months in completion of their thesis requirements.

The present herds can be maintained with the present school budget allotment but to improve and expand the herds more funds are needed. Dr. Velez is completing 2 proposals to cover the cost of purchasing additional animals, a person to be in charge of the project, vehicle, equipment, and scholarships. He is requesting \$130,000 for a 3 year project to expand the quality and quantity of the goat herd. The proposal for the Katahdin sheep program is \$80,000 for 3 years.

Sheep: The stated purposes of the Katahdin sheep program are:

- reproduce the breed and increase the size of the herd;
- study adaptation and reproduction in the tropics;
- establish a regimen of good management practices for the tropics.

From observations made by Dr. Velez he feels the Katahdin breed is not yet well established and still requires careful selection. Until now the sheep have all been together so that it is impossible to do any selection when there is no way of knowing which ram is the father. The rams will now be kept separate and good records kept so proper selection can begin. To do good selection he believes 80 - 100 ewes are necessary. The plan is for the flock of ewes to have one ram for 45 days, then 5 days interval without any ram, followed by a 45 day period with another ram. The sheep will be managed like beef cattle, grass fed on good pastures with a concentrate supplement only in the dry season when necessary.

If information given is accurate there is a need to encourage sheep production. Mutton is presently imported from New Zealand and sheep production is on the decline in Honduras. The census indicates that in 1974 there were only 2,900 head of sheep as compared to 36,000 in 1952.

Goats: The stated purposes of the goat program are:

- to establish a good herd of milk goats with pure stock of the breeds Alpine, Sanaan, and Toggenburg and a small herd of native goats for comparative purposes;
- to do basic investigation, develop recommended management practices for goat production in the tropics, and teach these practices to the students.

In order to fulfill the objectives better facilities are needed. The school is reconditioning a small building as a milking parlor, making small pastures for small goats and to keep the male goats separate from the females, and improving pastures for grazing. The plan is to maintain 3 pure breeds together with a small herd of native goats. The Nubian breed will be eliminated since it is more readily available in Honduras and Dr. Velez does not believe it is as good as the other breeds for milk production. The breeding program will be planned to fit the local climate to avoid the need to provide concentrate supplements to pregnant ewes during the dry season. The breeding schedule will provide for 3 pregnancies in a 2 year period. To arrange an appropriate and economical management program the cost-benefit aspects will be studied carefully.

60

PASSING ON THE GIFT:

All but 8 goats have been returned for distribution to other projects as agreed. The returned animals went to the Reproduction Centers managed by CEDEN and the Ministry of Natural Resources. The quality of the returned animals was reportedly not the best. No sheep have been returned to date. Benefit from the original HPI gift has been limited both educationally and in direct animal redistribution but with new emphasis this should change.

SPECIFIC RECOMMENDATIONS:

1. Give special attention to better breeding and record keeping.
2. Formulate an Agreement of Preference (Trato de Preferencia) between the School and the Interagency Committee which allows for the notification of the agencies affiliated with the Committee of the availability of offspring before they are sold to private individuals or other groups.
3. In the future evaluate the effect of HPI assistance to the School by the degree of institutionalization of the goat and sheep projects to be measured by such indicators as the amount spent on infrastructure, inclusion of specific courses in the school curriculum and the number of students doing their thesis on either sheep or goats.
4. Work with the department to develop better cost-benefit analysis.

61

Ministry of Natural Resources Reproduction Center / Nuevo Ocotepaque

CONTACT: Dr. Ivan Flores, Regional Director, Santa Rosa de Copan
Hugo Roberto Aguirre, In-charge of Center

INVENTORY: (February 12, 1983)

10 male goats - all ages

41 female goats - all ages

51 Total

Records indicating exact numbers of animals received, deaths, and reproduction were not available.

BACKGROUND:

The Ministry of Natural Resources Reproduction Center (Centro Caprino) was opened in Nuevo Ocotepaque in January 1981. The initial stock (15 females and 5 males) were offspring of goats originally imported by IPI and delivered to the Panamerican Agriculture School in El Zamorano. This center was to be one of several to be established by the government in different parts of the country, to encourage and facilitate increased goat production among small farmers.

(The second center was started at the National Agriculture School in Catacamas in January 1982 with stock received from IPI/USA. The evaluating team did not visit the center in Catacamas because the Ministry was in the process of changing personnel. The team was of the opinion that a visit should be made when the new staff was on hand to talk to and discuss the evaluation.)

The Ministry has assigned an extensionist to be in charge of the center in Nuevo Ocotepaque and several laborers. The extensionist, Hugo Roberto Aguirre, who is a trained artificial inseminator and worked in the Ministry's insemination program, has been in charge of the center since it opened. In addition to the goats they had 3 pigs and a number of beehives at the time of our visit.

NARRATIVE EVALUATION:

The visit to the center took place in the dry season and it was evident that, as we were told, forage for the animals is a serious problem during this time of year. The animals were being maintained on forage trees (maguelizo and cabulote) and rice bran which had been exhausted at the time of our visit. The water supply for the animals is good. An irrigation system was completed recently and merkeron and napier grasses had been planted but were not yet in full production.

We were told that 5 animals had died since November 1982. Some are dying of undiagnosed causes but others are dying when giving birth because they were bred at too young an age. This uncontrolled breeding is due to the fact that all animals--male and female, young and old--are all together in one enclosed area. This arrangement also makes it impossible to keep breeding records and maintain purebred or quality animals. The center has purebred Alpine and Toggenburg bucks but the offspring are a motley mixture of crossbreeds.

The workers in the center had previous experience working with livestock. They expressed discouragement with the management process and the status of the animals. Management decisions on financial matters and distribution of animals are made in the regional office in Santa Rosa de Copan indicating that distance and lack of communication are a source of difficulty.

Plans and procedures for the distribution of animals from the center are not well defined. We were shown a letter instructing the center to distribute male goats on loan to farmers but without clear plans for follow-up and training for the recipients.

One of the main limiting factors to the efficient operation of the government reproduction centers is the erratic and inconsistent release of funds. It is almost standard procedure for the Ministry of Natural Resources to freeze the release of all funds except salaries the last 2 - 3 months of each year and seldom are funds released for 2 - 3 months into the new year until the budgetary process gets working. So for a period as long as 6 months the center cannot rely on receiving funds for purchasing feedstuffs, medicines, and other operation expenses.

6

Considering that this is a repeated problem it should be possible to do some advance planning and purchase and store supplies needed for the period when funds are not available. Until this situation with its resultant hardship on the animals is overcome the center cannot be a reliable, self-sufficient local source of quality animals as proposed.

PASSING ON THE GIFT:

The original agreement was that the Ministry of Natural Resources would return 10 female and 10 male goats from the reproduction center in Nuevo Ocotepaque. No animals have been returned or distributed in fulfillment of this obligation to date.

SPECIFIC RECOMMENDATIONS:

1. Separate animals by sex and age and improve breeding practices and record keeping.
2. Give continued special attention and care to the irrigation system and plots of forage grasses.
3. Define plans and procedures for distribution of goats to local farmers.
4. Conduct a careful analysis of the operating costs as a tool the Ministry of Natural Resources and other programs can use to evaluate the cost effectiveness of reproduction centers.