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APPENDIX D

CONSIDERATIONS OF COST-EFFECTIVENESS OF ANIMAL PROJECTS PROMOTED BY COMMUNITY GROUPS; BASED ON FIELD VISITS TO PROJECTS FUNDED BY HPI

Introduction

The purpose of this report is to convey results from the field visits to projects of private voluntary agencies (PVOs) supported by Heifer Project International (HPI) in Honduras, Haiti, and the Dominican Republic. The results concern the following:

- Approaches and issues in evaluating the cost-effectiveness of PVO projects, especially those dealing with animals.

- The cost-effectiveness of the specific projects reviewed.

Honduras

The field visits in Honduras, the first stop for the evaluation team, impressed on me again the priority which the assessment of effectiveness per se has in the whole effort to appraise cost-effectiveness. The Honduras visit helped clarify the attribution of benefits in the passing of the gift. The visit also required reflection on the role of in-kind materials and labor in the important task of estimating participants' costs.

The actual assessment of cost-effectiveness focused on the CEDEN goat projects. I gave less attention to the reproduction centers. The rabbit, pigs and duck projects did not warrant assessments of cost-effectiveness.

Evaluation Approaches and Issues

Effectiveness

HPI already uses readily available indicators of project effectiveness for its animal projects:

1. Is the stock of animals cared for by participants increasing or at least being maintained?

2. Are most of the current animals healthy -- either those kept by participants or by reproduction centers?

3. Is the cost of producing animals for distribution in a production center less than the market cost of purchasing animals of similar quality?

Negative assessments indicates lack of effectiveness, therefore lack of cost-effectiveness also. The above questions and others like them emphasize that judging project effectiveness is a priority task in evaluation before the assessment of cost-effectiveness.

These questions also serve as a reminder that although losses incurred in the start-up period from such factors as high animal death rates may indicate an overall negative assessment of cost-effectiveness, the implications of this assessment for future action must be applied discriminated.

The analyst must separate judgments about whether a particular kind of project should be replicated and whether a particular ongoing project should be continued. From the viewpoint of cost-effectiveness analysis, a negative assessment of current projects indicates that HPI should not begin similar efforts under similar conditions. However, this assessment does not necessarily indicate that HPI should terminate the particular projects in question because of cost-effectiveness considerations. In deciding whether or not to continue a current project, the analyst must remember the often-repeated rule that sunk costs do not count. That is, past expenditures do not count either positively or negatively. Just as the fact that substantial funds and time have already been invested is a poor reason to continue a project, previous losses are insufficient cause for termination. The question from the viewpoint of cost-effectiveness assessment is rather: will the benefits from now on exceed the costs from now on? This is a difficult point for me, because it tends to contradict my prejudice that PVOs and other project developers too often continue a project after they have learned that it is not working well. This consideration has implications, for example, in the Honduras duck projects.

Some of the calculations and assumptions made in assessing the CEDEN goat projects warrant comment for further work in assessing the cost-effectiveness of animal projects. Benefits in the form of the passing of the gift and increase in stock during the year might escape some analysis. The obligation to pass the gift represents a kind of debt for a HPI local project participant. If during the year the participant has passed on a goat, this obligation is fulfilled and the net worth of the participant has, in

effect, increased by the value of the repaid debt, that is by one goat. In subsequent years, the participant will pass on a gift and her stock of goats will increase more. However, the evaluator has to be cautious not to double-count the passed-gift goats. If some of these goats were given to people in the same village, they might show up in the aggregate figures of the project as part of a net increase in the stock during the year. They should not be counted as both a benefit of a repaid gift obligation and an increase in stock.

Participants' Costs

The Honduras HPI projects again indicate both the importance and difficulty of estimating participants' costs. It seems that participants' cash expenditures and perhaps their required labor are generally greater than program staff anticipated or even now realize. The Honduras visit also raises issues of how to define the participants' costs and how to collect the required data.

The definition of costs required some arbitrary decisions and conventions. For assessing cost-effectiveness, we normally count as costs participants' cash expenditures and the value of material contributions, but not the value of other in-kind contributions in labor. The convention of not attributing as the participants' cost the value of their labor is based on a few considerations. This convention reflects the participants' and project leaders' own way of viewing income in which returns to labor are enjoyed as income and provide an improvement in welfare. It also reflects the economist's assumption that labor is in surplus supply and therefore does not constitute an economic cost.

However, during the field visit discussions, Connie Schmidt pointed out that village women caring for generally large families without any modern conveniences did not have free time for engaging in animal production and other community projects. Women participants in one goat project confirmed this observation on the limits of their labor in reporting that they hired men to provide the wood and construction for some of the goat pens. We continue the convention of not counting participants' labor as a cost, but should be aware of the effect of the amount of required labor on all aspects of the participants' live project, including their net benefits.

Other field experience in Honduras illustrates the difficulty of some decisions required in allocating participants' costs. Many participants buy feed for their goats during the dry season or give them corn from the family's storage. The purchased feed is clearly a participant cost. But what about the corn? Does the corn provided represent mainly the use of family labor, just like the cutting of forage, which is not counted as a cost according to the convention adopted? Labor turned into products such as corn which are readily marketable, should be charged as a cost at the local market sales value of the product. Furthermore, in the case of corn, even if the family does not mormally sell corn, corn used for animal feed may later need to be replaced by buying food for the family sometime before the next corn crop comes in. Certainly, in some instances, feeding grain to animals represents a kind of storage of grain which would otherwise be lost to pests; thus some of the grain fed to animals does not have an opportunity cost to the family. Nevertheless, on the whole, the valuation at market rates seems to provide a better and more consistent expression of participant costs. Cut forage, for example,

would be less likely to have a local market value and is therefore treated as representing participant labor rather than as a saleable commodity with an opportunity cost.

Cost-Effectiveness of Honduras Projects

Reproduction Centers

Of the four reproduction centers supported by HPI in Honduras, only the one operated by CEDEN has a current program of sufficient effectiveness in terms of HPI objectives to warrant a cost-effectiveness assessment. However, this CEDEN Center near Lake Yojoa is just a year old and a full-scale assessment still does not appear warranted in this case either. Already there are signs of how a later assessment of the cost-effectiveness of the CEDEN Center might turn out. The assessment would have to treat separately the production of donkeys and of goats at the CEDEN Center.

The Center's breeding of quality jacks for the production of mules provides the only quality donkey breeding stock in the country, so no readily available comparisons with other potential sources of supply of these animals is possible. A long-range study might indicate whether the market price for mules indicates the possibility of the Center producing mules without subsidy.

Also, no firm cost-effectiveness data were calculated for the reportedly well-run production of breeding goats. As was the case for the donkeys, no ready supply of pure-bred breeding bucks is available in the country, although

the pure-bred bucks are not quite as rare as the pure-bred donkeys. Initial capital expenses for the Center were probably about U.S. $20,000, including $16,000 investment in land for the center, plus the construction of a donkey shed, two goat sheds, and a caretaker house. An annual opportunity cost of 7.5 percent of the capital expenditure would be about U.S. $1,500. (We are a low rate of opportunity cost because the land should not depreciate; it will actually rise in value in current dollars unadjusted for inflation.) The share of the annualized capital cost attributable to the goat production would be about $1,000.

Operating expenses for the goats include frequent purchase of feed, medicine, and a resident managers' salary. No costing of the goat operation separate from that of the donkey production would have been possible without some days of study. Probably, the goat production requires a continuing annual subsidy of about U.S. $3,000-$4,000 dollars for operating expenditures. So we can estimate total annual cost, including the opportunity cost of capital at $4,000-$5,000. Currently a pure-bred breeding buck has a market value of about $100 in Honduras. The Center would therefore have to distribute about 40-50 bucks a year (whether or not they were sold) to reach a break-even point in which the value of breeding bucks produced was equal to the cost of the goat operation. Given a herd size of 20 adult females, it will require some years of growth of the herd's own breeding stock before the break-even level of production is reached, although it is not beyond the range of what could be possible within a few years. But at current methods of operation, the larger future herd may also require a larger subsidy and the break-even point may never be reached.

If the pure-bred breeding bucks produced by the Center were valued at the cost of importing similar animals, perhaps $350 per buck, then the Center could soon be at the break-even point. However, there are really no market indicators of this higher price for bucks in Honduras and it does not appear warranted for valuing the Center production in this instance.

Goat Projects

This assessment focuses on the goat projects conducted by CEDEN and supported by HPI. HPI support for other livestock programs involving three other species of livestock have not resulted in effective, on-going projects and no separate assessment of cost-effectiveness was warranted. These other animal species are Kahki Campbell ducks, pigs, and rabbits. Donkeys, a fifth species are mentioned in the discussion of reproduction centers.

The CEDEN goat project provides a good opportunity for the assessment of cost-effectiveness, in terms of type of project, age of the project, availability of information, and level of interest of the local agency. The project provides products which can be valued, milk and goats. The project is already in operation in a number of communities, in some of them for 1 1/2 years. These older project communities provided the basis for estimating 1983 results in the newer project communities as well.

The project collects generally verifiable information on goat milk production, sales of animals, passing of the gift, and increase in the stock of animals. CEDEN had already estimated the value of milk and meat production in

various villages. The CEDEN project administrator has offered leadership and a system for the collection of information. Staff members of the regional centers and local promotors are involved with the participants in the generation and collection of data.

I worked with CEDEN personnel and the HPI consultant in Honduras in various refinements of the data and in compilation of data to expand and integrate the information and provide a projection of current benefits in comparison with costs. To the previously calculated benefits, we added benefits of the passing of the gift and of the increase in stock. We developed a "shadow price" or alternative price by which to value milk produced. We estimated a 45 percent proportion of HPI contributions to CEDEN in 1980-82, being spent for the goat projects and their support. It appears that almost all funds used in CEDEN for goats projects and related activity came from HPI.[1] We estimated participant operation costs per goat and net benefits per goat in certain older projects in each of four regions (Table 1; footnotes present assumptions). Interviews with participant groups and individual participants and estimated by promotors formed the basis for these estimates. We used these estimates of net benefits per goat to project annual net

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1. There was considerable discussion and no ready agreement on what proportion of HPI grants to CEDEN were expended for goat projects. The 45 percent estimate does not represent a highly reliable figure and one participant in the evaluation thought the correct proportion would be closer to 60 percent. The resulting U.S. $83,000 expenditure is approximately the same as would be obtained by removing the designated $23,300 San Marcos Burros project from the funding total and allocating 50 percent of the remainder to goat projects.

Table 1. Costs and Benefits of Selected Goat Projects Assisted by CEDEN Honduras, 1982

Region/ community	Participants	Animals	Costs				Benefits					Net benefits		
			Pens annualized[a]	Medicine[b]	Food[c]	Sub-total	Milk	Meat and sales	Passing of gift[d]	Income in stock[e]	Sub-total	Total	Per participant	Per animal
	-------Number--------		----------Limpiras[f]----------											
Colulaca, San Marcos	30	36	510	150	660	1,320	1,574	100	1,190	600	3,514	2,194	71	61
Central Region	51	78	867	390	1,716	2,971	4,993	693	800	4,750	11,236	8,263	162	106
La Ceiba Region[g]	52	78	884	390	--	1,274	4,012	1,500	3,220	3,100	8,482	7,208	139	92

a. Lps. 50 expenditure per participant, depreciated over 3 years of Lps. 17 per year, times number of participants.
b. Medical cost at Lps. 5 per animal at start of year.
c. San Marcos: 5 months' feeding of corn = 150 days at Lps. 0.15 per lb. daily = Lps, 22 per animal at start of year (young animals born during the year will not receive a significant amount of feed); La Ceiba: grazing all year; no feed cost.
d. Lps. 70 per head for females which predominate in passing of gift.
e. Lps. 50 per head (increase in stock is net of replacement of animals).
f. Lps. 2.00 = U.S. $1.00.
g. 4 villages in which the project had begun before 1982.
Source: CEDEN, Honduras; RRNA.

benefits in all the projects which CEDEN had in operation by early 1983.

These annual net benefits are then compared with HPI contributed costs in 1980-82. Per-goat net benefits range from Lps. ($U.S. $31-58, Table 2) 61-106. At this stage relatively early in the project life, few participants have more than two goats, so per-participant benefits just range up to twice the per-goat value. The total expected beneficiary net value from goats is estimated at Lps. 36,666, or about U.S. $18,000 in 1983. This amount is 22 percent of the estimated $83,000 HPI investment in the project in the three previous years.

However, the local market price of goat milk, Lps. 0.40-0.60 per liter, at which the project milk production was valued may not fully reflect the value of the milk to the participants and to the project agencies, given their objectives. Participants give almost all the milk produced to infants and small children; this targeting of benefits and beneficiaries corresponds to the HPI and CEDEN agency priorities. CEDEN staff and Wilmer Degen, HPI consultant for the evaluation in Honduras, calculated the cost of powdered milk, which is fed babies when families can afford it, at Lps. 1.83 per liter, which is three to four times more than the local market price used for valuing the goat milk. Using the powdered price as a kind of shadow price for the value of the milk would more than double the net benefits, and therefore would more than double the annual rate of return on HPI investment to more than 40 percent. A definitive decision on which price or prices to use would require further study, especially of the availability of goat milk, cow milk, and patterns of village use of powdered

Table 2. Projected Benefits of Goat Projects Assisted by CEDEN Honduras, 1983

Region	Goats at start of year	Projected benefits per goat[a]	Projected total benefits
	---Number----	----------Limpiras[b]----------	
San Marcos	130	61	7,930
Central	100	106	10,600
La Ceiba	160	92	14,720
San Pedro Sula	56	61	3,416
TOTAL			36,666[c]

a. As in Table 1; factor for San Marcos used for San Pedro Sula.
b. Lps. 2.00 = U.S. $1.00.
c. 22 percent of estimated expenditures of Lps. 166,320 in 1980-82.
Source: Table 1; RRNA.

milk. Quite likely the real value to the project represents a return at least considerably higher than 22 percent.

Besides its positive result, the CEDEN goat projects are of interest in demonstrating the possibility for the collection of data in a way which enhances the participation of beneficiaries. Information on milk production is collected by many individual participants and recorded on a daily calendar. This information is then aggregated on a village basis. I am not certain that this is done in a community meeting, but that procedure would allow participants to judge their progress as individuals and as a group. The CEDEN data collection also demonstrates that the development, maintenance and understanding of a whole system of data collection appropriate for cost-effectiveness assessments is possible within a locally managed agency which has good, but not necessarily highly trained professionals and paraprofessionals.

Haiti

The field visits in Haiti raised a number of issues concerning evaluation methods for HPI and other sponsors of small animal projects. One issue is the treatment of the claim that a project will not be producing benefits equal to costs in the foreseeable future because it is really "research and development." Or the R&D discussion can be generalized and the question can become simply whether projects in a very poor and underdeveloped society which do not appear cost-effective can nevertheless be "worthwhile" in terms of some other long term objectives.

Most projects visited in Haiti did not appear cost-effectiveness. The projects visited illustrate at least five different reasons why PVO projects may fail to reach a satisfactory level of cost-effectiveness.

Evaluation Methods for HPI

Research and Development

The evaluation in Haiti raised the question of assessing situations in which the project leadership views the effort as experimental, "R&D", as described by one HPI participant. In effect, to designate a project as R&D is to hope for one of the two following outcomes:

1. The expected benefits will be large but they are far in the future so that the time when they will begin cannot be ascertained; at the same time the expected benefits are of such a magnitude that if the expected outcome is achieved, the project will certainly be cost-effective. Thus the evaluator should focus on the question of whether the expected outcome will be achieved. More precise estimates of benefits are not necessary.

2. The kind of results expected cannot even be projected clearly, but if the R&D comes up with some discovery or some organizaional breakthrough it could conceivably change the technological or social boundaries within which poor people in a given country operate; dynamic factors could be brought into play that would provide benefits far greater than any current R&D expenditures.

Consideration of some questions can indicate the validity of the claim that a (relatively expensive) project represents a justifiable R&D expenditure. Affirmative responses tend to reaffirm the validity of the project as an R&D effort; negative responses tend to call the claim into question:

- Does the project represent something new -- technically or in community organization -- not previously attempted in the country, or at least in the region?

- Are a substantial part of the costs per beneficiary or per level of output related to the experimental nature of the project; that is, will the costs be significantly lower if the project moves from R&D to full-scale implementation?

- Is the R&D project being carried out at the smallest possible scale required for the test (that is, does it avoid an unnecessarily large-scale and expensive effort during the test stage)?

- Does it appear that a successful outcome, if replicated on a larger scale, would be cost-effective?

- Does the project plan contain at least an elementary evaluation design with a statement of what is being tested, what information on effects is required, and how this information will be assessed?

- Is the project agency collecting and organizing the data required to evaluate the project?

Costs of Operation in Very Poor Countries

In the January meeting of HPI to prepare for the evaluation and field visits, one HPI staff member suggested that projects will be more expensive if the beneficiaries are very poor and the society is very underdeveloped. Haiti certainly provides the opportunity to contemplate this possibility. It is marked by the absence of prior development and inertia, by the need to organize illiterate and suppressed people, by the need to maneuver around lack of infrastructure, and the need to maneuver around government official indifference and corruption. Compensating for those deficiencies is expensive. Furthermore, much of the assistance through official and private voluntary agencies is in the form of direct charity. So projects which couch the subsidies in the form of development efforts and encourage a start toward self-development on the part of beneficiaries look good by comparisons. Such arguments imply that a strict cost-effective analysis may not be appropriate, and they are somewhat persuasive. Nevertheless, I find more convincing the view that development projects in very poor countries must be relatively low cost, not relatively expensive. (See RRNA, "Assessing the Cost-Effectiveness of PVO Projects: A Guide and Discussion," May 1983, pp. 19-26.)

Cost-Effectiveness of Haiti Projects

A number of the HPI projects visited in Haiti would appear not to be cost-effective in a strict economic sense.

Such assessment was difficult because of lack of data or because projects were just getting underway. Certainly there are examples of projects with substantial benefits or good potential in Haiti. The St. Marc Rabbit Project appears to have substantial and now self-generating benefits. The Methodist Mission cattle project in Jeremie certainly has long range potential and has adopted some excellent low-cost approaches to community level promotion and technical assistance. However, it is far from achieving benefits equal to the costs of the project. The Mission Par La Foi cattle project in Jeremie might also develop into a positive contribution in village production, but it has not yet done so. Other projects appear to have provided much less in realized benefits and to have less potential as well. These modest possible benefits in Haiti as a whole must be compared with the substantial HPI expenditure in Haiti in recent years, totalling $173,000 since 1978.

These projects may nevertheless be considered to be "worthwhile" in terms of a range of multiple objectives as discussed above, but they do not -- or at least have not yet -- produced benefits to participants and to society as a whole which have a value which exceeds the resources expended in recent years. If the flow of benefits is discounted to account for the value of money over time, the economic performance is even worse. It is characteristic of animal production projects that the investment precedes the start of significant benefits by at least a couple of years, even when a project is working according to expectations.

The Methodist Mission cattle project is one of the promising efforts. Nevertheless, it offer examples of at

least five different reasons for unsatisfactory cost-effectiveness which appear in a number of PVO animal projects visited in Haiti, and in the entire field trip.

1. The project suffers from technical or management problems in animal production and reproduction and in selection of the breed of cattle for the intended purpose.

2. The funding supports a reproduction center, which is intended to provide services at subsidized prices and not to be self-supporting. This subsidy is estimated by the project leadership as amounting to U.S. $5,000-10,000 per year for a herd of 39 heads, including calves.

3. The project is meant to be experimental or a kind of "research and development" effort which will produce new opportunities in the country, the results of which cannot be foreseen or even estimated at present.

4. The project is delayed in the start-up of distribution of breeding stock to villages.

5. The projects expends considerable funds for efforts which do not have an economic or material payoff.

There are aspects of the Methodist cattle effort which also offer examples of project design which can improve cost-effectiveness. Veterinary services and leadership in the village livestock effort are provided by villages residents who have received training in the project center. These veterinary promotors then return to their villages with a veterinary supply kit and the possibility for self-

support through sales of services and medicines. Thus the project provides a readily available service without incurring ongoing salary and transportation costs.

Dominican Republic

The field visit in the Dominican Republic illustrated the possibility for a cost-effectiveness frame of reference to be used not only for evaluation, but also for planning and setting of objectives.

The preparation of benefit-cost calculations for specific projects supported by HPI was difficult because of the newness of most of the HPI projects in the Dominican Republic and because of the absence of data on income and expenditures in production. The newness of the projects is indicated by the fact that HPI made no distributions in the Dominican Republic in 1980, funded $28,000 of projects in 1981 and $100,000 in 1982.

Evaluation Approaches and Issues

During the field visit, I conducted a one-hour seminar on assessing cost-effectiveness for the staff of Servicio Social de la Iglecias Dominicanas (SSID). Since we did not have a period of project experience and data on which to evaluate the current SSID community goat projects, the seminar presentation applied a cost-effectiveness approach to calculate the kinds of goals required by the goat projects.

These goals indicate what level of production and net benefits the project would have to attain to achieve a reasonable cost-effectiveness. For example, goat project such as that supported by SSID in the community of Carbonera might achieve an annual net benefit of about 9 percent of the HPI initial grant in 1982 under quite favorable results (Table 3).[1] This level of return would indicate some positive net benefits being achieved, but these are relatively small, especially considering the great amount of daily labor required to bring water and to milk the animals. To reach a target annual net benefit of at least 20 percent a year would probably require a herd of 20 mature females, which would likely tax the existing fenced area and require considerable feeding of cut forage with increased demands on the community labor. An enlargement of the fenced area is possible, but would require substantial increased investment for barbed wire. Reaching the target results would also probably require higher daily milk yields and longer annual milking periods, all of which would require diligent management. Given the high level of enthusiasm of the members, it is possible that they might achieve the target level of results, but it will be difficult.

The relatively large expenditure for promotion and for fencing represented in the initial investment of P$6,500 (about U.S. $4,300) for a herd of just 10 female goats and one buck is what causes such demanding results required for the project to reach reasonably good levels of returns relative to costs.

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1. This is a more detailed example than was presented in the training course.

Table 3. Illustrative Community Goat Project in the Dominican Republic: Projection of Results to Achieve Reasonable Cost-Effectiveness by Third Year of Operation[a]

Item	Unit	Results	
		Likely	Required, for example for reasonable cost-effectiveness
Grant	P$[b]	6,500[c]	6,500
No. of breeding bucks	P$	1	2
No. of females	P$	15	20
Total	P$	16	22
Operating Costs			
Expenditures for food, medicine @ P$20	P$	320	440
Repair of fencing (1/10 of purchase cost)	P$	150	150
1/4 of promoter working 1/2 time on goat project @ 3,000 annually, including transportation	P$	375	375
Total	P$	845	965
Targets			
Required net return of .20 of grant	P$	1,300	1,300
Total gross return required	P$	2,145	2,365
Production			
Milk			
No. of days per year per female	days	150	180
Daily milk production per day per female	liters	1.5	2.0

Continued...

Table 3. (continued)

	Unit	Results: Likely	Results: Required, for example for reasonable cost-effectiveness
Total production per year/per female	liters	225	360
Total production per year	liters	3,375	7,200
Revenue			
Milk revenue at $0.20/liter	P$	675	1,440
Animals for sale			
Females[d] @ P$60	P$	7.5	10
Males @ P$35	P$	7.5	10
Animal sale revenue	P$	713	950
Revenue from breeding service from buck	P$	40	100
Total operating revenue		1,428	2,490
Total net revenue		583	1,525
As proportion of grant invested	percent	9	23

a. Based approximately on goat project in community of Carbonera, Dominican Republic, supported by de las Iglesias Dominicanas (SSID); reasonable cost-effectiveness is set (arbitrarily) at annual net operating benefit of 20 percent of outside investment; results are reported on a project basic rather than per participant because this is more convenient for a cooperative operation.

b. P$ 1.48 = U.S. $1.00.

c. 1/4 of HPI grant to four communities.

d. Includes replacement of stock and sale of some old animals.

Source: RRNA, based generally on information received in the Dominican Republic.

Cost-Effectiveness of Projects in the Dominican Republic

The Table 3 example is not based on a fully researched set of data. The costs of feed and medicine per animal are estimated and the promotor costs have not been determined by a careful discussion of the proportion of promotor time spent on the goat project. Nevertheless, the figures are illustrative of the challenge for attaining cost-effectiveness production in even well-organized, high-participation projects with reasonably healthy animals, such as in the SSID project in Carbonera.

The same challenge to achieve cost-effectiveness will also push the apparently high-potential goat project just begun by Alfa-Lit. In this instance, as much is being spent on fencing as on goats and Alfa-Lit has budgeted more than twice the goat expenditure for administration and training. Such total expenditure places more demands on goat production than the latter activity can bear. In effect, it might be better to see this as a funding of two related projects, one being the goats and the other being institutional support of Alpha-Lit.

Local groups with MUDE-supported goat projects are having difficulty in maintenance of stock and at best will be extremely pressed to repay loans for animals and fencing. The HPI Contribution to MUDE operational support so MUDE can work in these areas is worth many times the local disbursements. As was the case for Alpha-Lit, the institutional support cannot be recompensed by the value of animal production and really must be seen as a separate funding and cost center.

The reproduction centers supported by HPI have generally been relatively high-cost operations which have not yet been major distributors of animals proportionate to these costs. The exception might be the rabbit production of Radio Santa Maria. The Santa Maria Center manages to run an extensive operation of pigs, with some cattle, rabbits and goats using young, enthusiastic non-professional staff. The Center is not active in distribution of goats at present.