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**PRE-SCHOOL EDUCATION  
AS A CATALYST FOR  
COMMUNITY DEVELOPMENT**

**AN EVALUATION**

**January 1985**

AN EVALUATION OF USAID PROJECT 527-0161:

PRE-SCHOOL EDUCATION AS A  
CATALYST FOR COMMUNITY  
DEVELOPMENT

FINAL REPORT

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## PREFACE

During the sixteen months this evaluation has been in progress, hundreds of individuals have participated in a learning process that has been both exciting and frustrating. Undoubtedly, those who have learned the most are those who have been most directly involved -- the evaluation team members. What we have learned is not always what we expected or hoped to learn. Reality has ragged edges and we have been made to pay attention.

The evaluation team deeply appreciates sacrifices made by those who have participated with us. Staff members in each pilot site gave their time and energy to a cause they were not always convinced was of the highest priority. Supervisors, departmental staff and our 20 field assistants went to extraordinary lengths to visit out-of-the way communities that happened to fall within the sample to collect data for the evaluation. The Ministry of Education in Lima has been more than supportive throughout and we are particularly grateful to the Dra. Nelly Victoria Alva, Director of the Direction of Initial and Special Education for her backing.

We are indebted also to Dr. Rojas, the project officer in USAID who supervised this project and evaluation. We are well aware of the headaches we have caused him as he tried to move mountains within the AID and Ministry bureaucracies. IBM, through Alfredo Remy, graciously provided access to its facilities for data processing, and donated the time of Pilar Cebrecos who worked wonders under considerable time pressure.

Part of the evaluation involved drawing upon and sharing knowledge with individuals in other organizations. We are grateful for the advice and participation of individuals from the National Planning Institute, INIDE, UNICEF, the Bernard van Leer Foundation, and the Ministry of Health who joined

us in workshops to plan and to review preliminary results of the evaluation. CORDEPUNO and CORDECUZCO provided valuable assistance when choosing samples, locating field collaborators, and facilitating field work.

The following pages will not adequately reflect the human side of this evaluation. The most rewarding, revealing, and human part of the evaluation came from visits to participating communities in Apurimac, Cuzco, Puno, and San Martín. There, community leaders, promoters, and parents of PRONOEI children were magnificent in their willingness to spend time talking about the program and the children.

We were both heartened and shocked by our conversations and direct observations in the field. There is no way to express in numbers the tenderness with which an animador, at the task for 11 years, still treated his PRONOEI children. Averages do not substitute for one volunteer's frank explanation of why she had to miss a day: she would be beaten by her husband if she did not stay home to guard the house while he was gone. The smiles of the children or their combined concern and curiosity at seeing a bearded man will not register in what follows. Nor will the drama of wresting a living from the windswept altiplano in Moyopata where the beauty of a distant thunderstorm distracts one from the immediate problems symbolized by unusable adobe bricks intended for construction but destroyed by the last rain.

Frustrations were not lacking. A nation-wide teachers strike interrupted the evaluation at an inopportune time. Campesinos closed roads in San Martín, preventing travel to communities within the sample. Terrorism at the edges of Apurimac and Cuzco meant we had to substitute more than one community in the sample. On several occasions, data collectors arrived in communities to find fiestas in progress, making data collection impossible. Rising rivers during the rainy season, cancelled airplanes, auto accidents, and assaults on data

collectors not only put collection behind but threatened life and limb. Cases of invented data, once uncovered, required double work. Bureaucratic delays, not the least of which were within USAID as we waited for requests to clear the controllers office, were particularly unnerving. Downed computers, apagones, and erased documents in the Wang and IBM systems added to delays.

We are pleased, therefore, to be able to present any results, and are only mildly apologetic for the brief delay in doing so. We are confident that the information on which we have based our analysis is reliable. As is often the case, much more could be done to dig behind the data. Such digging would not change the basic conclusions and recommendations, but could provide additional information to the program useful for improving it. If there were world enough and time.

Fortunately, however, others have already learned from the process. We have seen that reflected in, for instance, actions taken by the Dirección de Educación Inicial y Especial to change and improve the PRONOEI program based on 1983 results from the evaluation. That is gratifying. We hope the final report will induce further experimentation bringing changes in methods and policies benefitting poor children in Peru.

## EXECUTIVE SUMMARY AND RECOMMENDATIONS

Project Description. This report presents results from an evaluation of Project 527-0161, a joint project of the Peruvian Ministry of Education (MOE) and the United States Agency for International Development (USAID). The project, titled "Pre-School Education as a Catalyst for Community Development," provided funds to assist in the development, implementation, assessment, and expansion of a low-cost, community-based, non-formal model of pre-school education for poor children. Specifically, the project sought:

- . intellectual, socio-emotional and psycho-motor gains in children ages 3 to 5 in poor rural communities,
- . improvements in health and nutritional levels,
- . increases in retention and enrollment in primary schools,
- . greater community participation,
- . the organization and up-grading of regional and zonal level pre-school staff, and
- . increased coverage for initial education at reduced costs.

To these ends, a total of US\$1,800,000 was authorized, to be accompanied by counterpart funds of US\$1,251,000 and US\$440,000 from PL-480. Implementation began in 1980 in project sites in Puno and Cuzco and expansion to Apurimac and San Martin occurred in 1982. The main project activities have been the construction of pre-school facilities and provision of furniture and educational materials, training of teacher trainers, administrators and para-professionals both in-country and abroad, technical assistance, funding of community projects, and evaluation and research.

In the pre-school model followed by the project, children are brought together for a three-hour period during 4 or 5 mornings a week in centers called PRONOEI (Programa No-Formal de Educación Inicial) and are provided with a snack or noontime meal. A para-professional, chosen by the community supervises activities designed to improve the children's physical, mental, and social development. The PRONOEI are administered by the Ministry of Education, but the model depends heavily on volunteer community participation. This non-formal model is one of several non-formal pre-school experiments implemented in Peru. These non-formal options constitute an alternative to the formal and more expensive pre-school model of the Centers for Initial Education (CEI), also being implemented in Peru.

Sources of information. The conclusions and recommendations that follow are based on results from: sample surveys of USAID-assisted PRONOEI communities, in 1983 and 1984; tests administered to 334 children in PRONOEI and non-PRONOEI communities; interviews with almost 400 parents and community leaders in conjunction with the testing and as part of community studies in 31 locations; systematic observations carried out in 12 PRONOEI centers twice a week over five months; an analysis of project budgets, expenditures, and costs; a review of results from previous evaluations; and discussions carried out with project participants in the departmental sites and in Lima. Documents presenting detailed results from these individual studies are appended to the final report.

## Conclusions

1. An initial education service has been established. Project goals set for coverage, training, construction, and materials development have been met or surpassed. An initial education service has been established in the four pilot sites. That service that reaches poor families in rural communities that are often difficult to reach and where complementary services are often lacking. Attention must now be given to maintaining and strengthening the service.

2. Quality is low. Establishing the service is a major accomplishment, but up-grading is urgently needed in training and supervision, curriculum, administration. Many PRONOEI still lack minimally adequate facilities and sufficient educational materials. Attendance is low and turnover among para-professionals is higher than expected. Educational specialists frequently lack training in initial education.

3. The project has had significant effects on early childhood development. In light of the short time the project has been in operation in most sites, and of the existing structural and bureaucratic barriers to improvement, it is encouraging to find positive and significant effects of the program on participating children. In Puno, in both Aymara and Quechua areas, PRONOEI children performed significantly better than non-PRONOEI children on test items designed to measure social, intellectual, and motor abilities. In San Martín, significant results were found only on the social subscale. In Cuzco, PRONOEI children scored lower than non-PRONOEI children on the social scale, but nevertheless the PRONOEI children showed greater gains over the course of the year. Children in formal pre-school programs (CEI) generally performed better than PRONOEI children in San Martín, but in Cuzco differences were found only on the social measure. The lack of greater differences in Cuzco in favor of control and CEI children is noteworthy because both CEI and control communities chosen for comparison were wealthier and better educated than PRONOEI communities. Most of the children tested performed well on motor abilities and were weak in intellectual skills.

4. No significant effects were found on primary school repetition rates. The inability of a pre-school experience to affect retention or drop-out rates during the first two years of primary school reflects major problems of primary school quality, organization, and management. Primary school repetition rates exceeded 50 percent in the first grade and 35 percent in the second grade.

5. Effects on nutritional status are moderate, indirect, and differ by project site. Differences in nutritional status favoring PRONOEI children were found in Puno and Cuzco, but not Apurímac or San Martín. When a weight-for-height measure is used and World Health Organization norms are applied, approximately 15 percent of the children in the communities studied were moderately or mildly malnourished. Little severe malnourishment was found. These figures hide "stunting" in almost 50 percent of the children. Also, the weight-for-age measure reflects a very low intake of calories and using that standard malnutrition reaches as high as 80% in Apurímac and 70% in Cuzco. Diets are poor, making children vulnerable to disease. Still,

improvements in nutritional status occurred in the study communities between 1983 and 1984, and girls in PRONOEI communities are closer to boys in their nutritional status than in control or CEI communities. These effects seem more closely related to exogenous factors than to the project per se. The project has not given much explicit attention to nutrition.

6. Community involvement and awareness has increased. The project has led to creation of new forms of community participation (parents' associations, mother's clubs, nutrition clubs) which do not alone change community structure or organization, but which, in combination with other activities, diversify leadership and promote community development by mobilizing volunteer labor for the common good. The new forms become integrated with the old which are not therefore, barriers to implementation. The project has fostered an increased concern for education in the participating communities. It does not seem to have a fundamental effect on women's participation or childrearing practices. Parents do not perceive the program as helping them as parents or community members although they do see it as helping the children. The PRONOEI para-professional is usually from the community. He or she seldom takes on a role as a community leader, but often helps call meetings, act as a secretary, and introduce educational or related themes into community discussions.

7. Supporting services do not converge in PRONOEI communities. PRONOEI communities usually lack supporting services such as medical posts, sanitation, or extension. In Puno where the program is the oldest and began as an "integrated" program, modest progress has been made in providing services that converge. USAID assistance does not foster an integrated approach to early childhood development in part because its own programs of health, education, nutrition, agriculture, and sanitation do not converge geographically. Community gardens and small animal raising projects initiated under 527-0161 began late, were not widespread, and were constrained by the lack of adequate technical assistance and by poor administration, providing another example of lack of integration among services. A nutrition manual produced with project funds has not been used. More effective mechanisms are needed to build inter-sectorial collaboration, generally and within USAID's own programming.

8. Project funds have been spent in accordance with plans of operation and mainly for capital investments in services and people. The expenditure of approximately US\$2,000,000 in USAID funds (including some PL-480 funds) has followed closely the strategy set out in operational plans. By emphasizing capital expenditures, USAID has played a catalytic role in extending initial education within Peru, and has been a minor partner, contributing only one-sixth of total project costs. The MOE has contributed a higher percentage of total costs (one-half) than envisioned. Community participation has covered as high as one-half of the costs in some years, but overall is about one-fourth.

9. Per unit costs are low. An average cost of approximately US\$28 per enrolled child was estimated (if imputed costs of volunteer labor and community donations are not included in the calculation). That is less than one-half the cost of the formal pre-school alternative. Because attendance is

well below enrollment, there is considerable "leakage" in the system. Costs vary widely by project site and individual center. Economies of scale are evident.

10. The project is "cost-effective" in some respects and not others. Judged in relation to expected outcomes, the project is cost-effective with respect to effects on the system of initial education, the developmental test scores of children, and community involvement, but not with respect to nutrition, primary school progress, or community projects. The Puno site demonstrates that the model can function with relative effectiveness and at low cost, even though there is room for a great deal of improvement in quality and efficiency.

11. No one model of non-formal pre-school education was found to be obviously more cost-effective than others. Differences in unit costs among the non-formal options analyzed (the center-based PRONOEI, the home-based adaption of the Portage model, and the resource center model serving satellite programs) are not dramatic and each model is effective when evaluated in terms of its own goals. All non-formal models are less costly than the CEI alternative. Rather than view the several non-formal programs as alternatives, they should be viewed as complementary options, each with the potential for being cost-effective in particular situations and with particular age groups. For ages 3 to 5, a center-based model such as the PRONOEI seems more appropriate than a home-based model which is better applied with families of younger children.

## RECOMMENDATIONS

### General Recommendations

1. Continue program support. Continued and strong support should be provided for the PRONOEI model in rural areas of Peru, but with adjustments in the program's assumptions about volunteerism and community participation. The recommendation of continued support is backed mainly by the positive and significant results of the programme on child development and community development found in Puno where the program has reached a large scale, has been in operation the longest period of time, and is operating at a very low cost per unit.

2. Emphasize improvements in quality. Less emphasis should be given in the immediate future to program expansion, and more to a concerted effort to improve program quality (see specific recommendations below).

3. Strengthen complementary services. A strategy of "converging services" should be pursued to strengthen programs of primary health care, nutrition, agricultural extension, sanitation, and literacy in PRONOEI communities.

4. Up-grade training and supervision. A strong effort is needed to upgrade the training of animadores, docente coordinadores, and program specialists and to reform administrative precedures and methods (see below).

5. Improve non-monetary and monetary incentives. Incentives are needed to cut down the turnover among animadores and docente coordinadores and to increase community participation.

#### Recommendations to USAID

1. Extend the project to allow use of remaining funds. At least moderate support for the programs should be continued in 1985 in order to complete the transition to the MOE of responsibility for all project expenses and to avoid major backsliding prior to the change of government. That support should be focussed on project coordination and on experimental work to improve training, supervision, and community participation.

2. Improve program coordination. A mechanism should be developed "in house" to permit program convergence -- at least for health, nutrition, and education -- on PRONOEI communities. The nutrition manual developed during the project should be rediscovered and used. Food supplementation programs serving the PRONOEI should be accompanied by nutrition education. As a beginning, the executive summary of this evaluation and the nutrition study should be shared with health, nutrition, sanitation, and food for peace program people.

3. Use results of the evaluation for a "policy dialogue" and to strengthen institutional collaboration. Collaboration should be sought with the MOE, UNICEF, and the Bernard van Leer Foundation in order to disseminate widely results of this, and other recent program evaluations. That dissemination should include a "policy dialogue" with appropriate staff of the main political parties competing in the 1985 election. With UNICEF and others, an effort should be made to establish a National Commission that would examine, and make recommendations to improve, the condition of the young child in Peru.

#### Recommendations to the MOE/DIGEI

1. Develop incentives for para-professionals and communities. Accepting the fact that volunteerism is not functioning well as the PRONOEI model has been extended and modified over time, the Ministry should improve incentives for animadores by: a) paying them on time; b) anticipating the need for an upward adjustment of the propina in 1986; and c) establishing an intermediate position of assistant teacher coordinator for which the better animadores could qualify on merit. To more actively involve community members in the PRONOEI activities, they (including the animadores) should be brought into the process of adjusting curricular content by participating in readjustment of the curriculum guides.

2. Experiment with the local administration of PRONOEI program funds. Lessons can be learned from current UNICEF program experience and from programs in Mexico. Local administration would increase local participation.

3. Adjust curriculum guides. The adjusted guides should help the animador to manage the program better and to be more flexible in the use of suggested activities. Information on pedagogical strategies should be included in the guide (which could then be used in training courses). The process of adjusting the guides should include and respond to parental demands (e.g., by including more specific activities related to reading and writing readiness).

4. Restructure the training of animadores so as to provide individualized, competency-based training linked to on-site assistance by supervisors carried out over the course of the year. Early morning radio spots for animadores should be tried out in which the activities for the day found in the guias would be reviewed. Periodic training sessions should be organized in which teacher coordinators (or their assistants) group nearby animadores to work collectively on common problems.

5. Improve the training of teacher coordinators by offering training in supervision methods, including training in implementation of the restructured curriculum guide and on-site training of animadores.

6. Reform administrative procedures. These reforms should begin with improving the system of paying animadores. Planning processes and accounting methods should be standardized across project sites (e.g., organizing accounts by activities as well as by general expenditure categories). The ficha integral should be simplified and should become part of a monitoring and evaluation system, based on a sample of PRONOEI communities.

7. Reexamine policies and content of primary school programs. Inflexible scheduling ignores local planting and harvests, and variations in weather thereby increasing absences and repetition. Promotion practices are not standardized. No adjustment in the primary school curriculum or training of teachers is made for new students with pre-school background. The productive use of training primary schools appear to be very low. Without such reforms in primary school, the full potential of pre-school programs cannot be realized.

SECTION I -BACKGROUND

## Introduction

### Purposes and Goals of the Project

In August, 1979, The Peruvian Ministry of Education (MOE) and the United States Agency for International Development (USAID) initiated a joint project entitled "Pre-School Education as a Catalyst for Community Development" (Project 527-0161). The main purposes of the agreement, according to the Project Paper, were:

1. "To assist in the development, implementation, assessment, and expansion of a low-cost, non-formal pre-school education for poor children, primarily in the highlands," and
2. "To encourage the participation of parents and community members in the educational process."

Specifically, the project seeks intellectual, socio-emotional, and psycho-motor gains in children ages 3 to 5 in poor rural communities (or marginal urban areas), improvements in health and nutritional levels of the children, increases in female retention and enrollment at primary schools, greater community participation, the organization and up-grading of regional and zonal level pre-school staff, and increased coverage at reduced costs.

These objectives were converted into targets set for the end of the project:

1. Expanded coverage to 36,000 children in 1,200 programs;
2. Training for 1,200 para-professionals, 109 coordinators, and 38 administrative staff;
3. Development of 3 pre-school manuals;
4. Intellectual gains of 25 percent, compared with children who have not participated in the program;
5. A decrease of 25 percent in the gap between female and male enrollment and retention in primary school;
6. "Significant" gains in health and nutritional status;

7. Local communities providing 50 percent of the support for the program;

8. At least 50 percent of parents and community members actively involved in at least one pre-school program component (such as educational, nutritional, materials production, etc.);

9. A per-pupil cost of at least 50 percent less than the MOE formal pre-school program.

In mid-1980, the targets were revised, at the same time that a decision was taken to begin program work in San Martín. The new target for the end of 1982 was 1,600 programs and 48,000 children. Greater emphasis was also placed on community development activities, including the distribution of seeds.

USAID funds amounting to \$1.6 million were budgeted for a four-year period beginning in mid-1979 and extending through 1982. These funds were to be used for training (of teacher trainers, administrators, and promoters, both in-country and abroad), materials, construction of pre-schools, vehicles, local implementation assistance, consultants, and evaluation/research. In addition, USAID would provide \$440,000 in PL-480 commodities for supplemental feeding programs at the education centers. An additional \$200,000 was authorized in 1984 and use of the USAID funds has been stretched until 1985. The Peruvian government agreed to provide counterpart funds of \$1,176,000, amounting to 34 percent of the total project costs. Counterpart funding has surpassed that level.

#### Purposes and Principles of the Evaluation

The purpose of this report is to present results of an evaluation of Project 527-0161, and, looking ahead, to make recommendations about possible future actions that might be taken with respect to the project. Specifically, the purposes of the evaluation were:

1. To evaluate USAID support under project 527-0161 and compare it with support for other pre-school interventions.

2. To improve the functioning of the programs being evaluated by:
  - a) providing information useful for policy and planning,
  - b) helping to provide project members with evaluation methods that can be applied in the future; and,
  - c) identifying critical variables that can be the subject of experimentation as the program continues and expands.
3. To establish an on-going process of monitoring and evaluation, discussion and collaboration that cuts across organizational lines.

Several principles have guided and shaped the evaluation:

1. The evaluation process should directly involve staff from the Ministry of Education. That involvement is needed in order to: improve the relevance of the evaluation; improve the design and interpretation of results; provide informal training to participants; and maximize the possibility that results will be used. The evaluation should avoid the oft-heard criticism that evaluators obtain information, analyze it, report to an outside funding agency, but never share results with program people. Accordingly, the project manager who is a staff member of the Pre-School Department of the Ministry, has participated as a full member of the evaluation team. Staff from the pre-school and planning departments of the Ministry have participated in the evaluation design and in the interpretation of results. Departmental staff participated in the process of choosing a sample and a special orientation was given to teacher coordinators who collected survey data. Several coordinators were contracted to assist with development and testing of field instruments. Results of the first phase were presented to staff in each department and used to reorient training courses. As a result of this orientation and procedure, the evaluation has already produced some effect, reflected in the activities carried out during 1984 and in the plans for 1985.

2. The evaluation should be seen as part of a broader inter-institutional examination of early interventions in Peru. Children do not divide themselves into groups according to sources of support. Nor does a child split easily into parts labeled nutrition, health, and education. Unfortunately, however, programs designed to benefit children are usually divided by source of funding or theme, each separate program developing (or using) its own bureaucracy, procedures, and set of expectations, thereby reinforcing artificial divisions and barriers. Consequently, ways are needed to integrate programs, to avoid duplication, recognizing and reinforcing the synergism that operates among health, nutrition, education, and other factors affecting a child's survival and growth. Accordingly, this evaluation has, through workshops, and at a personal level, made a point of involving individuals from other funding organizations and from other parts of the public sector in designing the evaluation and interpreting results.

3. The evaluation should be seen as part of a continuous process. The present evaluation should build on results of previous evaluations. To that end, a review and synthesis was commissioned as part of Phase I. Nor should this evaluation be taken as the final word. More important is the monitoring of results over time, including some longitudinal work. Moreover, we expect one result of the evaluation to be development of an on-going process of monitoring and evaluation that cuts across organizational lines and bureaucratic lines within organizations.

The evaluation was carried out from October 1983 to December 1984, and in two phases. At the outset, in October 1983, an inter-institutional workshop was held to discuss and sharpen the evaluation design. During Phase I--from October to December 1983--field instruments were designed and field-tested, and a sample survey of the PRONOEI communities was carried out. In January,

1984, a second inter-institutional workshop was held, to discuss results from Phase I and to seek advice for Phase II of the evaluation. In Phase II, from May to December, 1984, information was collected in the four field sites (Puno, Cuzco, Apurimac, and San Martin), in order to assess the effect of the project on the participating children and their families, on the PRONOEI communities, and on the pre-school educational process in Peru. The sample survey of PRONOEI communities and the study of costs were repeated, an experimental evaluation of training and supervision was carried out. During the process, results from Phase I were shared with project participants in the four field sites and in the Ministry in Lima. Some of these results led to revisions in the operation of the Project during 1984.

The following activities provide a basis for this final report:

Phase I

1. A review of previous evaluations (Elena Valdivieso)
2. A study of project expenditures and costs (Maria Elena Vigier/Robert Myers)
3. A sample survey in October and November of 1983 of project communities and PRONOEIs. (Craig Loftin/Esau Hidalgo/Robert Myers)
4. Development and field-testing of instruments to assess the cognitive and social development of project children and their families (Martha Llanos)
5. Development and field-testing of instruments to assess community development (Eliane Toledo)
6. Development and field-testing of instruments to assess nutritional status.
7. A survey of animadores and docentes coordinadores (Craig Loftin/Esau Hidalgo)
8. An inter-institutional workshop to assist in design of the evaluation, held October 3-6, 1983.
9. An inter-institutional workshop to discuss results of the review, the surveys, the cost study, and the field trials of instruments.

Phase II

1. An up-dating and extended analysis of project expenditures and costs (Miguel Cereceda/Robert Myers).
2. Replication in 1984 of the sample survey of project communities and programs (the team).
3. Application of cognitive tests to 334 children in communities with non-formal or formal centers of initial education, and without. (Clara de Ferrari/Patricia Engle/Martha Llanos)
4. Case studies of 31 communities and a study of nutritional status in those same communities (Eliane Toledo)
5. An experimental study of supervision and training and of time use involving direct observation of animadores and PRONOEI programs in 12 communities. (Esau Hidalgo/Craig Loftin).
6. An analysis of the curriculum. (Craig Loftin/Esau Hidalgo).
7. A follow-up study of children in primary schools in 29 PRONOEI communities (Robert Myers/The team).

Organization of the Report

In the remaining pages of Section I, the Pre-School Project and the evaluation will be placed in perspective by providing information about the growth of early intervention experiments in Peru and by reviewing results of previous evaluations. Section II describes the status of the USAID-assisted pre-school programs, based on the surveys of pre-schools and communities carried out in 1983 and 1984 and on observational studies in 12 programs. Section III discusses effects of the project on the child, his family, and the community. Costs are the subject of Section IV. Section V combines results from the previous two sections and examines the cost-effectiveness of several non-formal pre-school options carried out in Peru. A summary, conclusions, and recommendations are contained in Section VI.

The pre-school project and evaluation in perspective

Early Intervention and Pre-School Programs in Peru

Until approximately 15 years ago, the main pre-school programs in Peru were either private kindergartens providing enrichment for middle- and upper-class children, or, on a smaller scale, charitable centers for urban poor children, run by prominent individuals. From the late 1930s until 1960, private kindergartens expanded and to a lesser extent so did public urban kindergartens. During the 1960s, welfare agencies began taking a more active role in developing custodial centers for disadvantaged children (Project Paper, Halpern, Germani, Ibañez). Still, by 1970, the coverage of pre-school programs for 3 to 5 year olds was less than 5 percent, and nursery schools were available for less than 1 percent of all children ages 0 to 2 (Fujimoto and Villanueva). Nor had maternal and child health programs started to take hold.

With promulgation of the Educational Reform in 1972, pre-school education became a higher priority. In an innovative departure, pre-school was renamed "Initial Education," and was redefined to include children ages 0 to 5. Development of activities for children 0 to 2 continued to lag, but two types of programs began to grow for the 3 to 5-year olds -- formal centers for initial education (CEIs) staffed by professionally qualified teachers, and non-formal programs with para-professionals, based in poor communities. The Pre-School Project falls in the non-formal category and is directed at children ages 3 to 5.

By 1983, according to Ministry figures, the total population covered in pre-school programs (0-2, 3-5, formal, and non-formal) was 544,000. Over 95 percent of these children were in programs for children ages 3-5. Pre-school

coverage for that age group was estimated at about one-third.

According to statistics presented in the Second Latin American Seminar on Out-of-School Education, the number of non-formal pre-school programs in Peru in 1983 was 6065 (one-third of which were receiving some assistance under the Pre-School Project). In these programs, 190,000 children were attended by 8000 promoters and 800 coordinators. Thus, about 35 percent of the Peruvian children enrolled in pre-schools were in a non-formal program. Both the over-all percentages -- of total pre-school enrollment and of non-formal pre-school enrollment -- are high in comparison with most other Latin American countries. That is so even if an allowance is made for inflated enrollments and for the fact that many children who are enrolled do not attend regularly.

Within the non-formal line of pre-school activity in the Ministry of Education, two approaches have received considerable attention, one home-based, and one center-based. Both approaches have focussed on children ages 3 to 5. The principal home-based alternative, an adaption of the Portage model, was introduced in 1977 with technical assistance from USAID (Jesien, 1979). The approach involves para-professionals who live in a community and whose main job is to work with parents in their homes, helping them become the teachers of their pre-school-aged children. The model provides parents with a set of diagnostic indicators so they can determine the developmental level of their children, and with suggested activities appropriate to the different developmental levels. The experimental adaption of the Portage model to Peru was carried out with approximately 200 families in two pueblos jovenes of Lima and in three rural communities of Cuzco. Results for children ages 3 to 5 showed that the program did make a difference (Jesien, et. al.; Llanos). A recommendation was made, however, that in extending the model, it should be applied to children ages 0 to 2. Accordingly, the MOE is presently using an

adaptation of the system for the 0 to 2 age group in several urban areas along the coast, and in Puno.

The second non-formal approach -- through center-based programs -- usually brings children together for a 3-hour period during the morning for 4 or 5 mornings during the week in a center called a PRONOEI (Programa No-Formal de Educación Inicial). Children participate in activities designed to improve their physical, mental, and social development. They receive a snack or noontime meal. The pre-school activities form part of a more comprehensive program of community development focussing on health, nutrition, and agricultural improvement. That is the theory.

The basic model for center-based programs was developed in the Department of Puno where early interventions were started in 1967 as a private, community-based effort linked to a nutrition education program for mothers. That initiative became, in 1973, the Proyecto Experimental de Educación Inicial No-Escolarizada de Puno (PROPEDEINE) and began to receive funds from the MOE and UNICEF. The program began to expand, and PL-480 food was provided through CARITAS. With assistance from UNICEF and, beginning in 1980, from USAID, the MOE has extended and modified this center-based model within other regions of Peru including Metropolitan Lima, Cuzco, Apurimac, San Martín, and Huaráz.

With assistance from the Bernard van Leer Foundation, another center-based, non-formal alternative is being tried out in 29 peri-urban neighborhoods near Lima. The experiment shares with others a community-based orientation and the use of para-professionals chosen by the community. A "satellite system" has been devised to bring pre-school education and health care to children. That system revolves around a well-equipped central unit used for demonstration and training. Associated out-lying pre-schools are

operated by para-professionals mothers from the local areas -- chosen less on the basis of formal qualifications and more on the basis of their ability to work with children.

Several other experiments in early intervention programs are in progress in Peru. One involves using high school students as teachers. Another is a system of neighborhood caregivers. In at least one case, a pre-school has grown up in connection with a community kitchen. And, programs of childcare have developed outside the Ministry of Education. One example is that established in association with community centers being constructed under the auspices of Cooperation Popular.

In brief, since 1970, Peru has experimented with a wide range of early intervention alternatives. These differ in their goals, the ages of the participating children, the program content, the degree of family and community involvement, coverage or extension, the principal education agent in the program, the location (home or school, or other center), and the institution that funds and/or administers the program. The programs and experiments differ radically also in terms of the socio-economic and cultural contexts in which they are found. (A useful operational classification of programs in terms of their context, the age of the children served, and the type of education agent has been made by Gaby Fujimoto). Peru is unique in the range and intensity of its early childhood experimentation. Consequently, results of this evaluation will be of interest outside as well as inside Peru.

#### Conceptual Bases of the Pre-School Project

Poverty and community development. The Pre-School Project is directed to poor children, families, and communities. The Project Paper contends that:

"Pre-school education programs represent one way of reversing the prospect Peru faces of having a large, perpetually marginal and disadvantaged population unable to fully participate in the social and economic life of the nation."

There are at least three ways in which a pre-school program might help to reduce poverty and marginality. First, it may improve the physical and mental condition of individual children living in poverty by providing them with a means of better competing with more fortunate peers. This hope for individual effects is emphasized in the project and is closely linked to expected improvements in schooling for poor children.

"Pre-school programs are based on the judgement that success in school assumes that entering students possess certain behavioral and intellectual skills. Children from poor socio-economic populations very frequently lack these skills, usually have difficulty in coping with the early years of school, and do not attain the same level of achievement as children from other socio-economic groups. Drop-out and repetition rates are usually highest among students from indigenous and marginal populations and children from these groups, as their parents before them, generally finish the fewest number of years of schooling."

In the evaluation, we examined effects on individual children by administering a test of cognitive, motor and psycho-social achievement, by looking at progress and performance of children in the first two years of primary school, and by assessing nutritional status.

A second way pre-school programs might affect poverty is by affecting family members. In most cases, poor families increase their earnings by putting more family members to work. To the extent that pre-schools help that happen, they have an effect on poverty. In most cases, the custodial function served by pre-schools cuts down the time required for child care in the home and thereby creates time for family members to do other work and/or to study. Older siblings may be able to continue for a longer period in school rather

than assume a care-taking role. Women may be able to take on part time work or study during the time the younger child is in the pre-school. These effects are probably more likely to occur in urban than in rural settings. They are not effects that were considered in the original project proposal.

Pre-school programs may also have an effect at the community level. By naming Project 527-0161, "Pre-School Education as a Catalyst for Community Development," the MOE and USAID recognized the importance of potential program effects on communities. The definition of community development in the Project Paper, seemed to be in terms of participation in the pre-school project, per se -- in building the pre-schools, in cooking and serving lunches, and in selecting para-professionals, for instance. There was also a vaguely expressed notion that the project would help provide a healthier community environment benefitting children and their families. But the health and nutrition components of development were not very carefully thought through or defined.

What seems to have been missing from the discussion of community development at the outset of the project was a clear idea about how the educational component could be integrated with other dimensions of community development such as improved production and income, health, sanitation, nutrition, and community organization. This seems to be so despite the model from Puno that inspired the project and that was, in concept, an integrated model. That position may have been conditioned by the fact that those who were to be responsible for the project were in the MOE and, naturally, tended to focus rather narrowly on education.

Beginning in 1980, however, more thought and attention was given to a broader, integrated view of community development. In January, 1981, it was suggested that adult education and training should be included, and that

coordination was needed with other sectors to help establish an integrative approach (Llanos, 1981) Productive projects were introduced. A health and nutrition manual was produced (Barnett, 1982). In the newest site, Tarapoto, an agreement has been drawn between education, health, and agriculture to work together in PRONOEI communities. Productive projects were introduced in 1982. These developments suggest that the commitment to broader community development has grown. Actions are slowly beginning to reflect that broader view.

Non-formal, out-of-school education. The concept of "non-formal education" that guides the pre-school project is not very clear. In theory, non-formal, or as it is often called, "out-of-school", education is distinguished from other education because it lies outside the formal system. It is based in local communities which are supposed to play a major role in orienting, providing, and administering the education. Non-formal education does not follow a particular academic calendar, does not employ formally qualified teachers, need not occur in locations called schools, and is based on a flexible curriculum adjusted to particular locations.

Another basic characteristic of a non-formal program is its ability constantly to transform itself, responding to changes in needs and to changing conditions. One transformation that may occur and which, indeed, is often sought, is transformation to a formal program, within the system, with expenses covered by the public sector. To the extent that non-formal programs become formalized, they lose flexibility. As they become wards of the public sector they lose their mystique and, with that loss, the level and nature of community participation changes. The challenge, then, is to up-grade and to regularize non-formal programs without losing the flexibility, participation,

and potential for change that such programs encourage and allow. To do so requires institutionalizing community participation and control while maintaining public sector financial and technical involvement.

In practice in Peru, and within the Pre-school project, "non-formal" pre-school education appears to be very formal. Programs are administered by the Ministry of Education. Although no academic calendar is imposed, local programs with few exceptions, follow the regular school calendar. Most of the USAID-assisted PRONOEI are found in school-like locations, either a building constructed specifically for the purpose or in a community educational center. The curriculum recommended is an adaption of the standard pre-school curriculum and programs must adhere to norms and standards set by the Ministry. Perhaps the most distinguishing characteristic of the non-formal approach as applied in Peru is the use of para-professionals.

As the non-formal approach is implemented and evolves, there is a constant tension between a desire to maintain the "mistique" that accompanies participation of volunteers and the desire to introduce new norms and skills into the program in order to upgrade quality. New norms and practices place increasing demands on the time of volunteers and tend to formalize the approach. Moreover, communities themselves often seek to convert the program into an officially-recognized and formal program with a qualified teacher, based on their perception that the formal system must be better. And, some para-professional volunteers view their work as a means of becoming third-category teachers.

In this evaluation, an attempt will be made to honor the non-formal idea and to examine the system accordingly. We will try hard not to fall into the trap, for instance, of thinking that a pre-school, to be good, must have a chair or desk for each child. We will describe as best as we can, how the

system is functioning, providing elements for reconsideration by the Ministry. An attempt will be made also to determine more precisely community perceptions of the pre-school and of the role of the animador. No a priori judgements will be made about the value of the particular curriculum that has been established, but an attempt will be made to see how that curriculum is being transmitted through training and supervision and is being applied by the para-professional volunteer.

#### Results from Previous Evaluations

The results summarized here have been taken from a review, by Professor Elena Valdivieso, of previous evaluations of non-formal pre-school projects in Peru. A list of evaluations reviewed, appears at the end of this section and the content of each is summarized in Professor Valdivieso's report (See Appendix H). The evaluations reviewed have in common the fact that they were funded (with one exception) by the organizations that sponsored the projects being evaluated: the MOE, USAID, and UNICEF. Evaluations were done in different years and differ according to the time of year they were carried out. Thus, they catch various projects at distinct moments in the project's history and yearly operation, making comparisons difficult. In addition, the evaluations examine projects using very different models applied in a range of contexts (urban/rural, and coast/high sierra/jungle, for instance). The methodologies used run from the analysis of documents to anthropological case studies and are rooted in several disciplines. In only two cases have pre- and post-tests been applied and in only three of the studies has an attempt been made to examine a "control group" or "control community."

Because the circumstances and methods have been so different, generalizing is difficult; evaluations often do not coincide in their findings. That fact,

however, makes it all the more significant when similar conclusions emerge. In this brief review, tendencies will be reported that are based on a high degree of overlap in findings from previous evaluations.

As will be seen in later sections of the report, many of these earlier findings seem to be valid today for Project 527-0161. What needs to be done is to dig behind the findings to discover reasons and to accumulate more systematic information with respect to project impacts.

**Coverage.** In general, previous evaluations confirm that attention is concentrated on poor children in rural or marginal urban areas, there is equal participation of boys and girls, actual attendance is well below enrollment figures, and programs are expanding.

**Impact on Children.** Perhaps the most important conclusion of the review by Professor Valdivieso is that, "All the studies, explicitly or implicitly, are in agreement that the programs are beneficial to the children." This positive conclusion is linked variously in the evaluations reviewed to observations about socialization, cognitive development, self-esteem, and apparent performance in primary school -- as reported by para-professionals, teachers, and parents.

The positive effect on children reported in these studies can too easily be forgotten in the search for ways to improve that impact. Unfortunately, most of what has been reported is anecdotal. In this evaluation we have added some hard data to these persistent but soft conclusions.

**Impact on the Community.** The studies reviewed seemed to be consistent in their contention that the most common forms of participation are in construction and in meetings, including meetings to choose the para-professional. In Puno, another common form of participation is in the provision of supplementary food. The community development component within

local programs seems to be more advanced in Puno than in other locations.

**The Para-professional.** Previous evaluations indicate that the propina provided to para-professionals does not provide them with adequate motivation and that communities rarely provide supplementary compensation as originally envisioned. Also, the level of turnover among para-professionals is relatively high if alternative employment is available in the region in which they are working. Most para-professionals do not know what to do in the PRONOEI to provide a good educational experience for the children. They not only feel there is a lack of materials but they show a need for help in how to use materials available for stimulating and socializing children.

Although conclusions with respect to the programs of training animadores are not uniform, there is general agreement that improvements in training and supervision are needed.

Most para-professionals are chosen by their communities and are from the communities.

**Coordinators** are not educational specialists and are not adequately prepared to help and supervise the para-professionals. Supervision is infrequent, affected by distances and lack of transportation and/or viaticos.

**Curriculum.** Most evaluations conclude that an adequate curriculum adjusted to the socio-economic and cultural realities of each place does not exist. (However, recent completion of curriculum guides in the four project areas provides at least a partial response to these earlier criticisms of the program.) Bilingualism and how to treat it is a problem.

**Infrastructure.** There exists very little information about the condition of the locale in which each PRONOEI operates. Opinions range regarding the availability, quality, relevance, and use of materials in the PRONOEI.

Not reflected in these brief observations are a number of extremely interesting observations and suggestions that have come from individual studies and are not, therefore, at the level of generalization. These are reported in Professor Valdivieso's work which merits reading in its entirety.

Addendum to Section I

The following are evaluations of non-formal, out-of-school, early education projects. The list is not exhaustive. It does not include studies that might be classified as research rather than evaluation but that are also pertinent to the evaluation of Project 527-0161. The research literature will be brought in when particular topics are discussed later on in the report. For additional studies, consult the list of references at the end of the evaluation.

1. Martha Llanos and Otto Flores, "Evaluación del Proyecto Experimental de Educación Inicial No-Escolarizada de Puno," Lima, USAID, 1976.
2. Luz Landázuri de Maurtua, "La Participación de los Padres de Familia en la Atención Educativa de sus Hijos. Un Estudio de Caso de los Programas No-Escolarizados de Educación Inicial," Lima, Centro de Investigación y Promoción Educativa (CIPE), 1979.
3. George Jesiën, et. al., "Informe Final del Proyecto 'Validación del Modelo Portage, Programa No-Escolarizado de Educación Inicial con Base en el Hogar.'" Lima, Instituto Nacional de Investigación y Desarrollo Educativo (INIDE), 1981.
4. "Informe Final de la Evaluación del Proyecto Piloto Experimental de Educación Inicial No-Escolarizada," Lima, UNICEF, 1981:
  - 4a. Tomo I: Jose Aliaga
  - 4b. Tomo II: Alejandro Ceriano
  - 4c. Tomo III: Julio Salcedo
5. CIPE, "Estudio del Proyecto de Educación Inicial como Incentivo para el Desarrollo de la Comunidad," Lima CIPE/USAID, 1981.

SECTION II - A PROGRAM DESCRIPTION

6. CEDEP, "Evaluación del Proyecto de Atención Integral del Niño y su Familia en los Pueblos Jovenes del Cono Sur de Lima Metropolitana (10 Tomos), Lima, CEDEP/UNICEF, 1981.
7. Eliane Karp-Toledo, "Análisis y Evaluación del PRONOEI en el Departamento de San Martín," Lima, USAID, 1982.
8. Eliane Karp-Toledo, "Hacia una Caracterización del Promotor: PRONOEI en las Comunidades del Departamento de Cusco." Lima, USAID, 1983.
9. CIPE, "Adecuación Curricular para Programas No-Escolarizados de Educación Inicial para Areas Rurales del Cusco, Vol I" CIPE/USAID, 1983.
10. Oficina Sectorial de Planificación Educativa (OSPE), Ministerio de Educación, "Sistemas de Información -- Comunicación en la Extensión de la Educación Inicial No-Formal en Puno y Villa el Salvador, Lima, OSPE, 1983.
11. INIDE, "Evaluación del Programa Experimental de Estimulación Temprana con Base en la Familia (PEETBAF), 1983:
  - 11a. Elaboración y Experimentación, Teresa Arellano B.
  - 11b. Evaluación Formativa, Maria Alcantara, Cipriano Olivera.
  - 11c. Evaluación Sumativa, Flor de Maria Espinoza, Luis Alfredo Inge.
12. CEDEP, "Estudio de Caso: Proyecto de Atención Integral al Niño y su Familia en los Pueblos Jovenes del Cono Sur de Lima Metropolitana -- Analisis Beneficio-Costs, Tomos I y II, Lima, 1983.

During the months of October and November, 1983, a survey of USAID-assisted PRONOEI, was carried out using a sample of 141 of the approximately 2000 PRONOEI communities. The survey was repeated in October and November of 1984 and parallel information was obtained from 105 of the original 141 communities.

Three purposes guided the surveys. The first was simply to provide a description of existing PRONOEIs, something that was not available with any degree of accuracy or confidence from existing sources. The second was to look for changes over the course of one year. The third purpose was to try out a system that might be used on a regular basis by the Ministry of Education to gather information about all non-formal programs of initial education -- as part of a continuous process of monitoring and evaluation.

In each of the four departments in which the project functions, a stratified random sample was drawn, taking into account three key variables: length of time the program had been in operation, accessibility, and the differing socio-economic characteristics of communities. Data were obtained originally for 30 PRONOEI in Apurimac (of 218 in total), 47 in Cuzco (of the 412), including 19 in Sicuani, 44 in Puno (of the 1140), and 20 (of the 162) in San Martin. In 1984, the 19 communities in Sicuani were dropped from the survey and information was obtained from 105 of the remaining 122. Details of the sampling and the classification of communities are contained in Appendix A together with a list of the communities selected and surveyed in each year.

Five brief questionnaires (see Appendix B) were used in the survey to gather information about:

1. The child and family;
2. The community;
3. The locale, equipment, and materials;
4. The animador; and,
5. The docente coordinador.

Most of the information collected was easily observable or verifiable by the teacher-coordinators who collected it,<sup>1</sup> and some was available from existing sources such as inscription forms (ficha integral) or the notebooks of the para-professional animadores. In each department the data-collectors were brought together in departmental headquarters and given a detailed briefing before they applied the questionnaires. The survey produced basic information about program coverage, attendance, facilities and materials, the types of communities in which the PRONOEI are found, the children, the para-professional teachers, and their teacher-coordinators. In the following pages each of these topics will be discussed, the results will be compared with project goals or assumptions, and conclusions will be drawn where that seems appropriate.

#### A Program Description

##### Location

A project goal is to reach children in poor communities. Has the project supported PRONOEI only in the more accessible and economically productive rural areas, or has it actually reached out to less accessible, poorer communities? The process of classifying communities for sampling purposes led

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<sup>1</sup> There were some exceptions. For instance, height and weight data, although "objective" are subject to a variety of measurement errors. The questionnaires for the docente coordinadora, while providing descriptive data went well beyond to get at perceptions and opinions. That subjective data will be treated separately.

to the conclusion that the program has reached out to the distant and poorer communities. That is particularly evident in Apurimac where most of the communities can only be reached by foot or horseback - often several hours away from a road (The furthest was 11 hours by horseback). There is a natural tendency for more accessible communities to be included first but to reach out as the program expands. In Cuzco, for instance only 25 percent of the older programs (now 3 or 4 years old) were classified as not easily accessible compared with 44 percent of the programs added during the last two years. Overall, almost 30 percent of the project communities were more than 5 kilometers from a road. Because the project has been successful in reaching remote communities it must expect major logistical problems, particularly in the training and supervision of animadores. A visit to even one of the remoter communities provides an appreciation of the difficulties under which the project operates.

#### Coverage

In 1983 and 1984, approximately 2000 PRONOEI in 4 departments were receiving assistance under the Pre-School Project. The 2,000 USAID-assisted programs constitute about one-third of all PRONOEI. The number easily surpasses the program goals set for 1982 and is in line with projections made for 1983 and 1984.

Estimating the number of children attended in PRONOEIs under the Pre-School Project is more difficult than counting the number of center-based programs in operation. If one adopts as a goal the figure of 30 children per PRONOEI used in the Project Paper to project coverage, the number of children attended should be about 60,000. In the sample survey, the average number of children who registered for a PRONOEI was 29, approximating the figure used for the projections. The average enrollment ranged from a low of 20 children

per PRONOEI in Tarapoto to a high of 32 in Puno. Projecting these sample survey averages to all USAID - assisted PRONOEIs, the total number of children registered is 56,000 of whom 36,000 are in Puno where the program has been in operation for 11 years<sup>1</sup>. Using the survey figures to adjust for those attending who are under 3 or over 5, the percentage of the 3 to 5 age groups covered is 21% for all four of the departments, ranging from a low of 10 percent in San Martin to a high of 35 Percent in Puno.<sup>2</sup> (See Table 1)

Even allowing for the probability that 5 percent of the children who are registered never attend pre-schools, the absolute and relative coverage is significant. It no longer seems appropriate, therefore, to think of the Pre-School Project, or of non-formal pre-school education in Peru, as an experiment. An alternative educational service is in place.

Attendance and drop-out:

Most children who are registered do attend the program at least several times. However, not all children who enroll in PRONOEIs attend regularly. Indeed, the survey provides striking data suggesting that, on the average, children attend pre-school during only about one-half of the available working days -- leaving aside weekends and holidays (See Table 2). Absences seem to

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<sup>1</sup>If we include an additional 140 PRONOEIs in the Cuzco region that are classified as "UNICEF-assisted" but that receive USAID assistance for training and, occasionally, construction, the total would be increased from 56,000 to almost 60,000 children. These figures are consistent with others. For example, a recent study of PRONOEIs in Puno presented by the Office of Planning of the Ministry of Education indicated an enrollment of 35,001 children for Puno (MinEd, OPE, p.183).

<sup>2</sup>These figures are actually somewhat low because the Pre-School Project is directed primarily toward the rural poor, and the population figures used as a base include urban and better-off children (who are, however, not found in large numbers in any of the departments).

TABLE 1  
ENROLLMENT IN USAID-ASSISTED PRONOEI IN  
APURIMAC, CUZCO, PUNO AND SAN MARTIN, 1983.

Departments	TOTAL PRONOEI <sup>1</sup> (AID Assisted)	AVG. enrollment PRONOEI <sup>2</sup>	TOTAL enrollment AID- PRONOEI	Enrollment Adjusted under/ over age <sup>3</sup>	Total <sup>4</sup> Population ages 3-5	% of age covered
Apurimac	218	27.8	6060	5575	32,049	17.3
Cuzco (and Sicuani)	412	24.7	10176	9362	75,646	12.3
Puno	1140	31.8	36252	29002	83,471	34.7
San Martin	161	20.2	3252	3154	30,360	10.4
TOTALS	1931	28.9	55740	47093	221,526	21.3

<sup>1</sup> The list of PRONOEI was created from listings in each department.

<sup>2</sup> Source: Sample Survey of USAID-assisted PRONOEI, November 1983

<sup>3</sup> An adjustment downward was made according to the percentage of under- and over-aged children found in the Survey in each department.

<sup>4</sup> Source: República del Perú, Instituto Nacional de Estadísticas, Censos Nacionales, VII Población: 12 de Julio de 1981. Resultados de Prioridad, Diciembre, 1982. To obtain the 1983 estimate figures for 1981 were increased by 3 percent (Assuming a growth rate for the sierra of 1.5 per cent per year a figure that adjusts for out-migration). Because census figures were reported in age categories of: less-than 1, 1-4, and 5-9, interpolation was necessary. To obtain the total for ages 3 and 4, the census totals for the category 1-4 were multiplied by .48 (to allow for higher mortality during ages 1-2 than later. To complete the estimate, the census figure for ages 5-9 was simply divided by 5 and added to the previous result.

be much more frequent for some children than others, biasing the statistics.<sup>1</sup> Still, low attendance emerges as a fundamental problem.

The amount of time a child attends a PRONOEI depends on the number of days the PRONOEI is open and functioning and on whether the child is able to attend when it is functioning. The first loss of time -- because the program is not in session -- turns out to be fairly large. Sometimes programs do not begin in the month of April, for administrative reasons or because that is a harvest month. Almost all the PRONOEI in San Martín began in May rather than April, for instance. The same is true for about one-half of the programs in Cuzco. Vacations and fiestas also take their toll. Sometimes the animador must take time to work the fields or, as in one case, stay home to guard seeds while her husband traveled. Time is lost when animadoras travel to the administrative center to obtain their small monthly propina.<sup>1</sup> In some areas there is apparently an agreement that the pre-school should function only four days each week. And so on.

How much time is lost because programs are not in session? In the preliminary report, a rough calculation was presented of the percentage of PRONOEI/months during which programs were not in session. The result (see Table 2) ranged from two percent in Puno to 21 percent in San Martín. More than half of the time schools were closed was accounted for by the failure of the program to begin in the month of April.

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<sup>1</sup> In the survey, the number of days each child attended each month from April to November was recorded, and the average attendance was calculated for each PRONOEI. The attendance figures are supposed to be kept by each animador in a work notebook. It is probable that some of the attendance figures were invented, but there is reason to believe that they are accurate enough that the general picture they paint would not change with increased precision. We did throw out two cases in which figures were obviously invented and we did find a certain consistency of attendance patterns across pre-schools. For instance in all cases in Abancay, attendance dropped (in stayed the same) during the month of August.

TABLE 2  
ATTENDANCE INDICATORS USAID-ASSISTED PRONOEI IN  
APURIMAC, CUZCO, PUNO, AND SAN MARTIN, 1983.<sup>a</sup>

	Departments			
	Apurimac	Cuzco (including Sicuani)	Puno	San Martin
A. Total PRONOEI				
in sample	30	47	44	20
Number of months	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>
Possible PRONOEI/month in session	240	376	352	160
B. Number of PRONOEIs <u>not</u> functioning in:				
April	10	31	7	20
May	8	10	1	6
June	3	3	0	1
July	2	2	0	0
August	0	0	0	1
September	1	0	0	1
October	1	1	0	3
November	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>
Total PRONOEI/Months not functioning	26	49	8	33
% PRONOEI/Months not functioning	11%	13%	2%	21%
% PRONOEI/Months not functioning <u>excluding April</u>	8%	5%	0%	9%
C. Average number of days attended in the highest month.	11 days	9 days	8 days	13 days

<sup>a</sup> Figures are based on attendance data reported in the sample survey of 141 USAID-assisted PRONOEI, conducted during October/November, 1983.

The analysis by months did not capture shorter times during which pre-schools may have been out-of-session for personal or administrative reasons. Consequently, a different analysis was done in 1984 by comparing the number of possible working days each month with the number of days the PRONOEI was reported to be in session. In Puno and for San Martin, where data were most complete, a wide range was evident from PRONOEI to PRONOEI. In Puno in the month of August, for instance, the number of days reported as in session varied from 6 to 22. According to these figures, the PRONOEI are, on the average, open approximately 70 percent of the time in Puno and 76 percent in San Martin.<sup>1</sup>

Even these figures may be high, however, judging from information obtained in the detailed 4-month observational study of 12 PRONOEI in 3 departments. For that admittedly small sample, the amount of time observers could not make their observations because PRONOEI were not in session ranged from a minimum of 30 percent to a maximum of 62 percent.

Perhaps, program impact does not depend on pre-schools being open all the time. Also it is well to remember that as programs mature, "down time" may decrease. Also, a non-formal system is supposed to be flexible, responding to exigencies in a way that formal systems cannot. Rather than "formalize", it may be more appropriate to allow flexibility, including the flexibility that presumably exists to run the program during January, February, and March, and to close down during planting and harvest seasons, and the flexibility for para-professional volunteers to be able to meet personal problems when they arise.

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<sup>1</sup>The maximum time was determined by taking the highest figure reported in each month.

A more acceptable hypothesis is that impact will decrease as "down time" increases. That may be so not only because less time is spent learning, but also because not knowing whether the pre-school will be open or not may lead parents to keep their children at home.

When PRONOEI are in session, what percentage of the children who are enrolled attend? Using 1984 survey data, we found overall percentages ranging from 48 percent in Puno to 65 percent in San Martin. For the program as a whole, the rate of attendance was 55 percent. These survey figures are supported by data from the observations. In the 12 PRONOEI, an average of 12 children attended daily. In Tarapoto, the range was from 13 to 31 (average 17); in Cuzco from 5 to 16 (average 9), and in Puno from 8 to 30 (average 15).

What are the causes of inattendance? From the survey we learn that inattendance is related to:

1. Sickness. The morbidity rate is relatively high among participating children, but there was no way of quantifying that in this study.

2. Distance. Often, distances are too great for even the 5-year olds to go to the pre-school alone. When no parent or sibling is available to take the child, they stay at home. Distance combines with changes in weather to reduce attendance. In San Martin, for instance, rising rivers sometimes prevented children from getting to the PRONOEI. When a PRONOEI is located near a primary school it is possible for older siblings to bring younger brothers or sisters to the PRONOEI. However, as will be discussed below, the fact that primary schools are so often out-of-session does not make this arrangement as much of an advantage as it might be.

3. Parental apathy. In some cases, animadores reported that the main reason for poor attendance was because parents were not very interested in the program. It may also be the case, as suggested above, that parents become discouraged when a PRONOEI is open only sporadically.

4. Lack of food supplementation. This last reason for attending came out clearly in interviews with some animadores. However, in interviews with parents, food supplementation was not volunteered as an important reason why children were sent to the PRONOEI.

Combining the losses from days missed and from inattendance, children are, on the average, in the PRONOEI for only 40 to 50 percent of the time they could be there. Translated into days, that means attendance for 9 or 10 days a month rather than 21 or 22 days.

These figures lead to two fundamental questions:

1. Can an impact be expected (detected) from a program in which children participate only about half time?

2. Can such "inefficiency" be supported in a program?

To the above we must add "drop-out." However, dropout is not very high in most programs. In only one or two program locations did it pass 25 percent. Overall, the percentage was about 15 percent, with Puno showing the highest (19 percent). The main reason for dropping out was change of residence or travel with parents. Sickness and death were mentioned in about 15 percent of the cases when a reason was given. In the most unfortunate of cases, 3 of 41 students registered had died during the year (in Kollarrayan in the Department of Cuzco).

#### The Children and their Families

In the 1983 and 1984 surveys we requested a listing, by name, of children enrolled in each of the PRONOEIs. For each child, information was collected about his/her, sex, age, weight and height, and monthly attendance. For each parent, we asked about level of schooling and age. In addition, we asked about the number of children in the family and the place of each child in the birth order.

Table 3 summarizes information about the age and sex of children enrolled, and about mother's education. Age data yield the following conclusions:

1. The percentage of children ages 3, 4, and 5 is about the same. In San Martin in 1983 and Apurimac in 1984 the percentage of age 3 children is somewhat higher, but these could reflect sampling differences.

2. The percentage of under - or over-aged children attended by the program is significant -- about 10 percent -- and ranging upward to over 15 percent in Puno. The large over-age population attended in Puno has implications for the curriculum used there.

In Cuzco and Puno, more girls than boys are attending PRONOEIs; in Apurimac, the percentage is about equal. Only in San Martín does attendance by girls seem to lag. This result is encouraging and fulfills one of the

objectives sought in the program --to provide a better start for girls. It remains to be seen however to what extent progress in primary school for girls is affected by having attended a PRONOEI.

TABLE 3  
SELECTED CHARACTERISTICS OF CHILDREN AND THEIR  
PARENTS, USAID-ASSISTED PRONOEIS IN APURIMAC, CUZCO,  
PUNO, AND SAN MARTIN, 1983 and 1984<sup>a</sup>

	Departments							
	Apurimac		Cuzco		Puno		San Martin	
	1983	1984	1983	1984	1983	1984	1983	1984
1. Childrens age: 3	33	47	29	28	33	21	39	28
4	28	32	26	24	21	24	23	25
5	27	18	29	31	25	28	25	25
% under/over aged	7	-	6	6	8	15	10	13
% no information	2	3	6	12	8	12	4	9
2. Gender:								
% Boys	50	48	57	53	57	52	48	43
3. Mother's Educ:								
% none	67	43	51	41	27	41	17	22
% complete pri- mary or more	19	26	16	24	24	18	46	63

Source: Ibid.

The survey results included height, weight, and age data. A review of that information requires more detail than appropriate for this section. We will return to the topic when discussing program effects. The nutritional status of the children is also discussed in detail in the appended report from Eliane Karp-Toledo (see Appendix E).

PRONOEI Communities

We have already seen that many programs are located in "inaccessible" communities. The information provided in Table 4 shows that most of the PRONOEI communities, accessible or not, lack basic facilities that would complement and reinforce potential benefits to children associated with attending the PRONOEI. The communities are also short on other programs. This relative absence of services suggests that the PRONOEI is providing an entrance into communities not already receiving other support, and that therefore the possibility they can serve as a "catalyst for community development" is real. The finding also reflects the fact that the USAID-assisted PRONOEIs are only recently being thought of in broader, community-based terms, despite the title which was given to the project from the beginning. There is, then, potential for improvement associated with a broader, multi-faceted view of programming. If that potential for complementary action is not realized to some degree, then not only will the catalytic goal have failed, but whatever effect the project has on children may easily wash out.

The community questionnaire provided information about presence of: a primary school, a medical post, a system of potable water, a sanitation system, and pest control. It will come as no surprise that, with the exception of primary schools, these facilities are usually absent. Table 4 summarizes that information.

The best record of services seems to be in Puno. There, an integrated view of community development has been taken from the beginning (influenced in part by the political conditions in the early 1970s and in part by UNICEF's "basic needs" policy). Moreover, the program in Puno has been functioning for 11 years and has had a chance to mature. And, program funds are administrated

TABLE 4  
 COMMUNITY SERVICES AND PROGRAMS, USAID-ASSISTED PRONOEI  
 COMMUNITIES IN APURIMAC, CUZCO, PUNO AND SAN MARTIN, 1983 and 1984  
 (% of Project Communities)

	Departments							
	Apurimac		Cuzco		Puno		San Martin	
	1983	1984	1983	1984	1983	1984	1983	1984
<u>Facilities/Services</u>								
1. Primary School	87	88	75	86	89	97	97	94
2. Medical Post	3	15	9	11	32	43	20	18
3. Drinking water	11	9	11	19	7	13	10	20
4. Sewage system	0	0	3	0	0	0	5	10
5. Latrines	0	0	3	4	34	6	35	33
6. Control of pests	7	10	25	16	18	15	35	11
<u>Courses given (1983)</u>								
1. Literacy	57	--	47	--	80	--	35	--
2. Health or nutr.	22	--	5	--	20	--	0	--
<u>Family gardens projects</u>	0	45	7	29	36	43	35	13
<u>Food supplements received (1983)</u>								
1. Yes, received	63	--	36	--	89	--	95	--
2. Times per year	1.5	--	1.7	--	2.9	--	3.5	--

Source: Ibid.

by the Regional Corporation, helping make integration possible. Puno, despite its poverty, has a better record than other departments with respect to medical posts, huertos familiares, and courses offered, including health and nutrition courses.

The community survey included questions about receipt of food during 1983. Cuzco stands out for its low level of participation in the food program, in large part a result of cut-backs in the school feeding program (PAE). San Martin also stands out, but as an area where food was received during 1983 even though San Martin was not suffering from drought or floods and, even though many parts of the tropical department produce more than enough food to feed the local population.

#### Pre-School Facilities

Table 5 provides selected data about PRONOEI facilities, equipment and materials. Most pre-schools are not found in a locale built specifically to house a pre-school but are, rather, in buildings ceded for the pre-school program. The percentage of communities where the PRONOEI is in its own locale is much higher in Puno and San Martín than in Apurimac and Cuzco. Some PRONOEI buildings are rented, but most sites are donated. The significance of having a separate locale vs. a ceded one can be illustrated by a vignette from a visit to Suagachi, a rural community in the Quechua zone of Puno. The visit occurred on the third day of a festival honoring the patron saint of the town. The PRONOEI, a town facility, was being used for storage of alcoholic beverages and as a sleeping place for several participants in the festival who had come from longer distances. The PRONOEI was not only not functioning, but was in total disarray. The animador was worried about the loss of educational materials.

More than one-fourth of the PRONOEI are in community education centers providing the possibility (seldom realized) for coordination among educational programs. (It is logical, for instance to link pre-schools and literacy

Table 5  
 BUILDINGS, EQUIPMENT AND MATERIALS -- USAID-ASSISTED  
 PRONOEI IN APURIMAC, CUZCO, PUNO, AND SAN MARTIN, 1983/1984<sup>a</sup>

	Departments							
	Apurimac		Cuzco		Puno		San Martin	
	1983	1984	1983	1984	1983	1984	1983	1984
Own Locale	13	17	18	11	27	38	37	38
Dirt Floor	89	83	52	46	43	31	70	62
Chairs or benches	30	--	43	--	20	--	?	--
Teaching materials sufficient? (% yes)	3	8	19	4	7	3	0	31
made by <u>animadores</u> (%)	80	96	80	86	70	85	100	94
made by families (%)	0	0	0	0	25	0	0	0
USAID donated (%)		54		54		15		56

<sup>a</sup>Source: Ibid.

programs. Where pre-school and primary schools are together, it would also be possible to relate the two by involving older siblings attending primary school in the pre-school, as helpers.)

USAID has provided funds to help build 173 PRONOEI. In order to obtain USAID assistance, a community must provide the land, labor, and some of the materials necessary to build. Thus, construction serves as a catalyst for community organization, and for community involvement in the PRONOEI. Although that participation does seem to occur and have an effect, it is often short-lived and does not extend to later involvement in the PRONOEI.

One indicator of the rough state of most PRONOEI is given by the fact that most are housed in buildings where the floor is earthen. Comparing the 1983 and 1984 data, there has been a slight improvement in each department.

Many lack windows. In Cuzco and Apurímac, according to the survey, most of the PRONOEI do not have chairs or benches. Data for 1984 are not presented because the question asked was not specific enough. That is unfortunate because the rustic lack of furniture identified in 1983 provided the basis for a concerted effort to improve the situation in 1984.

The survey results provide a general impression that very few educational materials are present in the PRONOEI. Animadores in 90 percent of the PRONOEIs thought their materials were insufficient. Most of the materials present in the PRONOEI seems to have been made by the animador. Indeed, an important part of the training courses for animadores in 1983 was given over to making materials (with, however, less success in dealing with how they might be used). Parents have not often been involved in helping to provide materials or make toys (with the exception of Puno where, in 1983, the survey information suggested that in 25% of the PRONOEIs parents had helped).

In 1984, additional attention was given by USAID to provision of materials. The result is reflected in figures for USAID donations, but not in the responses of animadores to the question of whether or not they have sufficient materials. From the observational study, the problem of availability of materials seems to be much less important than it appears from the survey data. For most activities in the 12 schools studied, there were sufficient materials to carry out the activity -- at least in part because of the relatively low attendance. Use of materials seems to be more of a problem than their availability.

In general, then, the picture is still one of relatively rustic facilities, and of gaps in availability of furniture and educational materials. The community is clearly fulfilling its obligation by providing a place for the pre-school to function, sometimes participating in the

construction and sometimes providing furniture. But community participation does not seem to extend to helping create or obtain educational materials.

In theory, a non-formal pre-school can function perfectly well in a park under a tree, or in a home. A specific locale, constructed as a pre-school, is not necessary. Nor is it necessary to have a full complement of chairs or benches or desks, or materials, particularly if children are engaged actively during their few hours at the pre-school. Nevertheless, these facilities and materials are often expected and help foster community involvement. Moreover, many rural parents regard the lack of these elements as indicating that their children are once more receiving "second best" treatment by the educational authorities.

#### The Animador

The volunteer para-professional is at the heart of the non-formal alternative. Animadores are not only expected to attend the children in the program for several hours each morning over an eight-month period. They are also supposed to work with parents and other community members -- to guide parents toward better care of their children, to improve community participation and organization, and to help better community conditions. All of this is expected of an untrained volunteer who receives a brief training course each year and a token gratuity of S/.50,000 (approximately US\$10.00 as of the time of writing) a month.

Profiles for animadores vary markedly from department to department. (See Table 6). For instance, the percentage of women animadores in Puno is much lower than in San Martín. In San Martín, also, animadores tend to be younger and slightly less likely to be living in the community than is the case in other pilot sites. The higher percentage of men in the poorer regions of the sierra (Puno and Apurímac) seems to be lessening. Originally, the

difference was probably due to the selection criteria (one should have completed secondary school and be bilingual), the election procedure (men control the community councils that make the choices), and availability

TABLE 6  
A DESCRIPTION OF THE ANIMADORES IN USAID-ASSISTED  
PRONOEI IN APURIMAC, CUZCO, PUNO, AND SAN MARTIN, 1983 and 1984<sup>a</sup>

	Departments							
	Apurimac		Cuzco		Puno		San Martin	
	1983	1984	1983	1984	1983	1984	1983	1984
Gender: % female	48	79	68	63	30	44	90	100
Education (Complete Secondary)	63	67	32	30	48	61	70	33
Age (under 24)	26	46	67	48	21	39	64	71
Living in the Community	87	88	74	80	84	83	90	73
Chosen by community	33	55	64	50	93	60	60	80
Additional compensation	3	4	0	7	16	0	20	0
Experience (jardín or PRONOEI)	-	9	-	40	-	28	-	14
Previous job								
student	40	*	71	*	*	*	*	*
farmer	33	0	32	0	*	12	*	*
housewife	17	0	14	7	*	25	*	20
Turnover during year	10	*	18	*	5	*	10	*
Turnover 1983/1984	77		56		47		93	

<sup>a</sup>Source: Ibid.

\* No Information

(women work the fields, herd animals, and have children whereas men are sometimes without work and their main option is to migrate). One can expect the percentage to continue to change over time as more women reach higher levels of education and become bilingual -- as is now the case in San Martín, for instance.

The percentage of para-professionals with a complete secondary education (an officially stipulated qualification for the animador), is only 30 percent in Cuzco in 1984, but is double that in Puno and Apurímac. The apparent drop in qualifications of animadores in San Martín between 1983 and 1984 is not easily explained, but may indicate that the position has become less attractive.

Para-professionals have not been trained in the field of initial education or child development before taking on their work. Increasingly, however, they have had some experience as an assistant in a PRONOEI or Jardín (about one-fourth claim such experience). The results of the inexperience are obvious (see following section reporting results of classroom observation). Most animadores have had little or no practical experience working as community developers. Almost none have been in positions of local responsibility.

Training is, therefore, an important part of the project. It is also an area of concern for the DIGEI. Why? An analysis in 1983 of the training provided in San Martín demonstrated an unfortunate concentration on the elaboration of materials (52 percent of the workshop time), leaving little time for practical information about how to work with the children and use the materials (27%), about health, nutrition, and child development (9%), about work with families and the community (5%), or about administration (2%). (The remaining 7 percent of the training time was devoted to general orientation.)

This distribution of training time seems to be in line with comments about training in other departments and suggested the need for a drastic review and revision of training. That was done in 1984.

In theory, participating communities should choose the animador who should be from, and live in, the community. And, some help should be provided by the community to compensate for his or her volunteer work in the PRONOEI. Again, the record varies by department and from year to year. In 1983, almost all (93%) of the animadores in Puno were chosen by the community (were elected in the Town meeting or were chosen by the Town council) as compared with only 60 percent in 1984. In the case of Apurimac, coordinators seemed to have strong hand in the selection in 1983, but the percentage chosen by the community had increased in 1984.

There is room for considerable improvement in community involvement in the process of selection. The expectation is that that involvement will increase over the years as programs become more established and an integral part of each community -- as seems to be the case in Puno. In fact, the reverse could occur.

Most animadores live in the community. In 1984, in all departments except San Martín, over 80 percent are community residents. Still, the theory is that 100 percent should be living in the community, leaving room for improvement. Behind that theory is an assumption, that the process of catalyzing community participation and development will best be carried out by community residents. That may be so in some cases and not in others. Indeed, the most important influence on performance seems to be selection by the community rather than residence. With local selection comes a greater sense of obligation to the community and more direct interest by the community in what is done by the animador. Turnover is less among animadores chosen by the

community (Loftin/Hidalgo).

According to survey results, communities do not provide extra compensation to animadores for their work. Nor, with very few exceptions, do they help by cultivating fields of the animador. Occasionally, additional food is provided. In almost all of the relatively few cases when para-professionals indicated on the survey that they received additional compensation, that did not come from the community purse but was, rather, modest pay received for acting as a literacy worker (adding another 35,000 soles per month to the propina).

One way of rewarding the para-professional is through an increase in status and importance in the community. As status increases, the animador is also in a better position to fulfill the expected community development role. The survey did not shed much light on such changes, but, as will be seen in the next section, animadores sometimes carry out such activities as calling meetings, serving on committees, preparing documents, and acting in a secretarial capacity to community leaders.

When para-professionals were asked what they did before taking the animador position, a small (and apparently decreasing) percentage said they were farmers. A relatively high percentage indicated they were students, reinforcing the idea that for a significant part of the group, the animador role marks a period of transition.

One of the continuing concerns by departmental staff and others is with the turnover of para-professionals. When animadores change, attention to the children is often interrupted. Moreover, the investment made in training is apparently lost. That is one viewpoint. From another perspective, turnover of animadores should be encouraged every two years because the change allows for greater community participation. If former animadores remain in the

community, they can continue to provide a catalytic force for community development. Whatever benefits were obtained from training remain and can still be used in the role of parent or neighbor. The idea of frequent turnover is endorsed in the guidelines set down by the MOE for the PRONOEI program. Whether or not one views turnover as acceptable depends on the main program goal sought. If child development is to be taken as the main goal, high turnover is not acceptable. If community development is the main goal, turnover can more easily be tolerated and may even be encouraged.

Most turnover occurs between years. As shown in Table 6, the rate of turnover in each department is very high between 1983 and 1984, reaching 93 percent in San Martín. Puno, with 47 percent was the least affected. The percentage during the year is not so high. In 1983, turnover was almost 20 percent in Cuzco, but 10 percent or less in the other three departments.

In Puno, time of service as an animador varied from one month to 11 years, with the average length of time being slightly more than three years. There, 20 of the 44 animadores (46 percent) in the 1983 sample had taken their position within the last two years. By 1984, that had increased to almost 60 percent. Similar figures for the other three departments have less meaning because the programs are more recent and are expanding relatively rapidly. Nevertheless, it appears that the average period of service in Cuzco, where there are more employment alternatives, is considerably less than that for Puno. Overall, the average length of service for animadores is less than two years.

In the survey, a rough attempt was made to get at the possible impact of the program on the career line of animadores. Information was collected about former animadores to see to what extent they changed their type of work after having been an animador. We were particularly interested in seeing whether

the experience led to work as uncertified, "third-category" primary school teachers. The numbers are small but suggestive. In Cuzco, for instance, of the 11 former animadores for whom information about present employment was available, 3 were employed as primary school teachers. In Apurimac, 4 of the 11 for whom information was available were now teachers (two of whom indicated, however, that they had previously taught primary school). Clearly, there is some transfer into the formal primary school system and in that sense the PRONOEI experience seems to be benefitting directly an unknown percentage of animadores.

The idea of subsequent movement by animadoras into professional careers was linked in the original Project Paper to a goal of helping to improve the status of women. The paper noted that a relatively small percentage of women were filling the role of promotor in Puno (at the time, about 20 percent), but went on to state:

A tentative target of 50 percent women participants has been established. As the project expands, it is expected that some of these women promotors are likely to gain access to higher job levels within the project or to professional careers outside the project.

As the project has spread, the percentage of women animadores in the project has increased, as hoped for. In Tarapoto, 90 percent are women. In Puno, the percentage has increased from 20 to 44 over the last four years. Ascent within the project has been infrequent, but as indicated above, animadoras have become teachers or coordinators.

#### Coordinators

Teacher coordinators are charged with training, supervising, and advising animadores. They are expected to visit PRONOEI communities periodically where they also help the animador with community promotion. Coordinators are assigned to provincial or sectoral units, but do not form part of the official technical staff of these units.

In 1983, a questionnaire was administered to 63 teacher coordinators: seven from Apurimac, 20 from Cuzco, 23 from Puno, and 13 from Tarapoto. From the results, a rough and varied description of the coordinator emerges. Most are women (57%), but the percentage ranges from 43% in Apurimac to 71% in Puno. The age of coordinators runs from 24 to 57 years, with an overall average of 33 years. In Cuzco, the average is 30 years of age. Almost all (97%) had completed higher education, usually with a specialty in primary education (63%). Only one-fourth were formally trained in the speciality of initial education. In the sierra, all were bi-lingual.

The ability of coordinators to supervise properly depends, among other factors, on the number of programs for which they are responsible, the distances involved, and the availability of transportation. These influence the frequency of visits. It is difficult to summarize information about these variables because the variation is so great. For example, the number of PRONOEI for which the coordinators were responsible ranged from 6 to 24 among those surveyed. (Averages by department ranged from 8 in Cuzco to 13 in Puno.) The distance to PRONOEIS varied from .5 kilometers to 120 kilometers and travel time from 5 minutes to 48 hours. Most visits (58%) involved walking to the communities. The number of visits per year to PRONOEI communities varied from 0 to 24, with an average of 5 per year (3 in Puno and 8 in Tarapoto).

Based on the 1983 data, some adjustments were made in 1984. Additional positions were budgeted and coordinators hired. Still, the number of PRONOEIS assigned is, on the average, too great for effective supervision to occur. In Apurimac in 1984, 79 percent of the programs were visited only once (or not at all) during the year. Percentages for other departments are Cuzco 34, Puno 17, and San Martín 33. There is an evident need to rationalize program

assignments and to set norms, for example, at least one visit per month per PRONOEI. That norm was reached in only 6 cases of the 107 animadores questioned in 1984.

Selection of coordinators proceeds according to norms established by the General Direction of Initial and Special Education. The Departmental and Zonal offices do the actual selecting, however, according to their own needs and the local availability of qualified personnel. The main processes used for selection were: an open competition and response to personal requests. (Tarapoto was an exception to that pattern there only 8 percent were selected through competition and almost half of the coordinators were proposed by education authorities.) Personal interviews loomed large as a criteria for selection as did time of service.

At the time of the 1983 questionnaire (when the exchange rate was about 1,500 soles to the dollar), the coordinator received a monthly salary, on the average, of S/.260,000 (about US\$175) per month. Salaries ranged from S/.151,000 to S/.432,000, depending on the professional title held and the length of time in service. However, approximately one-third of a coordinator's salary was, according to those questioned, used for travel, food, and lodging -- expenses required in carrying out their supervisory task. These costs were not reimbursed nor were they taken into account when setting salary levels.

When asked what motives might cause them to leave their position as coordinator, only 21 percent mentioned "a higher paying job" but others mentioned too many expenses on the job. Other motives mentioned were: family matters (33%), health (26%), to move to the city (15%), or to teach in a formal program (4%). An unspecified number (included in the "other" category) said they might leave to resume studies.

Turnover among docente coordinadores between 1983 and 1984 varied widely among project sites, from a low of 7 percent in San Martin to a high of 50 percent in Cuzco. Turnover was 42 and 35 percent, respectively in Apurimac and Puno. Thus, although there is evidence of unusual dedication among coordinators, there is also strong evidence that many coordinators would and will leave for other positions if they are available. Accordingly, it is important to seek a better system of incentives to promote satisfaction and stability.

### Looking Inside the PRONOEI<sup>1</sup>

The evaluation results presented thus far provide a description of the setting and of participants in the non-formal pre-school service, but they tell nothing about what actually happens when an animador and children are present in a PRONOEI. To fill in that information we will draw on the structured observations made in a group of 12 PRONOEI, four each in the departments of Puno, Cuzco, and San Martin.<sup>2</sup> Observations were made two days a week over a period of four and one-half months.<sup>3</sup> Observers arrived before the animador and observations began when the animador and three

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<sup>1</sup>This section draws heavily on information provided in the Phase I and Phase II reports written by Craig Loftin and Esau Hidalgo. The interested reader should turn to those reports (see Appendix C) for additional details, particularly with respect to the animador and the coordinador docente.

<sup>2</sup>Limited resources did not permit the inclusion of Apurimac in this part of the evaluation.

<sup>3</sup>The communities were chosen for their relative accessibility. Variation was sought in terms of language (Spanish, Quechua, and Aymara), and by level of poverty.

children had arrived or when the animador began an educational action. The process permitted systematic recording of data about: 1) the type of activity and the time used for each, 2) the number of children present, 3) the level of participation, 4) the time of transition between activities, 5) where the activity was carried out, 6) the steps in the activity, 7) the materials used, the duration of use, and whether there were sufficient materials, and 8) the verbal instructions.

#### A Morning at the PRONOEI

An animador rises early to take care of farming or household tasks. Sometimes that means getting up at 3 AM, preparing the animals and taking them to pasture. If there is time, the animador may review what the curriculum guide suggests as activities for the day before heading to the PRONOEI at about 8:30. On the way to the PRONOEI, the animador may stop at the house of a mother whose turn it is to prepare the morning snack that day -- to remind her. Sometimes children are picked up along the way. Arriving at about 9:00, the first minutes are spent cleaning the locale, arranging materials to be used during the day and, perhaps, taking another look at the curriculum guide. Some time is spent also chatting with parents who drop off their children.

By 9:30, on a good day, enough children will have arrived that the day can begin, usually by washing face and hands. Often, the animador and children begin by singing a song learned previously or a song that the children choose. Once the children are more or less settled in their places, an activity follows that is often taken from the intellectual or the bio-physical part of the curriculum guide. Explanations are given first in the child's mother tongue and then in Spanish, if the community is bilingual. The animador may have a problem keeping the attention of the children and

therefore may lose the natural sequence of the activity as it was presented in the guide. More often than not, the animador gives directions or asks questions, using complete phrases, and the children respond in monosyllables. Children use the materials they are given. If a child does not want to participate and sits inert, only rarely is an attempt made to get the child to participate.

When one activity has been completed, a period follows during which the children are on their own while the animador attends to a parent or checks to see whether the mothers have begun to prepare the morning milk for the children. If a mother has not arrived, the animador may interrupt her work to start a fire and heat water for preparation of the milk. Meanwhile, children either sit, go outside, or play with materials in the various "corners" that have been set up (a science corner, or a "home" corner, for instance). On a good day, another activity or two may be carried out before recess at about 10:30.

Following recreation, the children line up, wash hands, and receive a cup of milk. They wash their cups. A song or two helps the animador get the children's attention so that at least one more activity can be carried out before the children leave for home at about noon.

In the more-established and better PRONOEI, each child has a place to hang his or her hat on arrival. Each child has a seat and the PRONOEI will have enough materials that sharing is not necessary. If materials are scarce, the animador may spend considerable time deciding who will use what materials and settling squabbles. In some PRONOEI, a meal rather than a cup of milk, will be prepared, usually a soup of some sort with potatoes or rice.

After children leave, the animador tidies the PRONOEI and returns home. Unless there is a community assembly, the rest of the day will be spent

in farming or domestic chores. On assembly days, the animador reminds parents that they should send their children to the PRONOEI so that when they grow up they will have a chance for a better life than the parents have had.

When a visitor arrives (including the teacher coordinator), the animador typically stops all activity with the children in order to attend to visitor. When the coordinator arrives, a check is made to see whether the animador is following the plan for that day and whether attendance has been taken and marked in the animador's notebook. Problems faced by the animador are discussed. Usually the supervisor takes over the children for a short period, carrying out one or more activities (rather than observing the animador). Occasionally, a teacher coordinator will time arrival for a community meeting and talk about the PRONOEI or about related community activities such as the community gardens. More often, however, the visit is during the PRONOEI hours. At the end of the visit, the supervisor signs a book to indicate that the visit has occurred.

#### The Use of Time

The systematic observations of daily activities from which much of the above description has been constructed reveals that about 20 percent of the 2 hours and 50 minutes (average) in the PRONOEI is spent on developmental activities. Of that time, most is spent on either intellectual or motor development. The remaining 80 percent is spent arriving, arranging the room, in transition among activities, for recreation, eating, or leaving. During the approximately one-half hour devoted to programmed developmental activities, almost all are based on the curricular guide.

### Participation of the children

Participation depends on being present, remaining present, and becoming involved. Inroads on participation because of low attendance have already been discussed. However, the fact that a child comes to the PRONOEI does not mean he or she will participate. From the observations, it was learned that during the morning children come and go so that, on the average, only about 80 percent of those attending actually participate in an activity.

When participation in activities was classified into active, reduced, and non-participation, an average of 58 percent of the children present were active participants -- helping to distribute materials, handling available materials, and playing or interacting with others in the way suggested by the activity. Another 25 percent participated in a reduced or more passive way and about 17 percent did not participate at all. The same children are not always passive or non-participants -- that varies from activity to activity. Still, there are cases of children who rarely participate actively. Animadores do not seem able to recognize or to know how to achieve active participation for these children.

### Community Perceptions of the PRONOEI

Also missing from the quantitative description of the project is information about how parents and community members view the PRONOEI. Two sources of information help to answer that question -- the community studies (see Karp-Toledo) and the interviews with parents of children to whom tests were given (see Engle/Ferrari). From these came several consistent messages from parents about what they think a PRONOEI does and about what they think should happen in a PRONOEI.

Most parents (68 percent) think a PRONOEI is a "school" for young

children. It is a less expensive pre-school center (CEI). In the "school," children learn to sing, dance and play. They do not learn to read and write. However, most parents say they send their children to the PRONOEI in order to learn to read and write, and to prepare them for primary school. These answers were given by 63 percent of the parents in Cuzco, 51 percent in San Martin, and 73 percent in Puno, when asked about what they thought their child should know when leaving the PRONOEI.

In some locations, particularly San Martin, there is a feeling that the PRONOEI is inferior to a CEI because the "teacher" is not qualified and because "throw-away" materials are used. Rarely do parents mention food supplementation as an important aspect of the PRONOEI, despite some evidence that the availability of a snack is an important incentive to attend.

Parents are virtually unanimous in their contention that the PRONOEI benefits their children. Only a small percentage think the PRONOEI helps them as parents in any way.

About half of the parents thought that the PRONOEI was functioning well. Those who thought it was not seldom had constructive suggestions for improving it.

#### Summary

1. The quantitative goals (number of PRONOEIs and coverage) of the Pre-School Project are being met. An out-of-school pre-school service has been established.

2. In the main, PRONOEI are, as expected, serving poor rural families, often in inaccessible communities. Most of the PRONOEI communities lack complementary services (e.g., a medical post), and programs to improve production and community conditions. The Pre-School Project, therefore,

provides an entrance, but the PRONOEIs have not yet become part of an integrated community development scheme (with the possible exception of Puno).

3. More than half of the children attending USAID-assisted PRONOEIs are girls, fulfilling another project goal. About half of the animadores are women.

4. Children attend PRONOEIs for less than one-half of the time potentially available to them. PRONOEI are open, on the average, only about two-thirds of the possible working days each year. Children are absent because of sickness, distance, parental apathy, and lack of supplementary feeding.

5. Community involvement in the PRONOEI is evident in:

- a. the selection of animadores, most of whom live in the community.
- b. constructions or making available a locale (but not in providing educational materials).

6. Most of the locales in which PRONOEI function are very modest and equipment and materials are insufficient. Some improvement is evident between 1983 and 1984 and the situation is much better than when the project began in 1980.

7. The profile of the animador varies widely from place to place, influenced by the program history, sub-cultures, the presence of alternative employment and the educational level of the population. More than 50 percent are now women, as envisioned in the Project Paper. Turnover of animadores in a given year is less than 20 percent in all departments. The average time of service is less than 2 years. Between years, turnover is very high.

8. Coordinators are relatively well-educated, but few have specialized in initial education. Language skills among coordinators are appropriate to their task. The number of PRONOEI for which coordinators are responsible

varies widely and norms are needed to improve the possibility that each coordinator will visit PRONOEI communities frequently during the year. Incentives for coordinators need adjusting. That is particularly so in light of the out-of-pocket expenses coordinators now incur in carrying out their work.

9. Puno, where the program is more widespread and has been functioning for a longer time in a more "integrated" form, has apparently achieved a higher, although still modest, level of community participation and of complementary programs and services than other, newer program areas. That observation suggests the possibility of improvement over time, the importance of not expecting immediately dramatic results, and the need to stay with the effort.

10. For developmental activities, the animador uses, on the average, about 20 percent of the approximately 3 hours available each morning. The remaining time is used for complementary activities such as singing, hand-washing, recreation, and eating, or is spent in "transition time." Almost all of the programmed activities are based directly on the curriculum guide. About 20 percent of the children present for an activity do not participate at all.

11. Parents and community members have a view of the PRONOEI as a formal pre-school (sometimes of inferior quality) in which children should learn to read and write and prepare themselves for school. In spite of that view, parents describe the PRONOEI as a place where the children learn to sing and dance and play. And, parents also feel the program benefits the children. They do not see benefits in relation to their own role as parents.

SECTION III - PROJECT EFFECTS

As effects of the program are examined in Section, III, the reader is asked to keep several points in mind:

1. In most locations, the service we are evaluating is relatively new and is itself developing. In Section II, we depicted a program that is established but functioning at a minimal level of quality. The description does not lead one to expect dramatic effects of the program on children or communities. It is reasonable, nevertheless, to hypothesize that effects will be present. That may appear to some readers simply as optimistic and wishful thinking, but previous evaluation results and consistent anecdotal evidence make it plausible to think that where children are at risk of delayed development and where no program existed before, even a poor quality effort may make a difference.

2. Because the service is new and because emphasis has been on institutionalizing and expanding the service, rather than on improving its quality, failure to find effects should not lead automatically to the conclusion that the program is a failure and should be discontinued. On the contrary, the conclusion may be that with time and continuous improvements raising the quality, the model and the investment made could be very effective.

3. In order to reach a positive conclusion, it should be possible at a minimum, to detect significant effects in those areas where the program has been functioning longest, where conditions are most favorable, and where a reasonable level of quality has been achieved.

In this section, we will look at the effect "Initial Education as a Catalyst for Community Development" has had on:

1. The national system of initial education;
2. The development of participating children and on their families;
3. The communities in which the program is found.

### Effects on the National System of Initial Education

Coverage, as indicated in the previous section, increased during the project period to over 60,000. That is more than three times what it was in 1979. In Puno, a remarkable 75 percent of the rural communities are covered (CEDEP, 1984), and a large portion of that expansion has occurred with assistance from project funds. In Apurímac, Cuzco, and San Martín, an established service now exists which was, previously, token in nature. More important than the increased coverage, per se, are two features of that coverage: first, girls are equally represented, and second, the program has reached out into some of the most remote rural areas imaginable.

As will be seen in the following section on costs, this expanded coverage has occurred at a fraction of the cost that would have been incurred had similar expansion of the formal system of initial education been attempted. An effect on initial education of the project and the expansion has been to reduce the per child cost of delivering initial education.

Within the framework of the project, an effort has been made to improve the content of initial education. That has been accomplished by re-examining and changing norms and by adjusting the curriculum to local realities in each of the four project sites. The concrete outcomes are four curriculum guides that, with additional adjustments, will be used long after project funding has stopped. The process of creating the curriculum guides has established the principal of decentralized attention to curriculum content. The idea of continuous re-examination of content and method has also been promoted and a method for doing so has been successfully tried out. This last outcome is fragile and will need additional encouragement in the coming years.

The project has had an effect on the kind of facilities and materials available for use. With the help of the local communities, 173 centers have

been constructed. A special effort was made in 1984 to meet basic needs for educational materials and for furniture. More important in the long run than donating materials to specific PRONOEI has been the creation of workshops to make materials locally.

Co-ordinator's and specialists's positions have been created in each of the four project sites with project funds. These positions are being transferred to the permanent budget of the MOE, giving continuity to efforts beyond the life of the project and leaving in place an organizational structure to carry on.

A major effect of the project has been to up-grade the level of human resources within the system of initial education. Training has been provided, ranging from the brief yearly training given to several thousand promoters and to more than 200 teacher supervisors, to completion of an master's degree in educational administration by the project's national coordinator. These training efforts, together with learning that has occurred in conjunction with technical assistance, have strengthened the MOE's human resource base. Some of those trained have been lost to the system for lack of adequate incentives, but many remain. Others will leave if not provided with additional incentives.

It is not difficult to conclude that the project has had a positive effect on initial education. What began in 1980 as an experimental project has become, in 1984, an integral part of a transformed educational service. During the five-year period, initial education significantly expanded its coverage, improved program content, constructed facilities and made educational materials available, established an organizational framework in four states and at the center, and raised the level of expertise and experience of the people working within initial education. With proper attention to transition, these gains should be permanent.

Effects on Children

A. Child Development Effects.

A main goal of the project has been to affect the development of poor children whose living conditions put them at a disadvantage. The project paper set as targets: 1) "intellectual gains of 25 percent, compared with children who have not participated in the program;" and 2) "'significant' gains in health and nutritional status." These targets are narrow and vague. They are narrow because the emphasis does not stretch to cover social as well as intellectual goals. Although an intellectual gain of 25 percent increase seems to be very specific, the target is still vague because no standard is provided for measuring intellectual development.

One way of measuring child developmental effects is to examine gains by administering a standardized test designed to measure a set of standard abilities or an intellectual or development "quotient." Such tests have been applied in Peru, but they were rejected in this evaluation in favor of a test created to evaluate children in terms of the specific curriculum objectives set out by the MOE for initial education.

The decision to create a special test was made for two main reasons. 1) Experience with programs elsewhere suggests that effects of early interventions on IQ are short-lived and that other effects seem to be more important. These other effects include language development, socialization, and emotional development or self-image. The Ministry of Education was particularly interested in these dimensions of development. 2) The tests previously used in Peru to measure mental development have been imported tests, often translated literally. One, the McCarthy, has been adapted to Peru and used on several previous occasions. Among the tests used, the

McCarthy has been a reasonable alternative. However, it has not been normed for Peru and still has some fundamental problems, related to its foreign origins, and the language and materials used.

The new test, Prueba de Habilidades para Niños Pre-Escolares, was created by Peruvian psychologist Martha Llanos. The test was designed to measure the progress of children within the three main developmental categories represented in the pre-school curriculum: motor development, mental development, and socio-emotional development (see Figure 1 at the end of this section). The instrument was graded for difficulty, according to the capacities of 3, 4, and 5 year-old children. It was also based on activities and symbols reflecting the environment of the child. That meant adjusting content to the different contexts of the sierra and ceja de selva. The process of test construction, field testing, and adjustment is described in two appended documents by Martha Llanos, and in the report by Patricia Engle and Clara de Ferrari.<sup>1</sup>

In its revised form, the Prueba de Habilidades was administered in June 1984 to 94 children in PRONOEI and non-PRONOEI communities in San Martín and

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<sup>1</sup>At the outset, a matrix of goals was established for each of the three broad development categories. Test items or activities were created to measure accomplishment of these goals. Before field-testing several different kinds of people were enlisted to judge whether the items and activities seemed to get at the desired objectives to be tested. Adjustments were made and a similar process of validation was undertaken with teacher coordinators. Next the instrument was field-tested, first in Cuzco where adjustments were made, then in Puno (in both Quechua and Aymara communities), and finally, in Tarapoto. The help of linguists and of native speakers of Quechua and Aymara was enlisted along the way. In total, the test was administered to 65 children. The outcome of that process is a 60 - item test, in Spanish, Quechua, and Aymara which is graded by age and which covers the areas and objectives shown in the table taken from the attachment document by Llanos and presented at the end of this section. (See Llanos, February, 1984)

Cuzco (Llanos, October, 1984). Five months later, the same test was given to 334 children in San Martín, Cuzco, and Puno. The second round of testing in 1984 included readministering the test in Cuzco to 27 of the children tested earlier. Included in the 334 were PRONOEI children, non-PRONOEI children, and children attending kindergartens (CEI).

In order to interpret test results correctly, a number of checks were made during the final round of data collection and in the analysis. These included: field checks for tester variation in language and methods of test administration; item analysis by age grading; an inter-correlation analysis of sub-scales; examination of test-score differences by tester and by gender; external validity checks. Despite some variation in administration, and some unusable test items, sub-scales correlate with each other and the test is related to external indicators. Selected items show passing rates that are similar across ages. In brief, although the test needs further adjustment,<sup>1</sup> it provides a useful indicator of abilities linked to the curriculum.

Before moving to comparisons, several general test results should be noted:

1. No significant gender differences were found.
2. The children generally did better on tests of motor ability than on tests of intellectual or social ability. That finding is consistent with expectations, but it is not clear whether it reflects real differences or is an artifact of the test.
3. Project children in the three pilot sites performed at different

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<sup>1</sup>The test had three main weaknesses: a) Greater standardization is needed in the methods of presentation, verbal prompts, and materials used. b) Structuring in terms of parallel items thought to be age-appropriate was not always upheld in the analysis. In the analysis scores were standardized within age groupings to correct for age bias. c) Several items were based on replies by a third person (mother, or teacher) rather than on behavioral observation.

levels on the test (see Table 7). In the psychomotor area, Puno children scored highest. On the intellectual scale, Cuzco children performed best, followed by Puno and San Martin children. On the social scale, San Martin and Cuzco children perform slightly better than Puno children.

Testing procedures allowed the following comparisons to be made:

1. PRONOEI vs. non-PRONOEI children, for all children, by department
2. A pre-test/post-test comparison, examining changes in test scores over a five-month period, and
3. PRONOEI vs. CEI children.

Although an attempt was made to choose "control" villages that had characteristics similar to the experimental PRONOEI villages, comparability was achieved only in Puno and not in Cuzco or San Martin. Examining educational levels of mothers in Cuzco and San Martin reveals that mothers in PRONOEI villages have not completed primary school on the average, whereas mothers in non-PRONOEI communities have completed primary school. For the CEI villages, the difference was greater, reaching a median of incomplete secondary in two of the four CEI communities. These differences, which work against the PRONOEI communities, must be kept in mind as results are interpreted.

Results of the analysis are presented in Tables 7, 8, 9, and 10.

#### 1. A Comparison of PRONOEI and Non-PRONOEI Children

Overall comparisons were made by department and for each of three sub-scales representing intellectual, socio-emotional, and motor development (see Table 8). In addition, two comparisons were made in the Cuzco area, one with urban marginal communities, the other with rural communities, in an attempt to more closely relate children from similar backgrounds. The

TABLE 7

A Comparison of PRONOEI and Non-PRONOEI Children:  
All Subjects By Department, Using Standardized Score<sup>a</sup>

Department	Psychomotor		Intellectual		Social	
	PRONOEI	Control	PRONOEI	Control	PRONOEI	Control
<u>CUZCO</u>						
$\bar{X}$	-.026	.323	.387	.324	.071	.363
SD	.987	.734	.967	.762	1.137	.980
N	60	32	60	32	60	32
t	.962	.344		1.285		
<u>SAN MARTIN</u>						
$\bar{X}$	-.180	-.339	-.434	-.500	-.049	-.617
SD	.812	.875	.762	.922	.676	1.011
N	47	27	47	27	47	27
t	.772	1.99		3.39*		
<u>PUNO</u>						
$\bar{X}$	.133	-.631	-.019	-1.106	-.110	-.899
SD	1.159	1.229	.874	.727	.844	.935
N	89	29	89	29	89	29
t <sup>b</sup>	2.949*		6.877**		4.039*	

<sup>a</sup>Source: Patricia Engle and Clara Pawlikowski de Ferrari, "Evaluación de los Efectos en Niños y sus Familias," Lima, USAID, December 1984 (Appendix F of this report). To standardize scores, children were ranked within their own age group. A score at .00 represents the average for the age group. A negative score is below average and positive above. The units of measurement are standard deviations (1 = 1 standard deviation).

<sup>b</sup> \* = significant at p=.05  
\*\* = significant at p=.01

TABLE 8  
Comparison of PRONOEI and Control Programs:  
In Matched Communities: All Subjects, Standardized Tests<sup>a</sup>

	Psychomotor		Intellectual		Social	
	<u>Exp.</u>	<u>Control</u>	<u>Exp.</u>	<u>Control</u>	<u>Exp.</u>	<u>Control</u>
CUZCO						
<u>Village: Valley (01 &amp; 02 vs. 09)</u>						
$\bar{X}$	.580	.320	.751	.423	.301	1.06
SD	.529	.671	.714	.631	.983	.630
N	25	14	25	14	25	14
t <sup>b</sup>	1.24		1.48		2.58*	
<u>Urban Marginal Villages (03 &amp; 22 vs. 26)</u>						
$\bar{X}$	-.066	-.039	.131	-.181	.300	.055
SD	.804	.686	.974	.881	.972	.671
N	30	16	30	16	30	16
t	.18		1.10		1.00	
PUNO						
<u>Aymara Only</u>						
$\bar{X}$	.134	-.982	-.107	-1.272	-.077	-1.367
SD	1.29	1.25	.86	.738	.912	.731
N	59	15	59	15	59	15
t	3.14**		5.27*		5.78**	
<u>Quechua Only</u>						
$\bar{X}$	.130	-.256	.268	-.929	-.164	-.398
SD	.867	1.170	.857	.696	.705	.886
N	30	14	30	14	30	14
t	1.02		4.92**		.83	

<sup>a</sup> Source: Ibid.

<sup>b</sup> \*=significant at p=.05  
\*\*=significant at p=.01

results, in summary, are:

a. Puno. Experimental (PRONOEI) children scored significantly higher than controls (non-PRONOEI) on all three sub-scales. These results are stronger for Aymara than for Quechua children, but significant differences were found in both zones. These findings parallel results of evaluations carried out for UNICEF in 1981 and 1983 by Jose Aliaga using a different sample of (PUNO) communities and a different test (Aliaga, 1981, 1983).

b. Cuzco. No significant differences were found between experimental and control children. This failure to find differences is noteworthy. Given the superior economic and educational position of the control communities, negative results might have appeared but did not.

c. San Martín. PRONOEI children scored significantly higher on the social sub-scale, but no differences were found for the intellectual or motor sub-scales.

d. Village comparisons (Table 8). Two comparisons were made, a rural, and a marginal urban comparison. The urban comparison produced no significant differences in favor of PRONOEI children, again noteworthy, given the differences in the communities. In the rural comparison, control children scored significantly higher on the social scale. Scores on intellectual and motor scales were higher for PRONOEI than control children, but the results were not statistically significant.

## 2. A Pre-test/Post test Comparison

Usable pre-test and post-test data were available for a small number (27) of children in PRONOEI and non-PRONOEI communities in Cuzco. Because the number is small the results of this analysis should be taken as suggestive.

On the pre-test there was no significant difference between the two

groups. When the relative change in test scores was analyzed (analysis of co-variance), a significant difference appeared on the social sub-scale (see Table 9). Despite the fact that the scores of the experimental children were lower, on the average, they had experienced significantly greater change over the five months than the control children. Differences in psycho-motor and intellectual change scores were in the expected direction (in favor of PRONOEI children) but the differences were not statistically significant.

These results suggest that the PRONOEI can have a significant effect on children who start from a very low level of ability. A significant effect in the social realm is consistent with the many parental reports that, as a result of participation in the program -- that children lose their fear and are more alert.

### 3. A Comparison of PRONOEI and CEI children.

Data were gathered from CEI children in Cuzco and San Martín. When all CEI and PRONOEI children were compared in these regions (see Table 10), the CEI children were performing better. In Cuzco, that was evident only on social scores. In San Martín, CEI children were superior to PRONOEI children on all three sub-scales. The result is not surprising given the higher educational level of the CEI parents.

#### B. Primary School Effects.

One effect on children that was hoped for when the project was initiated was improved progress and performance by children in primary school. Two previous studies in Puno (Aliaga 1981, 1983) had not found significant differences in the performance of PRONOEI and non-PRONOEI children in the first three grades. The first study examined grades assigned by teachers. The second was based on a special test of language and

TABLE 9

Pretest/Post-test Comparison of Scores in Cuzco:  
All Subjects, Scores Not Standardized<sup>a</sup>

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	<u>Post-test Means</u>	<u>Adjusted Means<sup>b</sup></u>	<u>N</u>	<u>F</u>
<u>Psychomotor</u>				
PRONOEI	174.5	175.0	19	.872 p = .64
Control	164.6	164.1	8	
<u>Intellectual</u>				
PRONOEI	140.4	141.4	19	2.664 p = .88
Control	115.6	114.6	8	
<u>Social</u>				
PRONOEI	110.0	110.1	19	12.71 p .001
Control	85.6	85.5	8	

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<sup>a</sup>Source: Ibid.

<sup>b</sup>Scores are represented by the average score on items in that area x 100. An adjusted score is provided by an analysis of co-variance in which the mean and variation due to pre-test scores are removed from the dependent variable (post-test scores). An analysis of variance is then performed on the "adjusted" scores.

TABLE 10

Comparison of PRONOEI and CEI Community Children:  
All Subjects, Standardized Scores<sup>a</sup>

	<u>Psychomotor</u>		<u>Intellectual</u>		<u>Social</u>	
	<u>PRONOEI</u>	<u>CEI</u>	<u>PRONOEI</u>	<u>CEI</u>	<u>PRONOEI</u>	<u>CEI</u>
<u>CUZCO</u>						
$\bar{X}$	-.026	.285	.387	.671	.071	.882
SD	.987	.715	.967	.937	1.132	.763
N	60	27	60	27	60	27
t <sup>b</sup>	1.473		1.292		3.372**	
<u>SAN MARTIN</u>						
$\bar{X}$	-.180	.331	-.434	.545	.049	.455
SD	.812	.551	.762	.990	.676	.663
N	47	23	47	23	47	23
t <sup>b</sup>	2.72*		4.177**		2.388*	

<sup>a</sup> Source: Ibid.

<sup>b</sup> \* = significant at .05

\*\* = significant at .01

mathematical abilities administered to the primary school students. This failure to find results is consistent with findings in the United States for Headstart children in the first years of primary school where earlier effects were observed to "wash out."<sup>1</sup> Still, an impact in primary school was expected.

In order to check for possible effects, the following information about first and second grade children was requested in selected PRONOEI communities: age, sex, grades in language and mathematics, attendance, repetition records (including whether the child was expected to repeat in 1985), pre-school background, and mother's education. Repetition, drop-out, and grades serve as indicators of progress and performance. Because different teachers apply different standards when assigning grades, and because grading correlates with repetition, our analysis focusses on repetition.

Relating repetition rates to whether or not a child had attended a PRONOEI turned out to be more difficult than anticipated. First, the definition of repetition was not straightforward. We decided to use as an indicator whether or not a child had repeated, or was going to repeat, first grade or second grade. (Because the survey was carried out in November, it was possible to tell who was going to repeat in 1985 by asking teachers and looking at grades.) Second, repetition rates were much higher than expected. In some communities, the rate for the first grade approached 100 percent. The high rates indicated structural problems that had little to do with preparation of the children for primary school. Third, it proved difficult in some schools to get accurate information about pre-school backgrounds. That information

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<sup>1</sup>More recently, however, long-term evaluations have shown the appearance of dramatic differences in later years. See, for example, Berrueta-Clement, *et. al.*, Changed Lives. Ypsilanti, Michigan: The High/Scope Press, 1984.

is not placed on the child's registration record and does not become part of his or her school history. It was necessary, therefore, to ask teachers, animadoras, and parents, a laborious and sometimes impossible task. Fourth, because PRONOEIs had only recently been introduced in some communities, not all primary school children had had an equal opportunity to attend a PRONOEI. Finally, in three of the communities chosen, there was no primary school.

The main conclusion to be drawn from examining the primary school information is that repetition is extraordinarily high. The first grade rate of repetition for the communities in which the survey was applied -- over 50 percent in the four departments for the villages surveyed. In some communities, repetition reached 100 percent. Moreover, fully one-fourth of those who repeated first grade did so more than once. In addition, drop-out (for reasons other than moving) runs at a level of 5 to 10 percent in the first two grades. Because repetition is so endemic, it is unlikely that simply attending a PRONOEI will have a major effect on the rate until changes occur in the primary school system.

It was not the purpose of this evaluation to examine reasons for high repetition rates in the primary school or to look in detail at how these schools function. In the course of the study, however, the inefficiency and poor quality of primary schooling was evident. For instance, during one field trip to Puno, we encountered primary schools closed in all three of the villages visited. The visits were on Tuesday and Wednesday. In one case, the teachers who lived outside the village had not yet arrived. In the second, the teacher, who lived a mile and one-half from the town had taken the day off to celebrate an unbirthday. In the third, a town fiesta was in progress. In general, primary school facilities were bare, spare, and in poor repair. A

systematic look at primary schooling and promotion policies is needed.

To analyze the relationship between participation in a PRONOEI and repetition, we will concentrate on information from a sample of 10 communities in Puno for two reasons. Puno was the only project site that showed consistently significant effects of the program on test scores. We wanted to know whether the test differences carried over into primary school. And, the data from Puno communities are more complete and reliable than from other departments.

The Puno analysis shows that:

1. Attending a PRONOEI makes no difference in the rate of repetition in either first or second grade.

2. Attending a PRONOEI is related to age of entry into primary school. Fifty-nine percent of the PRONOEI children entered at age 6 or earlier versus only 33 percent for non-PRONOEI children. This could turn out to be significant because previous work has shown that delayed entry into primary school is correlated with drop-out before grade 6.

3. Level of mother's education appears to affect repetition, but the difference appears only when mothers have completed primary school or above gone on to secondary school. The result is logical, but must be treated as suggestive because the number of mothers with a complete primary school education or more is relatively small.

#### C. Health and Nutrition Effects.

According to the Project Paper, "significant" gains in health and nutritional status were hoped for as a result of participation in the project. However, the nutritional and health goals of the Project have not been given high priority. Supplementary feeding was part of the project from

the outset; but this aspect was not a concern of the Ministry of Education. A health manual was created as part of the project, but that has not been used. (Barnett, 1982) Family gardens and animal husbandry projects have only recently been incorporated into the project, and these in only a few locations. Moreover, we have seen in Section II that supporting health facilities are present in only a small fraction of the communities. It would be surprising and somewhat fortuitous, therefore, to find health and nutrition differences between PRONOEI and non-PRONOEI children. However, in Puno, where the project has been implemented from the outset as part of an inter-sectorial program, some observable effects might be expected.

The nutritional status of children was measured using three indicators: weight-for-age, height-for-age, and weight-for-height. The grades of malnutrition reported have been calculated using norms of the World Health Organization (see Table 11).

Table 11 presents results for the project sites based on measurements taken in June and December, 1984<sup>1</sup>. If height-for-age is used as the indicator of malnutrition and comparison is made with international norms, the amount of "stunting" is relatively high, reaching 64 percent among PRONOEI children in San Martín. If weight-for-age provides the standard, the general level of malnutrition (mostly mild or moderate) among PRONOEI children is even higher, ranging from 47 percent in Puno to 83 percent in Apurímac. These figures reflect the low calorie intake which was estimated to be about 60 percent of minimum daily requirements. When weight-for-height is used, the level

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<sup>1</sup>Measurements were done by trained personnel. Conditions for measuring were far from ideal, however, and a margin of error must be allowed for the figures reported, even though they are averages. The relative levels of malnutrition used for comparative purposes are less problematic.

TABLE 11

Levels of Malnutrition in a Sample of PRONOEI, non-PRONOEI, and Control Communities, June and December, 1984<sup>a</sup>  
(percentages)<sup>b</sup>

	Apurímac		Cuzco		Puno		San Martín	
	June	Dec.	June	Dec.	June	Dec.	June	Dec.
<u>Weight-for-Height</u>								
PRONOEI	23	21	8	0	14	32	20	13
Control	6	33	21	7	45	36	3	20
CEI <sup>d</sup>	-	-	0	11	-	-	30	10
<u>Weight-for-Age<sup>c</sup></u>								
PRONOEI	82	83			44	47	75	67
Control	62	55			90	60	57	42
CEI	-	-			-	-	62	43
<u>Height-for-Age<sup>c</sup></u>								
PRONOEI	54	56			32	21	49	64
Control	50	39			15	43	20	31
CEI	-	-			-	-	19	0

<sup>a</sup>Taken from: Eliane Karp-Toledo, "Impacto de PRONOEI en la comunidad y en la situación alimentaria-nutricional de los beneficiarios," Peru, USAID, Feb. 1985."

<sup>b</sup> The percentage is a summation of all three levels of malnutrition using norms of the World Health Organization. Because little severe, or third-level, malnutrition was found, the figures show the degree of moderate and mild malnutrition.

<sup>c</sup> Because age data for Cuzco was not collected in a reliable manner, no weight-for-age or height-for-age data are reported.

<sup>d</sup> Centros de Educación Inicial (CEI) were included only from Cuzco and San Martín.

of malnutrition is much lower, but still significant. We do not propose to take sides in the international debate about which of these indicators is the most appropriate. Rather, all are reported.

When PRONOEI children are compared with non-PRONOEI children, no consistent pattern emerges from Table 11 across the four departments. Apurímac and San Martín present higher levels of malnutrition for PRONOEI than for control children. Cuzco and Puno show the reverse. The comparison with CEI children also produces different results, depending on the department. In Cuzco, there is very little malnutrition among CEI children. This finding reflects the generally better economic status of the CEI children. In San Martín, however, CEI children display a level of malnutrition that is about the same as that of the PRONOEI children, in spite of a better economic circumstances for the CEI children.

In her study, Karp-Toledo compares 1984 and 1983 levels of malnutrition and finds some improvement. This apparent improvement is not great, however, and is not related to the project, per se. Changes are the result of exogenous factors -- the drought that had an effect in 1983, and the emergency food supplementation program in 1984. Nevertheless, the presence of the PRONOEI has provided a convenient and important outlet for the food supplementation program.

When the nutritional status of boys and girls is compared within PRONOEI, there are some communities in which girls are actually better off than boys and, generally, there seems to be a leveling up between girls and boys that that is not present in the control group or the CEI. Girls in PRONEI programs seem to be principal beneficiaries of supplementation efforts.

In a desire to look beyond standard indicators of malnutrition, a study was made of family consumption patterns in relation to: a) the availability of food, b) the cost of food, c) prevailing customs, habits, and beliefs, d) the health status of families, affecting what is consumed. The method used is spelled out in the appended document by Karp-Toledo and in Figure 2 (see end of Section III). The main dimensions bear repeating here.

a) The availability of food depends on:

1. family home production;
2. what can be purchased, as determined by what is available in the market place and the family income available for market purchases;
3. barter (trueque) which becomes more important during difficult times, but depends on whether or not a family has something to exchange and, again, on what is available in the community;
4. community farming (huertos familiares).
5. donations of supplementary food by outside organizations

b) Costs. Obviously, a high cost of available food can make it impossible for a family to purchase that food, affecting nutritional status. It may also mean that food produced by the family may not be eaten because it can bring a relatively high price, allowing purchase of other preferred or less expensive items.

c) Habits, Customs, and Beliefs. Also enter the picture to reinforce or frustrate consumption of available nutritious food. (For example, many fruits are available in San Martin, but are not eaten for cultural reasons.)

Information was obtained about each of the above. Then, the level and consumption patterns of families as reflected in the "family basket" were determined. From the actual consumption data it was possible to determine not only whether consumption was deficient in terms of average calories, proteins,

and minerals, but also whether deficiencies were related to lack of availability, to costs, or to habits.

The results of this exercise are suggestive. First, families consume food valued in the marketplace at from 1-and-1/2 to 10 times what they actually earn. That occurs because it is possible to produce food at home, to barter, or to draw upon the community garden or donations. But many are not so lucky and it is clear that minimum consumption needs cannot be covered by earning a minimum wage. Home production of food is very low in Puno and San Martin and Cuzco, there is a strong orientation toward purchasing food in the marketplace.

If one compares the food available to families (on a per capita basis) from all sources, there is a shortfall in terms of needed calories and proteins in communities in Puno and Cuzco (but not in San Martín). The percentage shortfall, as determined in 1983, is presented in Table 12. Although food is available, the diet in San Martin is very restricted -- bananas, beans, and yuca -- despite the presence of fruits and fish, in relative abundance. The clear implication of the above is that programs to provide additional food are drastically needed in Puno and Cuzco, but at least in theory not so drastically in Tarapoto.

However, we have seen that malnutrition is also high in Tarapoto. That seems to occur because production in some communities is very difficult and because, more generally, parasitosis is high and habits and customs need re-orienting (e.g. papayas are viewed as a food for pigs, not people).

From the analysis of consumption, it seems that supplementary feeding programs are producing some effects. For instance, in Puno, products provided by PAE are not purchased (for instance, cooking oil) but find their way into the family diet through the supplementation. The PAE represents a potential source of family savings. The availability of food from supplementation

TABLE 12.-- AVAILABLE CALORIES AND PROTEINS  
PER PERSON IN THE FAMILY, 1983  
(DAILY AVERAGE)<sup>a</sup>

	CUZCO	PUNO Q	PUNO A	SAN MARTIN
Calories <sup>b</sup>	1600	2000	1140	6500
Proteins <sup>b</sup>	27.6	31.6	19.9	191.2
Deficit <sup>c</sup>				
Calories	36%	20%	55%	(+3%)
Proteins	53%	47%	67%	(+3%)

<sup>a</sup>Source: Fieldwork in four Peruvian communities by Eliane Toledo during November and December, 1983.

<sup>b</sup>The available amount was calculated by adding up food available from:

- 1) purchases in the market,
- 2) home production,
- 3) bartering (trueque),
- 4) community gardens, and
- 5) complementary food donations.

<sup>c</sup> The deficit is calculated in relation to recommended amounts:  
Calories = 2,500/day; Proteins = 60 grams/day.

programs varies by department. In all, some food was arriving, but only in Puno did it seem to be at the programmed level. There, programs from CARITAS, PAE, and the Emergency program converged in 1984. In Cuzco and Apurímac, the quantity was clearly not sufficient to have any impact on nutritional status. In San Martín, distribution included children in CEI and control villages as well as PRONOEI communities. In the other three departments distribution seemed to concentrate on PRONOEI communities.

The data regarding health indicate that mortality and morbidity continue to be high. As reported in the community case studies and as encountered in the survey of PRONOEI communities, the lack of clean drinking water, of latrines, of sewage disposal, and other health-related installations is widespread. Diets are inadequate in proteins, Vitamin A & C, and calcium intake, all of which make children more vulnerable to sickness. As indicated above, the main problem in San Martín is a problem of parasites.

Vaccination coverage is poor (almost non-existent) in Apurímac and Cuzco. It is somewhat better in San Martín and Puno has recently experienced a major improvement as a result of a campaign.

The net effect of these findings about nutrition and health is to dramatize the importance of complementary projects and activities affecting the environment in which PRONOEI children are growing up. The findings point to the importance of an inter-sectorial approach to community development and reinforce recent initiatives within the Pre-School Project to stimulate family and community gardens, and to work cooperatively with health and agriculture. They point to a need for nutrition education, particularly in San Martín.

E. Effects on Child-rearing Patterns.

Another way the project could effect the development of children would be to influence the child-rearing patterns followed. Unfortunately, there are few studies of child-rearing patterns in the Peruvian sierra and jungle. The studies done have often been limited in perspective and sample size. In this evaluation, an attempt was made to understand child-rearing patterns by looking at parents' ideas about how their children develop, at the role they think parents should play in that development, and at methods used for

correction and discipline of the child. The instrument used was the "Prueba de Evaluación de Padrones Familiares (Llanos, 1983) which builds on a similar instrument used in the Portage Project and evaluation (Jesien, et. al.). Parents were asked about educational and occupational expectations held for their children.

In general, parent's responses about how children should learn, family functioning, and discipline strategies were similar. In Puno, parents responded with more of an educational than an obedience orientation, and in San Martín, they seemed to know more about child development-type activities. Educational and occupational expectations held by parents for their children were very high.

#### Effects on Communities and Families

As the title of the project suggests, initial education was to act as a incentive for community development. In spite of the title, however, little emphasis was placed until recently on community development. The assumption seemed to be that the process of participation in the creation and conduct of a PRONOEI would somehow help to change or to develop the community.

A first problem in measuring effects in the community is that of defining what is to be measured. How, for instance does one define participation? And what interpretation does one give to the apparently high participation in construction when there is a centuries-old tradition of such participation. Is there an effect, or is the PRONOEI simply taking advantage of something already present?

In the study, a community survey instrument was used to get at participation through information about involvement of family members in pre-school activities (construction, feeding, huertos familiares) and in

meetings. Also, community leaders were asked about the participation/help given in community matters by the animador and by PRONOEI families. There was, in addition, a probing of attitudes by family members toward the PRONOEI and of changes in women's roles as a result of their children attending a PRONOEI.

In the field work, several problems were encountered requiring adjustment of the instrument and the method used in applying it. One problem arose from the obvious inability of those interviewed to think in comparative or conditional terms. "What if" questions or "Which is preferable" questions did not work. It was necessary, therefore to seek descriptions with concrete questions, then make comparisons after the fact. That was so, for instance, with regard to comparisons of PRONOEI and CEI. Another problem arose from the need to repeat questions several times, using similar words, each of which, however, gave a somewhat different twist to the question. It became clear that, although adjustments to questions, could be (and were) made it would be better to observe actions than to ask a long set of questions.

The summary data presented in Section II already provides some clues regarding community participation in the PRONOEI and related activities. Participation occurs primarily through construction and feeding, or in the agricultural projects initiated with project funds in a few communities. Direct participation in the daily activities of the PRONOEI is limited to the volunteer service of the animador and to mothers who take turns helping with the feeding. The non-formal program is not structured to allow direct parental participation in curricular or pedagogical matters. The program is administered from outside even though parents associations exist in most PRONOEI communities.

The animador's volunteer labor is one way in which the community shows its

participation in the project. But does the creation of an animador's position help to stimulate community development? Community leaders seemed to feel that the animadores played a useful role in helping to schedule meetings, sometimes acting as secretary. In that sense, the PRONOEI and animador help stimulate participation. Particularly in Puno, the animador seems to have achieved a place of some status in the community. According to family members, however, the animador is not active with respect to helping families become better parents. And, the animador seldom takes a role as a community leader (there are important individual exceptions).

Leaders in PRONOEI communities continue to play more or less the same roles as before. However, the community studies revealed a tendency for the leadership to become more diversified. PRONOEI communities had a larger number of dirigentes than non-PRONOEI communities. The new leadership posts fit within the traditional structure, however.

Topics treated in community meetings seem to be influenced by the presence of a PRONOEI. The community studies showed a greater tendency for topics of education, health, nutrition, and water, to be discussed in PRONOEI communities than in control communities where more traditional themes (agriculture, land questions, administrative questions, etc.) continued to dominate. This attention to new topics is helped by participation of the animador and is related to the extended, diversified leadership. Because the older forms of participation were not applied originally to the modern institutions of education and health, the PRONOEI does seem to be helping to diffuse and extend these traditions. It is, as well, helping also to create other forms of organization and leadership that are not "traditional".

Participation by women in community meetings is relatively higher than expected, but is not related to the presence of a PRONOEI or mother's club.

This conclusion comes from a comparison of PRONOEI and non-PRONOEI communities. The fact that children are in the PRONOEI for three hours during the day does not free rural women for leisure or learning or to do jobs that they would not otherwise do. That finding corresponds with the results of an earlier study in Puno (Vargas, et. al). In fact, presence of a PRONOEI sometimes means that a woman, rather than a five-year old, must tend the animals for part of the day. Literacy courses for women are not connected to child care or childrearing so there is no intersection of programs. "Cursos de capacitación" designed to meet specific interests of mothers are scarce or absent in most PRONOEI communities.

In most PRONOEI communities, supporting services such as health and sanitation are not present. (Less than 15 percent of the communities had a medical post in Apurímac, Cuzco, and San Martín.) In Puno, over a period of 11 years, some progress has been made toward providing converging services, but coverage is still relatively low. (There, medical posts were present in more than one-third of the communities.) USAID does not make a point of providing funds for complementary services in the PRONOEI communities, except by coincidence. The supplementary feeding program does serve PRONOEI communities (which, however, must pay for transport of food).

The community gardens and small animal raising projects initiated under 527-0161 are not widespread. Their impact has been contained by the lack of adequate technical assistance and by poor administration, providing another example of lack of integration among services. That appears to be true even in San Martín where an agreement with the Ministries of Agriculture and Health was established from the outset.

In brief, it would be an exaggeration to say that the project by itself has produced fundamental changes in the community. However, the existence of

the PRONOEI and participation in related activities have helped to integrate an increased concern for education, health, and nutrition into existing forms of community discussion and organization. And, the new groups that have been created -- mothers' clubs, parents' associations, and nutrition clubs -- form part of a larger set of community groups and activities which, taken together, help to catalyze community development by diversifying leadership and mobilizing volunteer labor for the common good. The construction of PRONOEI centers, in the same way as other community constructions (such as a primary school or "comedores" for children), helps to build community participation and solidarity.

In section V, these findings will be brought together with information about costs to examine the cost-effectiveness of Project 527-0161.

# Figure 1

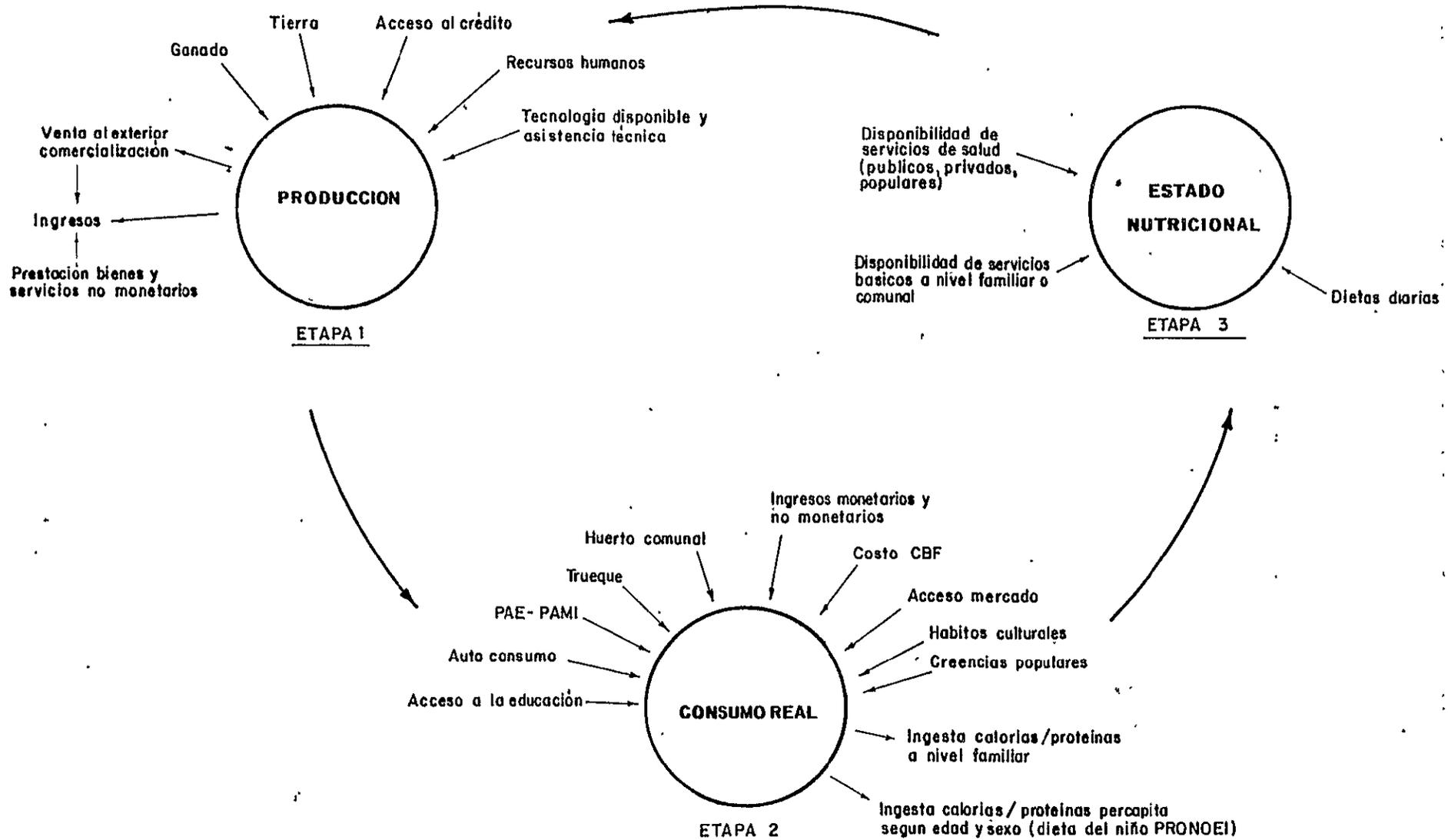
## PRUEBA DE HABILIDADES PARA NIÑOS PRE-ESCOLARES

Martha Llanos\*

AREA	Identif. Objektiv.	OBJETIVOS	3 AÑOS	4 AÑOS	5 AÑOS
BIO-SICOMOTRIZ	I II VI XII XV XVIII	- Motricidad fina - Oculo manual - Oculo podal - Esquema corporal - Perceptivo motriz - Lateralidad	- Corta/rasga rectas - Abotona - Patea pelota - Partes de su cuerpo - Evita obstáculos - Reconoce al lado	- Corta/rasga curvas - Entornilla pomos (roscas, tapas). - Camina en círculo - Figura incompleta - Camina entre objetos - Levanta brazo y pierna del mismo lado.	- Corta figura completa (árbol rasga un círculo). - Hace pulseras (ensartado). - Levanta objetos con el pie. - Función de órganos. - Laberintos. - Reconoce derecha/izquierda.
INTELECTUAL	III IV VII VIII X XI XIII XIV XX	- Discriminación auditiva - Relaciones temporales - Identificación de clases de conjuntos. - Concepto forma-tamaño-color - Ubicación espacial - Concepto grosor/textura - Noción cuantitativa - Noción causalidad - Ubicación témporo-espacial	- Sonidos suave/fuerte - Nombrá actividades - Reconoce objeto diferente al conjunto. - Reconoce grande y pequeño. - Posición personal (debajo-encima-delante-detrás). - Aparea por grosor - Reconoce más-menos - Técnica efecto de las acciones. - Reconoce cerca-lejos	- Sonidos onomatopéyicos - Nombrá días de la semana - Aparca objetos por el uso - Nombrá colores - Posición de objetos.(cosas) - Aparea por textura - Reconoce alguno-uno - Completa frases. - Reconoce primero-segundo-tercero.	- Sonidos diversos - Secuencias en láminas. - Reconoce mitad, entero. - Reconoce forma-tamaño-color - Reconoce posición de objeto en láminas. - Agrupa por textura y grosor - Reconoce varios-ninguno. - Describe fenómenos. - Reconoce posición medio-último.
SOCIO-EMOCIONAL	V IX XVI XVII XIX	- Identificación personal-contextual. - Autonomía/participación - Capacidad de valerse por sí mismo. - Capacidad de expresión - Identidad y organización personal	- Dice su nombre - Se pone su chumpi, cinturón o lazo - Se lava y seca manos - Canta una canción. - Cuelga sus pertenencias	- Describe a sus familiares - Comparte juguetes - Se lava y seca cara y manos - Recita una poesía. - Reconoce el símbolo de su identificación personal	- Describe hechos de su comunidad. - Explica un juego colectivo con reglas. - Ayuda a botar basura. - Dice un rima o trabalengua. - Reconoce su sexo.

Figura 2

PRINCIPALES VARIABLES UTILIZADAS PARA DETERMINAR EL ESTADO NUTRICIONAL DE LAS FAMILIAS PRONOEI EN MEDIO RURAL



SECTION IV  
PROJECT COSTS AND WHO BEARS THEM

Four main questions will be answered in this section:

1. How much has been spent and for what?
2. How do expenditures compare with what was budgeted? (Answering this question gives an idea of how the project's strategy, as expressed in budgetary terms, has been followed or changed.)
3. What are per unit costs? (The Project Paper set a goal of costs at a level 50 per cent below that of the formal pre-school model.)
4. What participants bear what costs? (The Project paper set as a target provision of 50 percent of the program's support from local communities.)

Attention will be given to changes in expenditures and costs over the life of the project.

The information in this section provides one basis for comparison with other models of initial education. In addition, the analysis shows which costs, now borne by USAID, need to be picked up by the MOE and/or the community when foreign assistance stops.

#### Some Distinctions

Budgets, Actual Expenditures, and Costs. The results reported below have been obtained by analyzing budgets, actual expenditures, and costs. The budget figures have been taken from operational plans. They represent a statement of the strategy to be followed in a project. Actual expenditures differ from budgeted amounts because inflation, poor estimation, changes in strategy, the arrival of additional funds, administrative problems, or other contingencies all require shifts in what is spent. In the Pre-School Project, for instance, almost one-fifth of the total budget was earmarked for training. Assigning that relatively high amount for training gave it an

important place in the overall project strategy. As will be seen below, the actual expenditures for training in 527-0161 were relatively much lower than what was originally budgeted. Actual expenditures provide the starting point for calculating total and per unit costs.

What is actually spent in a particular year differs from the cost of the program in that year. Costs include both recurrent and capital costs. Most of what is spent can be classified as a recurrent cost because it is used up immediately, requiring a similar expenditure in the next year to keep a program going. Teachers salaries and consumable supplies are examples. Recurrent expenditures and recurrent costs have the same value. However, some expenditures purchase capital goods that will be used over many years. An obvious example is the expenditure made in constructing a building. The cost of that purchase must, then, be spread over the useful life of the good. In the year of the purchase, the cost of the capital good will be below the expenditure. In subsequent years, the expenditure will not appear, but an annual cost will still be incurred. In this analysis annualized costs have been calculated for buildings constructed, furniture and equipment. Training of animadores has been treated as a recurrent cost because the turnover of animadores is almost yearly. Because a part of the USAID funds used in the project were for construction, materials and equipment, the USAID share of project costs is less than its share of expenditures.

Accounting costs and economic costs. Using only the expenditures that are part of the accounting scheme of a project leaves out other expenditures and costs that should be considered when determining the economic cost of a project. For example, the books of the Ministry of Education may not recognize the fact that a percentage of the regional director's time is spent

administering project 527-0161. Since the MOE pays the director's salary in any case it does not view the additional burden on the director as an additional cost. However, in order to spend time overseeing the project, the director must forego some other duties previously undertaken. There is an opportunity cost to other programs within the region and the director's time allocated to the project should be included as one of the economic costs. In this analysis, we have included such costs for directors and regional supervisors.

Accounting books of one funding source will also overlook the expenditures in a project by other funding sources. Unfortunately, each contributor tends to look only at its own books, not at the total picture. As the picture changes (for example when USAID funds are stopped) costs covered by one source must be picked up by another. Moreover, some funding sources such as the parents and community members who contribute labor and materials have no accounting books. Estimates of the project costs borne by communities are important for two reasons. First, these are real costs because they involve the time of a person who could use that time to do something else. And, if the community did not donate the labor necessary to build a PRONOEI, for instance, that labor would need to be contracted. This analysis includes cost estimates of the labor and materials provided by the community, including the volunteer labor of the animador. Second, estimating the cost of the communities contributions "in kind" gives credit to the community for its share. This idea was recognized in the project.

When the non-formal approach to initial education was first tried out, an important principle of the model was "volunteerism".<sup>1</sup> One expression of that principle, is community participation in the construction (or donation) of buildings and land. Another is the time given by mothers to prepare a

snack or meal for the PRONOEI children. The main form of volunteerism, however, has been the donated time of a community member as animador, instead of recovering a salary, the animador receives a small gratuity or "propina". In this analysis, the difference between the propina (S/.50,000) and the base salary (S/.165,000 - a conservative figure) of the lowest category of teacher has been included in the estimate of the community's contribution to the project.

How much was spent and for what?

In the Convenio between the MOE and the US Government, as amended, an amount of US\$1,800,000 in USAID assistance was budgeted, to be matched by counterpart funding of \$1,251,000. In addition, \$440,000 was to be allocated, from PL-480 monies, for supplementary feeding at the educational centers. Together these pledges total almost 3.5 million dollars. According to the Project Report of September 30, 1984; \$1,468,618 of the 1,800,000 (91%) had been committed. Since then additional funds have been committed and spent, leaving approximately \$44,000 unspent as of the end of 1984.

The total amount expended in the project by USAID, by the public sector, by local communities, and by other international organizations (UNICEF), is much higher than the approximately 3.5 million dollars originally budgeted.

From 1980 to 1984, a sum of S/. 40,215 millones (in soles of 1984) was spent to carry out the project - by USAID, the MOE, UNICEF, the Community, and PAE. That translates to more than US \$11,000,000 using an average exchange

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<sup>1</sup> As indicated in earlier sections, the spirit of "volunteerism" has not functioned well. As the non-formal approach has been expanded, the role of the animador has been seen, increasingly, as a way of earning money and as a potential step toward becoming a "third category" teacher in the formal educational system.

rate of S/. 3,600 for 1984. The counterpart contribution has far exceeded the \$1,251,000 projected, amounting to almost \$ US4,000,000.

The overall budget for the project (see Table 13) consists of the sum of what was budgeted in operational plans of all four project locations over the 1981 to 1984 period. Table 13 presents figures for the combined project site budgets broken down by the main lines of action to which funds were to be directed, and by sources of funds. From the table, it is clear that about one-third of USAID assistance was to be directed to the category labeled PRONOEI. That category includes funds for construction, materials and equipment. An additional 30 percent of AID funds was earmarked for training. The remaining third was spread among supervision, dissemination, community-based projects, and evaluation. Relatively little was budgeted for community-based projects (less than 10 percent). The budget distribution reflects a strategy centered squarely in the education sector.

TABLE 13

Distribution of the Total Project Budget, 1981 - 1984, By source of funding and Activity<sup>a</sup> (in Percentages)

ACTIVIDADES	SECTOR			TOTAL
	A.I.D.	PUBLICO	COMUNIDAD	
PRONOEI	35,2	58,4	81,7	50,7
Training	30,8	12,5	-	19,4
Coordination/Monitoring	11,0	23,3	-	14,5
Communication/Dissemination	7,9	1,8	2,3	4,7
Productive Projects	8,8	1,2	10,8	6,1
Artesan Projects	1,1	-	-	0,5
Sanitation	-	0,2	3,5	0,6
Evaluation/Research	5,2	0,8	-	2,8
Primary Health Care	-	1,8	1,7	0,7
<b>TOTAL (S/.9,384.643)<sup>b</sup></b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>a</sup> Taken from: Miguel Cereceda, "Estudio de Costos", Lima, USAID, October, 1984, p.7.

<sup>b</sup> In 1984 Soles de Oro.

TABLE 14 TOTAL EXPENDITURES PROJECT 527-0161, BY SOURCE OF FUNDING, 1980-1984

(S/. en millones)

	USAID		PUBLIC SECTOR		COMUNIDAD		UNICEF		PAE			
	S/.	%	S/.	%	S/.	%	S/.	%	S/.	%		
PRONOEI	1,852	33.6	11,903	85.8	17,039	95.4	136,	6.0	731,	100	31,659,	78.6
Training	1,098	19.9	69,	.5	-	-	462,	20.6	-	-	1,628,	4.0
Prod. Proj.	182	3.3	329,	2.3	608	3.4	1,010,	45.0	-	-	2,129,	5.4
Coordination	668	2.1	1,301,	7.2	205	1.2	440,	10.6	-	-	2,313,	5.7
Eval/Inv	81	1.5	337,	2.4	-	-	162,	7.2	-	-	580,	1.4
Central Exp.	1,172	21.2	84,	0.6	-	-	6,	0.5	-	-	1,256,	3.2
TOTAL	S/.	5,411	99.9	13,878	99.9	17,852	0.0	2,243,	0.5	731	.5	40,215
	\$	1,531	13.7	3,855	34.5	4,959	44.3	623,	5.6	203	1.8	11,171

1/ Source: Miguel Cereceda, Estudio de Costos, USAID, Lima, Octubre, 1984

2/ An exchange rate of S/. 3,600 to the dollar was used, representing an average exchange rate for 1984

Actual expenditures for the project are presented in Table 14. When the USAID budget and expenditures figures for USAID funds are compared (Tables 13 and 14), the percentages are about the same. The main difference lies in what seems to be a reduced level of expenditure for training (from 31% budgeted to 20% actual) and in the addition of a central expenditures category that was not included in regional budgets. When central expenditures are distributed among the other rubrics, however, there is little difference between the way in which USAID funds were budgeted and the way they were spent.<sup>1</sup> In general, USAID funds were spent according to plan.

The same correspondence between budgeting is not evident for the public sector funds. Relatively more public sector money was spent in the PRONOEI category, to pay the animadors their "propina". Substantially less was used for training (.5 spent vs. 12.5 budgeted) and for supervision (7.2 vs. 23.3).

As expected, the community contribution is almost exclusively to the PRONOEI through provisions of labor for construction of locales and by providing volunteers animadors.

Table 14 includes program expenditures by UNICEF. These expenditures pertain to the program in Puno where UNICEF and USAID funds were used in the same PRONOEI communities. (In Cuzco, UNICEF assistance was directed to an entirely different set of communities and so those expenditures are not included in the totals or distributions presented). The striking feature about the UNICEF column of Table 14 is the high percentage of funds (45%) provided for community development activities other than pre-school education. This distribution of funds reflects a difference in program

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<sup>1</sup> Central expenses amounted to 21.2 percent of the total. These funds were used for: technical assistance (6.2%) Supervision (1.1%), training (7.7%) evaluation (1.9%) and equipment (3.0%).

philosophies. UNICEF funds are provided within a framework of "integrated basic services" whereas USAID funds have been focussed on the education sector. We will return to discussion of this difference later on.

What are the total and per-unit costs

To estimate costs, the analysis focused on 1984. Expenditures were transformed in two ways. First, investments (in buildings, equipment, materials) were separated out and those expenditures were converted to costs by annualizing investment expenditures made in 1984 and by adding in the annualized costs of investment expenditures that were made in previous years. When that was done, (See Table 15) the total cost of operations in 1984 was estimated to be S/.8,848,640 or approximately US \$2.5 million (using an exchange rate for 1984 of 3,600 soles per dollar).

Second, all costs were assigned to one of two sets activities - those associated with operating the PRONOEI (the educational activity), and those which are community projects (mostly agricultural or the raising of small animals). In the PRONOEI category are included annualized costs of construction, equipment and materials, propina, salaries and relevant portions of administration salaries. This second separation was made because the project is aimed at multiple outcomes, and because it is necessary to separate out the educational goal in order to make the comparison with other forms of educacion inicial. Ninety-three percent of the project costs were directed toward the PRONOEI. That is so despite the fact that 74 percent of UNICEF's costs in PRONOEI communities were associated with community projects other than the PRONOEI.

TABLE 15  
Total Costs, Project 527-0161, 1984<sup>1</sup>  
(S/. in millones)

	USA ID		SECTOR PÚBLICO		COMMUNITY		UNICEF		PAE		TOTAL	
	S/.	%	S/.	%	S/.	%	S/.	%	S/.	%	S/.	%
PRONOEI	1,067.1	84.0	4,269.2	98.3	2,065.0	97.8	90.1	25.8	730.6	100	8,221.0	92.9
Community Projects	203.7	16.0	74.7	1.7	88.8	2.2	260.5	74.2	-	-	627.6	7.1
<b>TOTALS</b>	<b>1,270.8</b>	<b>100.0</b>	<b>4,342.9</b>	<b>100.0</b>	<b>2,153.8</b>	<b>100.0</b>	<b>350.6</b>	<b>100.0</b>	<b>730.6</b>	<b>100.0</b>	<b>8,848.6</b>	<b>100.0</b>

<sup>1</sup> Source: Cereceda, op. cit.

What are the per unit costs of the programs?

There are two main reasons for estimating per unit costs:

1. To compare costs with other programs.
2. To help project costs into the future.

Several approaches can be taken to calculating unit costs. Perhaps the simplest is to divide the total yearly cost by the number of PRONOEI and by the number of students participating in the project.

In Table 16 (line 1) those calculations are made using the total cost of the project in 1984 as the starting point. The yearly cost per community is S/4,279,000 (US \$1189) and the cost per student enrolled is S/143,000 (US \$40). If children who regularly attend are used as the denominator, the per child cost doubles to S/286 (US \$80).

Using the above figures to make a comparison with per unit costs for a formal program of pre-school education (CEI), would be incorrect. First the CEI does not include community development goals or related costs. More important, CEI does not depend on volunteer contributions from the community. When comparing the CEI and PRONOEI, then, the most appropriate comparison from a governmental standpoint is without figuring in the volunteer contributions provided by the community to the PRONOEI.

When the cost calculation includes only the costs associated with the PRONOEI (the educational activity), and when the donated costs of community labor are taken out (See Table 16, line 3) the unit cost per student is cut by 30% from S/143 (US \$40) per enrolled student to S/99 (US \$28). If children attending is used the cost again doubles. Even this cost figure is biased upwards if one considers that the project began as an experiment and, accordingly, included some expenditures and costs that are not recurrent

TABLE 16  
Per Unit Costs, 1984, " Pre-School Education  
As A Catalyst for Community Development"<sup>a</sup>

Department	Cost (000)	PRONOEI	Cost per PRONOEI		Average No. of children	Cost per child <sup>b</sup>	
			S/	US\$		S/	US\$
1. All Activities All Costs	8,848,640	2068	4279	1189	30	143	40
					25	171	48
					15	285	79
					12	367	99
2. PRONOEI Activity All Costs	8,221,008	2068	3975	1104	30	132	38
					25	159	44
					15	265	74
					12	331	92
3. PRONOEI Activity (without costs borne by comm.)	6,156,014	2068	2977	826	30	99	28
					25	119	33
					15	198	55
					12	248	69

<sup>a</sup> Source: Cereceda, *op. cit.*

<sup>b</sup> An exchange rate of S/.3,600 to the dollar was used. That was the exchange rate in August, 1984.

Table 17  
 Per Unit Costs, 1984, By Department,  
 "Pre-School Education As A Catalyst  
 For Community Development"

Department	Activity	Cost	Number of PRONOEI	Cost per PRONOEI		Average No. Children	Cost per child	
				S/.	US\$		S/.	US\$
Apurimac	All	638,580	208	3069	853	27	114	32
	PRONOEI	624,367	208	3001	834	16	192	53
Cuzco	All	2,298,945	456	5041	1400	27	111	31
	PRONOEI	2,252,693	456	4940	1372	16	188	52
Puno	All	4,900,074	1230	3984	1107	28	180	50
	PRONOEI	4,394,573	1230	3573	992	15	336	93
San Martin	All	1,012,054	174	5816	1616	28	176	49
	PRONOEI	950,387	174	5462	1517	15	329	91

<sup>a</sup>Source: Miguel Cereceda. op. cit.

costs.<sup>1</sup>

There are marked differences by project site in the per student cost. These are related to the size of the program in each department and to the level of coverage and attendance. Puno's per child cost for the PRONOEI activity is US\$28 if enrollment figures are used. This compares with \$31 for Apurímac, \$49 for Cuzco, and \$61 for San Martín (Table 17). These data suggest there are economies of scale at work because the highest number of children are in Puno where costs are low and the lowest in San Martín.

The large gap between enrollments and regular attendance at PRONOEI programs indicates a major "leakage" and an inefficiency that pushes per unit costs up. It is possible to imagine that with continued parental education, with improvements in the quality of the program, and with better administration of supplementation, the regular attendance would rise and per unit costs would approach the enrollment cost figures. Were this to happen, however, quality might be eroded further because an animador would have to handle 30 students rather than 15 - an almost impossible task to do well unless given assistance.

Per unit costs: community case studies

As part of the cost study, five community cases studies were carried out, two each in Puno and San Martín and one in Cuzco. The results of the case studies are reported in Table 18. The information on which calculations are based is found in descriptions presented in the appended study by Miguel Cereceda. (At the end of this section, data from one community case, Santa

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<sup>1</sup> The fact that the project has become a service and that relatively little has been budgeted directly for research or evaluation means that the experimental costs are a relatively small portion.

TABLE 18

Per Unit Costs, 1984, PRONOEI Community Case Studies  
 Pre-School Education As A Catalyst for Community Development<sup>a</sup>

Community	Total Cost (000)	PRONOEI Cost (000)	Productive Project Cost (000)	# Children A. Enrolled B. Attend	PRONOEI Cost/Child <sup>b</sup>		P.P. Cost/ Child		
					S/	US\$	S/	US\$	
1. Nuevo Codo (San Martin)									
A. All	6957	4873	2084	A 22	222	62	95	26	
				B 16	305	85			
B. W/o comm.	5679	3595	2084	A 22	103	45			
				B 16	224	<u>62</u>			
2. Santa Rosa de Cumbaza (SM)									
A. All	6259	5233	1019	A 28	187	52	36	10	
				B 16	327	91			
B. W/o comm.	5158	4132	1019	A 28	148	41			
				B 16	258	<u>72</u>			
3. Pyri									
A. All	5457	5457	-	A 20	272	76	-	-	
				B 12	456	127			
B. W/o comm.	4228	4228	-	A 20	211	59			
				B 12	352	98			
4. Chicanihuma									
A. All	6751	4842	1909	A 28	173	48	68	19	
				B 19	254	71			
B. W/comm.	4071	2162		A 28	77	21	-	-	
				B 19	114	<u>32</u>			
5. La Union									
A. All	4482	4482	-	A 38	118	33	-	-	
				B 19	236	66			
B. W/o comm.	3417	3417		A 38	89	25			
				B 19	180	<u>50</u>			
<hr/>									
Average		3507		A 27	130	36			
				B 16	214	59			

<sup>a</sup>Source: Ibid

<sup>b</sup>Exchange rate = S/.3,600 per dollar

Rosa de Cumbaza, is included to give the reader feel for the community and the information used.

As might be expected, the per unit costs vary considerably from community to community, depending on whether or not community development projects were funded, and on the number of children served. The per cost in Pyri in Cusco is high, for instance, because so few children are attending. The San Martin costs are above average because they include productive projects. Chicanihuma (in Puno) is low because the number of children attending is high. The average cost for programs in the 6 communities is slightly higher than was calculated for the project on a whole.

#### Who bears the costs?

When actual expenditures and costs are distributed among the main sources of funds -- the MOE, the community, USAID and UNICEF -- the community and the public sector each bear a larger share than the international organizations. The distribution of expenditures and costs is not the same as the distribution set out in budgets for 1981-1984. Looking only at the budgets one would think USAID was covering almost one-half of the cost when it is actually covering only about one-seventh. The main reason for the difference lies in the way the community contribution was figured. Budgets included only a very small estimate for the community contribution failing to recognize the value of the "volunteer" labor provided by animadores. In addition, budgets undervalued counterpart contributions by the government.

Table 19 compares the distributions, by funder, for budgets, and for actual expenditures by year, from 1980 to 1984. As should happen, the percentage of the total expenditures borne by USAID decreased from year to year during the period from 1981 to 1983. In 1984 that percentage rose again

as the deadline approached for the project. The public sector share of the expenditures has risen steadily, from only 25 percent in 1980 to 49 percent in 1984. The sizeable jump in 1984 was due mainly to an upward adjustment of the propina from S/. 15,500 to S/. 50,000 soles per month. The propina is paid by the government.

The community reached a level of 50 percent participation in expenditures during the two years (1980, 1982) and accounted for 49 percent in 1983. The overall community contribution is 45 percent. A major portion of that contribution is the "volunteer" time of the community's animador. The community contribution approximates the target set in the Project Paper.

The analysis of expenditures shows clearly the role of USAID as a catalyst for the program. Expenditures in capital goods, materials, and training, help the program get started. And, USAID has been a minor partner.

When costs calculated for 1984 are examined, the percentage contributed by USAID is lower than when expenditures are considered (14 percent vs. 18 percent). That is because a significant portion of USAID expenditure has been for capital goods, which are annualized in the costs calculation. Table 20 presents this distribution of costs by source of funds for 1984.

#### Comparison with Costs of a CEI

In 1979, unit costs for a formal pre-school were estimated at US\$60 by the MOE. As a check on that estimate, an analysis was undertaken by USAID and the DIGEI, of formal and non-formal pre-school center-based programs in the educational zones of Lima and Juliaca (Winkler). The cost for the formal programs was then estimated at US\$74 per child per year. That figure is identical with the estimate we have arrived at for a formal pre-school for 1984 (see Table 21).

TABLE 19  
 Budgets and Expenditures, Distributed By Source of Funds  
 Project 527-0161, 1980-1984<sup>1</sup>  
 (in percentages)<sup>a</sup>

	Budgets 1981-1984	Expenditures					
		Total	1980	1981	1982	1983	1984
USAID	47	14	--	18	14	13	18
Sector Público	40	34	25	30	31	34	49
Comunidad	7	44	61	44	51	49	23
UNICEF	--	6	14	4	4	4	2
PAE <sup>d</sup>	--	2	--	--	--	--	9

<sup>a</sup>Source: Ibid.-

TABLE 20  
 Costs, Distributed By Source Of Funds for  
 Cuzco, Puno and San Martín, 1984<sup>a</sup>  
 (in percentages)

Source of Funds	Department						TOTAL	
	All	Cuzco PRONOEI	All	Puno PRONOEI	All	San Martin PRONOEI	All	PRONOEI
USAID	18	16	9	8	30	28	14	12
Sector Publico	60	62	4	48	53	53	50	53
Community	21	21	25	26	17	19	23	24
Others <sup>c</sup>	1	1	22	18	--	--	12	10
TOTAL	100	100	100	100	100	100	100	100

<sup>a</sup>Source: Ibid.

<sup>b</sup> Others: UNICEF and PAE

<sup>d</sup> PRONOEI costs amounted to about 93% of all costs

Even without a sophisticated and detailed analysis of program costs it is clear that the costs borne by the government for non-formal programs will be far below that of formal programs. Simply examining relative salaries yields that conclusion. In November 1984, for instance, the average monthly salary for a certified pre-school teacher was S/.500,000. For a first-level, uncertified teacher (previously called "Third Category"), the average was S/.300,000 per month. These amounts are paid over twelve months. Comparing them with the S/. 50,000 per month propina paid for only 9 months, the totals are, respectively, 13 and 8 times as great for the certified teacher and the Level I teacher as they are for the animadora.

A similar comparison can be made for each of the costs that make up the total cost of a PRONOEI. To be conservative, we assume that a CEI will be built with the help of the community and will be of the same quality construction as a PRONOEI. (In fact, many PRONOEI are donated buildings and many CEI are constructed by the government). Let us assume further that both the PRONOEI and CEI both receive supplementary food assistance and that the equipment and materials provided to both are the same. With these assumptions, differences in costs between the two, other than the large difference in payment of salaries, will lie in training, supervision, and monitoring costs.

The average cost of training an animador in 1984 was approximately S/.200,000 (US\$56 using an exchange rate of S/.3,600). Because turnover is high, that is a recurrent cost. It is difficult to figure the cost of training of a certified teacher. For a conservative approximation of that, we have taken the case of a Level I teacher who received training on-the-job as a PRONOEI animador, over a period of three years. In that case, the cost of training is the combined cost of the formal training while an animador

(S/.200,000 x 3) plus three years of experience on-the-job during which a propina was paid (S/.50,000 x 27). The total cost (of S/.1,950,000) needs in this case to be amortized under the assumption that the teacher will continue on the job for about 10 years. When that is done, the cost per year is S/.195,000 or almost exactly the same as the training of an animador. We have, therefore, taken training costs as being equal.

We have made one more assumption in calculating the CEI costs. We assume that because the CEI teacher is better qualified, he or she will not need as much supervision. We have therefore assumed that the costs of supervision, monitoring, and coordination will be only one-half those for the PRONOEI.

Using these assumptions and starting from the per unit cost for 1984 of US\$28 calculated for a PRONOEI, we have estimated the comparative cost of a CEI to be US\$75. The calculation is presented in Table 21.

TABLE 21  
COMPARISON OF ESTIMATED COSTS FOR PRONOEI AND CEI, 1984<sup>a</sup>

Activities	Percentage of PRONOEI cost	Amount in US\$US\$ (PRONOEI)	Adjustment figure for CEI	Amount in US\$ for CEI
Animadores pay <sup>b</sup>	16	\$4.50	13 <sup>c</sup>	\$58.50
Training	6	1.70	1	1.70
Equip/Materials <sup>d</sup>	4	1.14	1	1.14
PAE	20	5.60	1	5.60
Supervision	40	11.20	.5	5.60
Coordination	6	1.70	.5	.85
Communication	2	.56	1	.56
Central Costs	6	1.70	.5	.85
	100	\$28.00		\$74.80

<sup>a</sup>Figures are based on Table III.1, Cereceda, *op. cit.*, p. 135, as augmented by the addendum for Apurímac in Miguel Cereceda, "Los Costos de Operación en el Proyecto en Apurímac, 1984.

<sup>b</sup>The calculation for animadores pay does not include the imputed costs of the community contribution.

<sup>c</sup>The adjustment of 13 is based on the comparison between a jardinera's monthly salary of S/.500,000 received over 12 months and the propina of S/.50,000 received over 9 months.

<sup>d</sup>These figures take depreciation into account.

Addendum to Section IV

Field Notes used to calculate costs for: Santa Rosa de Cumbaza (August, 1984)

1. Datos de la Comunidad

- 1.1 1,200 Hectares de extensión.
- 1.2 70 familias (ultimo censo, enero de 1983)
- 1.3 7 hectares por familia. Hay 2 familias que explotan 300 cada uno y 5 que explotan un promedio de 30 hectares cada uno.
- 1.4 Hay un promedio de 43 niños en total, en edades entre 2 y 6 años.
- 1.5 Tradicionalmente, se explota el cultivo de maiz y foraje para el ganado. Sin embargo, quienes diponen de ccapital, estan empezando con el cultivo del arroz. En general se explotan pór familia entre 2 y 3 hectares dejando el resto de tierras en descanso, esto basicamente por falta de capital de trabajo.
- 1.6 El valor de la hectareo fluctua entre S/. 750, y S/. 1,000.

2. Datos de la animadora

- 2.1 Rosario García Rivas, 23 años, mando medio, "Corte y Confección"
- 2.2 Empieza como animadora en el presente año.
- 2.3 Ha recibido un curso de capacitación
- 2.4 No recibe compensación personal de parte de la comunidad.
- 2.5 La propina la cobra en Tarapoto y gasta S/. 7,500 en desplazarse.
- 2.6 De Abril a Julio recivio 3 visitas de lá docente coordinadora, la ultima en el mes de Julio. Es de suponer que con esta frecuencia la docente coordinadora hara 6 visitas en el presente año.

3. Datos de la Actividad del PRONOEI

- 3.1 5 días a la semana funciona el PRONOEI.
- 3.2 3 horas promedio diarios (incluida la alimentación)
- 3.3 Hay 28 niños inscritos (entre 3 y 6 años).
- 3.4 Asisten 18 niños regularmente. Hoy asistieron 14 niños. (16 promedio de Asistencia Regular).

3.5 Si hay alimentación complementaria del PNA programado para el parte del año: 135 kg. leche, 30 kg azúcar, 3 latas de mantequilla. A la fecha (5 meses de actividad, se ha consumido el 55 % de lo programado.

3.6 No realiza otra actividad, fuera del PRONOEI, en favor del niño.

4. Del Local del PRONOEI

4.1 El local es construido con ayuda de la AID.

4.2 Fue construido en 1983. Funciona como PRONOEI desde Setiembre de 1983. Se calcula como promedio de jornales usados en la construcción de PRONOEI el de 315 (7 personas, durante 45 días).

4.3 Equip didactico: Cubos de Encaje, 1 juego (AID)  
Rompecabezas, 3 (AID)  
Juegos figura humana, 2 (AID)  
Juegos logicos, 9 (AID)  
Tacos madera (Comunidad)  
Laminas, 15 (Animadora)

4.4 Mobilario: 19 sillas (Sector Ed.), 1 mesa grande (Comunidad), 2 armarios (Comunidad), y 1 armario de madera (AID).

5. De los Proyectos Productivos

5.1 No tienen proyectos horticales

5.2 Crianza de cuyes: Se recibieron 10 cuyes hembras y 1 macho. Luego de un año existen 19 cuyes (17 hembras y 1 macho), el receptor cumplira con irridiar la misma cantidad con la que se beneficio. Problemas: 1) La jaula no se adecua a las necesidades del animal. Construyo una nueva infrastura en su cocina. 2) Hubo zobos y muertes. 3) Solo 2 veces en un año fue el técnico del CIPA.

SECTION V

COST-EFFECTIVENESS AND SOME COMPARISONS

Cost-effectiveness is a measure of the amount of output obtained for the quantity of resources expended. Obviously, some effect must be evident for a project to be considered a cost-effective project. How large that effect should be is, however, open to interpretation. One way of judging both cost and effect is to compare them with goals originally set for a project. Were the desired results achieved? Were costs at the level projected and were resources used according to plan? If so, the project is "cost-effective", taken on its own terms. Another way to judge cost-effectiveness is to compare costs and effects of a particular project, or approach taken, with costs and effects of other approaches designed to produce the same outcome. The approach with the best ratio of effects to costs is then termed "cost-effective."

In this section, effectiveness will be examined first in terms of the goals set for the project. That analysis includes a comparison of the PRONOEI and the CEI because one goal of the project was to develop a cost-effective alternative to the CEI. Second, comparisons will be made with two other non-formal program options -- a home-visitor model, and a peri-urban system of neighborhood satellite programs linked to a resource center.

Whether a project is examined on its own terms or whether a comparison with others is made, arriving at an accurate and appropriate estimate of cost-effectiveness is extremely difficult. False impressions of precision and of comparability can easily result, particularly on the effectiveness side. Therefore, although we will use the term "cost-effective", specific cost-effectiveness ratios will not be compared. A better way of framing the discussion would be in terms of costs and effects.

In this evaluation, we have used as indicators of effectiveness improvements in:

1. The availability and conduct of initial education;
2. Intellectual, motor, and socio-emotional skills of participating children, as measured by a test linked to objectives of the pre-school curriculum;
3. The progress and performance of children in primary school, reflected in the rates of repetition and dropout in the first two years.
4. Nutritional status; and
5. Community organization, participation, and productivity.

In order to see whether PRONOEI children are different from others, comparisons were made with children in communities without a PRONOEI. Also, PRONOEI children were compared with children attending formal programs of initial education (CEI).

#### Cost-Effectiveness in terms of project goals

1. Effects on Initial Education. As indicated in Section III, the project has had an important effect on initial education. Coverage, now of more than 60,000 rural children, has out-distanced projections. Boys and girls are participating in equal numbers. One hundred and seventy-three pre-school centers have been built in the four pilot sites, again surpassing the projection. Curriculum guides (four rather than the three planned) have been created and are in use in each site. The project has upgraded the human resources within initial education by training more para-professionals and coordinators and pre-school specialists than expected, by supporting study for a Master's degree, and by providing two months of training in the United States in pre-school curriculum development for ten people. At least

partially in response to the project, the Ministry has steadily increased its budget support for initial education in the pilot sites and is expected to pick up the basic costs that will allow continuation. The ratio of supervisors to programs has increased since 1979. In sum, over the five-year period, an initial education service has been institutionalized.

These effects on the coverage, organization, and conduct of initial education have been accomplished at relatively low cost to the Peruvian government. Local communities have picked up a major share of the cost burden through donations of labor and material. An equivalent expansion of the CEI model of initial education would have cost the government at least twice, and possibly as much as four times the PRONOEI alternative (see Section IV).

Both effectiveness, as defined by these quantitative indicators and the relative reduction in costs sought at the outset of the project by supporting a non-formal approach, have been achieved. In these terms, the project has been cost-effective.

Effectiveness Defined by Test Scores. When test results are used as a measure, the general conclusion about project effectiveness is not so clear. Previous evaluations of children attending PRONOEIs in Puno (Llanos and Flores, 1976; Aliaga, 1981; Aliaga, 1983) had produced positive results when children participating in PRONOEIs were compared with children not in PRONOEIs. Aliaga concluded that:

"The children that have been beneficiaries of the program have an advantage over the children who have not been beneficiaries, in their general cognitive development, and in the set of verbal, motor, quantitative and perceptual abilities." (Aliaga, 1981)

These findings, and the extraordinarily consistent comments from parents and teachers about the increased alertness and social ability of the PRONOEI children, led us to believe we would find test score differences.

Consistent with previous evidence, test score differences between PRONOEI and non-PRONOEI children were found in Puno for all subscales (intellectual, motor, and social) of the test administered. Thus, in Puno, where the program has had the longest life and where more than half of all PRONOEI receiving USAID funds are located, the project can be termed effective. In addition, per unit costs in Puno, where the most programs are in operation, are the lowest of all four project sites, suggesting that economies of scale are at work. In spite of considerable "leakage" associated with inattendance, the project in Puno can be considered cost-effective with respect to developmental outcomes.

In Cuzco and San Martín, however, significant differences on test scores between PRONOEI and non-PRONOEI children were not found (except for the social sub-scale in San Martín). And, when the test scores of PRONOEI and CEI children were compared in these two departments, CEI children generally performed better in San Martín, but in Cuzco were better only on the social sub-scale. Interpretation of these results is clouded by the fact that children in the experimental, control, and CEI communities turned out to be unequally matched. Parents in "control" and CEI communities are, on the average, more educated than those in PRONOEI communities. The fact that differences were not greater is noteworthy, considering the disparity in favor of control and CEI communities. Also confusing the interpretation is a significant result found in Cuzco favoring PRONOEI over control children when pre-test/post-test changes in scores on the social subscale were compared.

While it is clear that the PRONOEI model costs less than the CEI model, it is not clear whether the PRONOEI, as it is now operating in Cuzco and San Martín, is cost-effective in terms of producing higher test scores, and as compared with the CEI. (Unfortunately, we do not have test scores for CEI

children in Puno where the PRONOEI results were significant.)

Primary School Repetition. No significant differences were found among PRONOEI, non-PRONOEI, and CEI children in the rate of repetition in the first two grades of primary school. Our conclusion parallels that of Aliaga in his 1981 and 1983 evaluations in Puno.

Using this narrow indicator of project effectiveness, the project is not effective and therefore cannot be considered cost-effective. However, the policy conclusion is not that the PRONOEI program should be discontinued. Rather, the finding draws attention to the very poor quality of the primary schools and to impediments in that system preventing potential pre-school benefits from appearing. In the communities visited, primary schools were often closed, inattendance was high, and minimal facilities were in a state of disrepair.

Nutritional Status. Comparing PRONOEI and non-PRONOEI children, differences in nutritional status favoring PRONOEI children were found in Puno and Cuzco (slight), but not in Apurímac or San Martín. There was evidence of improved nutritional status between 1983 and 1984. In the PRONOEI, the nutritional status of girls is closer to that of boys than in control communities or in CEI.

Where favorable "effects" appear, these do not seem to be a direct result of the project but are more closely related to exogenous influences. The presence of the PRONOEI facilitates food supplementation, but in most locations, the food provided is well below the minimum that might be expected to have an impact. Moreover, the supplementary approach is at best a stop-gap measure (Pollitt, 1984). To improve effectiveness, additional attention needs to be given to nutrition education (particularly in San Martín) while long term efforts are made to increase the local food supply. In sum, the effect

of the project on nutritional status is, at best, modest, and that seems to be the case only in Puno.

Community Participation, Organization, and Productivity. Although the project has not, by itself, led to fundamental changes in the structure and organization of rural communities, it has provided more avenues for community participation and solidarity. It has helped to diversify leadership and to raise community concern for education, health, and nutrition (as indicated by the themes discussed in community meetings). In conjunction with other activities, the project has helped to stimulate community awareness. In that sense, it has been effective. The project has not had an identifiable effect on participation of women in the community.

According to a recent study by UNICEF of the Puno program (Carbonetto, et. al., 1984) agricultural projects carried out as part of the program have produced positive results in terms of crop yields and the number of small animals raised. That conclusion does not fit well with our own which, however, is based on community studies in San Martin and Cuzco as well as in Puno. We have found a less positive result, related to a lack of accompanying technical assistance and to poor organization.

To be cost-effective, community production projects should be integrated into a broader agricultural development support system and specific attention must be given to organizational and technical problems that are bound to arise in conjunction with the assistance.

Summary. Taking the Project on its own terms and looking at the multiple outcomes expected from it, we are led to the conclusion that it is cost-effective with respect to some expected outcomes (effects on the initial education system, effects on test scores, and effects on community participation) and not others (nutritional and health status, productive

projects, and primary school repetition). It is more effective in Puno, where the project has been in operation for a longer period of time, than in the other project sites. These results argue for additional attention to the quality of the programming and to the way in which the project converges with other community development components such as health and nutrition, agricultural extension, female literacy, and primary school education.

#### Comparisons with other non-formal early intervention models

Making cost-effectiveness comparisons across program models is a risky business. Among the problems that can arise are:

1. Different projects define effectiveness in different ways. One project may focus on improved intellectual performance, another enhanced nutritional status, a third changes in child-rearing patterns and a fourth, environmental changes -- all effects sought in order to improve child development.

2. A multitude of possible indicators is available for each effect sought. For example, some evaluators measure intellectual development by increases in test scores of mental development whereas others index intellectual growth by the ability to function well within the child's immediate environment. Community development for some implies increases in community participation and control over decisions; for others, economic changes such as income levels or crop yields define development.

3. Even when general goals and indicators are agreed upon, the specific measures used will often differ. For example, effectiveness defined by increases in a test score measuring intellectual development will obviously differ depending on the specific test applied. In the Portage project, to be discussed below, an adaptation of the McCarthy test of abilities was used. In

our evaluation, a totally new test was created, linked directly to the objectives of the PRONOEI curriculum. These two measures should not be compared directly.

4. When a project has more than one goal (for example, child development, and community development, as in project 527-0161), it is difficult to sort out what costs pertain to what effects in order to make appropriate comparisons with other projects.

5. An indicator of effectiveness may turn out to be statistically insignificant, on the average, but there may be particular circumstances in which the model functions very effectively and with a strong positive result. It would be wrong, therefore, to throw out the approach entirely.

6. If comparisons are made among projects (or approaches) that have been in effect for different periods of time, the results can be misleading. That is particularly true when a well-established project is compared with a newly instituted one.

With these considerations in mind we feel it is not responsible to conclude that the present project is a good or a bad investment, based simply on the rough cost-effectiveness comparisons that follow. Even worse would be to recommend massive expansion or retrenchment based on these results. Our position is that different intervention models, with different ratios of costs to effects will be appropriate for different situations. We are not seeking a miracle strain or a magic pill.

Relatively few evaluations of early intervention projects in Peru have included serious and systematic treatment of both costs and effects. Of the many "alternative" non-formal early intervention strategies (see Section I) that have been tried out in Peru, we will compare cost and effectiveness data from only two: a home-based alternative (the Portage validation project) and

a neighborhood satellite model (the Ate-Vitarte project)<sup>1</sup>.

1. A Home-Based Alternative (The Portage Validation Project)

One alternative to the center-based PRONOEI is a home-based-program option focussing on parents who act as teachers and agents of change for their own children. Parents (and other caregivers in the home) are aided in this effort by trained home visitors. A home-based approach reduces both the physical and the psycho-social distance between home and pre-school by making them one and the same. It eliminates the cost of building new buildings or of renting centers. It educates parents and allows involvement by siblings and extended family members, thereby increasing the chance of more general and longer-term applications.

In 1978, an experiment in home-based early education was begun by the MOE, with assistance from USAID. The experiment was implemented in two marginal urban communities near Lima and four rural communities in the Department of Cuzco. The model applied was an adaption of the "Portage model" developed in the United States. The main goal of the Portage approach is to enhance the quality of interaction between children and caregivers. That is done by providing parents with 1) a method of evaluating the developmental level of their child, 2) a set of activities appropriate to the different developmental levels, and 3) general information useful in fostering child development.

The curriculum developed for the Peruvian experiment with a home-based model was tied to MOE's initial education curriculum and it incorporated objectives from the Portage Guide to Early Education. Home visitors were

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<sup>1</sup>Costs and effects have also been analyzed for an "integrated" system of attention to children in the Cono Sur of Lima. This integrated model is not only urban (as is the Ate-Vitarte project) but combines many program elements making comparison difficult. We have chosen, therefore, not to present and compare Cono Sur information. (See Carbonetto, et. al., 1984).

selected from each of the study communities. These local para-professionals were provided with four weeks of training in child development, teaching techniques, construction of educational materials and health, hygiene, and nutrition practices. Each home visitor served 10 families and visited each family weekly for one hour helping parents with diagnoses, setting objectives,

choosing activities, and evaluating results of previous activities. During the home visit, the para-professional (also called an animadora) also discussed nutrition, health, and hygiene with the caregiver. Supervision was provided by a professional teacher of initial education. (A full description of the program is provided in Jesien, et. al., 1981).

When comparing the Portage validation project and the project we are evaluating, it is important to keep in mind that the first is an experiment carried out in only six communities while the second is a large-scale implementation effort covering over 2000 communities. Both were directed at children ages 3 to 5. Both used para-professionals and were based on the MOE curriculum. The Portage project included an urban experiment and a rural experiment whereas implementation of project 527-0161 is almost exclusively rural.

Because it was set up as an experiment, the Portage Project had evaluation built in from the start. The pre-test/post-test evaluation design was applied to experimental and control groups in both the urban and rural sites. To measure developmental differences, an adapted version of the McCarthy Scale of Children's abilities was used. Children were also weighed and measured.

In the urban sample, significant differences were found on the Perceptual Performance Scale of the McCarthy. Differential gains (but not statistically significant gains) were also registered on other scales (general cognition,

verbal ability, quantitative ability, motor ability, and memory). No significant differences were found in nutritional status. In the rural sample, significant differences were found on the Verbal, General Cognitive, and Memory Scales. The presence of significant differences were attributed to the fact that while experimental children developed at a "normal" rate during the experimental period, control children developed more slowly, losing ground. No significant differences were found in nutritional status for the rural sample. The evaluation did not measure differences in social development.

A careful study of costs for the Portage model over the period of one year produced a per family figure of about US\$48 in Lima and US\$56 in Cuzco. At the time the study was done, it was estimated that this cost was approximately one-half that of a CEI. Included in the calculations were the costs of training of teachers (using foreign technical assistance), the salaries of the professional teachers, the monthly stipend of S/. 2,000 (US\$9.50) paid to the home teachers, and the cost of materials (some provided by the families). No cost estimate was made for the volunteer contributions of the home visitor (as was done in the costing of Project 527-0161). No allowance was made for the fact that this was an experimental project, as is done in the cost analysis of the Ate-Vitarte project --see below. Using the actual cost figures for the experiment, a projection was made of the per family cost that might be expected if the home visitor's pay was doubled and her load was increased from 10 to 15 families, and if Peruvian professionals rather than foreigners were used for training. The projected cost was about US\$25 per family or about one-half the actual cost.

Taken on its own terms, the Portage project seems also to be a cost-effective option.

Because "Pre-School Education as an Incentive for Community Development" is a rural project, it is more appropriate to compare costs and effects with the rural part of the Portage experiment than with the urban part. When rural Portage is compared with the Puno portion of Project 527-0161, the results look very much alike. Both yield significant test score differences (albeit on different tests). The projected costs of the Portage model are about US\$25 per family as compared with calculated costs for Puno of about US\$24 per enrolled child. Refinements could be made in these figures to adjust for differences related to a per family vs. a per child calculation, to reflect multiple goals, to use the actual attendance level (or the number of home visits missed), etc. Even if adjustments are made, however, the general conclusion that emerges from a comparative analysis of costs and effects is that the analysis does not provide a clear guideline for choices between the two alternatives -- when Puno is used for the comparison.

A comparison between the rural Portage model and PRONOEI model as implemented in the Cuzco project site does produce differences. The Portage experiment produced significant differences on test scores representing verbal, cognitive, and memory abilities. This contrasts with our evaluation in Cuzco where significant results were not found on the intellectual subscale of the test.<sup>1</sup> Complicating matters, however, a significant difference was found in the change in social scores of children in the PRONOEI project. That is not matched by a similar finding from the Portage evaluation.

In the Cuzco comparison, costs favor the Portage model when projected costs are used rather than the estimate of actual costs. The figures are US\$25 for Portage and US\$40<sup>1</sup> from our evaluation. However, the comparison

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<sup>1</sup>The amounts for Puno (\$24) and Cuzco (\$40) were calculated by taking per unit cost for Puno from Table 17 and reducing them by the amount (1/\$) contributed by the community through the volunteer labor of the animador.

turns in favor of the center-based program if actual costs from the Portage evaluation are used and when volunteer labor of the animador is taken out of our calculation to make the two more directly comparable. (US\$56 for Portage vs. \$40 for the PRONOEI). Again, the rough comparison of effects and costs does not provide a clear guideline despite apparent differences.

Because differences in costs and effects between the home-based and the center-based models are not dramatic, it seems more appropriate to consider the two alternatives on their educational merits rather than to choose between them on a cost-effectiveness basis. When the Portage evaluation team completed its work, it recommended on educational grounds that the home-based model be used for families with children under age three rather than for the 3 to 5 age group. In this early period, grouping children in centers is unnecessary and impractical, but advice to parents is needed from the time of birth (or pregnancy). Children aged 3 to 5 are in need of social experiences. They are mobile. Social experiences with groups of peers can be provided better in a center-based program than in most homes. In areas where homes are monolingual in Quechua or Aymara, the center-based experience can provide a start or reinforcement for learning of Spanish. By distinguishing the home-based and center-based programs on the basis of educational needs linked to age, these two "alternatives" become complementary program options.

## 2. A Resource Center Neighborhood Satellite Model.

Since 1979, another non-formal, center-based initial education option has been implemented in Peru, with assistance from the Bernard van Leer Foundation. The experimental site is a peri-urban location -- Ate-Vitarte -- a short distance up the Central Valley from Lima. In that community live migrants from many parts of the Peruvian sierra.

At the heart of this pre-school option is a Resource Center for Early Childhood Education. The Center serves as a demonstration program and training site for 29 neighborhood pre-school satellite programs that have gradually become affiliated with the experimental project. Satellites pre-schools are constructed and partially equipped by the respective neighborhoods on a self-help basis. In the Resource Center, methods and activities are developed that are used in the outlying programs. Local mothers who serve as the para-professional animadoras attend weekly training sessions and are supervised by project staff.

An evaluation of the experimental satellite model has recently been carried out (van Leer, 1984). The evaluation included administration of a criterion-referenced test very similar to that used in the evaluation of Project 527-0161. A detailed analysis of results is still in progress. However, it is clear from the preliminary analyses that project children score significant better on the test. The evaluation also points to several other project "benefits:"

1. A savings to the government has occurred because communities bear most of the construction cost and because they provide volunteer labor. (This is also the case for the PRONOEI). The expenses of the neighborhood satellite experiment have been borne in the main by the van Leer Foundation (69 percent) and the community (21 percent), with the Ministry of Education covering only 10 percent.

2. The project has an effect on the community in terms of increased participation and organization. As in the PRONOEI model, animadoras come from, and usually return to, the local community. These women receive training which works to the benefit of the community, not only while they are serving as animadoras, but afterwards as well.

3. The project affects the field of initial education, by creating a methodology for training animadoras and docente coordinadoras, and by successfully testing a model of initial education applicable in other locations.

An estimate of costs made in the evaluation included costs of construction, equipment and materials, salaries of teacher co-ordinators and animadoras, administration, and technical assistance. Approximately 15 percent of the Ate-Vitarte expenses are directly assigned in the cost analysis to research and experimentation. This seems more than reasonable.

When the research expenses are taken out of the analysis and an adjustment is made for depreciation, the per unit project cost for the educational activity over five years is reported to be about US\$55 per child per year (van Leer, p. 141). That figure was calculated using an exchange rate of S/.#4,100 which is not consistent with the adjustment of other figures to a June, 1984 date when the exchange rate was closer to S/.3,200. Using a compromise rate of S/.3,600 (the same used for the conversion of soles to dollars in our own evaluation) the cost per child per year rises to US\$63. That estimate, however, still includes an estimate of volunteer labor which, when taken back out, brings the per unit cost back down to approximately US\$50. In the Ate-Vitarte cost study, no adjustments are made for differences between enrollment and regular attendance (in contrast to our evaluation). We are not provided with a hypothetical projection of operating costs should the project be replicated (as was done in the Portage evaluation).

The Ate-Vitarte cost is higher than (1) the projected cost figures for Portage and (2) the actual cost figures we have reported, it is not far out of line. However, comparing Ate-Vitarte with the actual cost estimate for the Portage model applied in Lima, the figures are almost the same (US\$50 and

US\$48). And, comparing with the per unit costs calculated for San Martin in this study, they are almost on a par.

Although we have done so above, a direct comparison between the Ate-Vitarte project and the project we are evaluating is a questionable exercise. Ate-Vitarte is a peri-urban project carried out on an experimental basis in one setting. The PRONOEI model is being used widely and almost exclusively in rural areas. Again, these are not so much alternatives as they are complementary options, with the Ate-Vitarte model serving marginal urban concentrations. As shown by the evaluations, both taken on their own terms can be effective.

### Conclusions

What conclusions can be drawn from this comparative exercise?

1. Taken in their own terms, the three non-formal models compared are all moderately effective and all are less costly than the formal equivalent, the CEI.

2. The differences in per unit costs among the non-formal models are not dramatic. Therefore, decisions about which program is most appropriate in what setting can be made on educational grounds.

3. Programs usually viewed as "alternatives" are in fact complementary options.

4. Little or no direct effect on nutrition or health was found in these programs. Not surprisingly, child development programs emphasizing education are more likely to produce educational results than they are to bring improvements in the basic nutritional and health status of the participating children.

5. It is not possible with existing information to draw a firm conclusion about the relative long-term effectiveness of formal vs. non-formal pre-school options in relation to their costs. A plausible argument exists that the CEI, despite its much higher cost, will produce higher and more consistent effects. We do not have an adequate measure of that effect.

VI SUMMARY AND CONCLUSIONS

This report presents results from an evaluation of Project 527-0161, a joint project of the Peruvian Ministry of Education (MOE) and the United States Agency for International Development (USAID). The project title, "Pre-School Education as a Catalyst for Community Development," reflects its purposes which are:

1. "To assist in the development, implementation, assessment, and expansion of a low-cost, non-formal pre-school education for poor children"
2. "To encourage the participation of parents and community members in the educational process."

Specifically, the project seeks intellectual, socio-emotional, and psycho-motor gains in children ages 3 to 5 in poor rural communities (or marginal urban areas), improvements in health and nutritional levels of the children, increases in enrollment and retention in primary schools, greater community participation, the organization and up-grading of regional and zonal level pre-school staff, and increased coverage for initial education at reduced costs.

To these ends, a total of US\$1,800,000 has been authorized, to be accompanied by US\$1,251,000 in counterpart funds and US\$440,000 from PL480.

The project began in 1980, in pilot sites in the departments of Cuzco and Puno and was expanded to Apurimac and San Martín in 1982-83. Project activities have included the construction of pre-school facilities and provision of furniture and materials in selected communities; training of teacher trainers, para-professionals and administrators both in-country and abroad; technical assistance; evaluation and research; and funding for community projects.

In the pre-school model followed by the project, children are brought together for a three-hour period during 4 or 5 mornings a week in centers called PRONOEIs (Programas No-Formales de Educación Inicial) and are provided with a snack or noontime meal. A para-professional, chosen by the community supervises activities designed to improve the children's physical, mental, and social development. In theory, the pre-school activities form part of an integrated program of community development. The PRONOEIs are administered by the Ministry of Education (MOE), but the model depends heavily on volunteer community participation. This non-formal model is one of several non-formal pre-school experiments implemented in Peru. These non-formal options constitute an alternative to the formal and more expensive pre-school model of Centers for Initial Education (CEI), also being implemented in Peru.

The general conclusions and recommendations that follow are based on results from: sample surveys of USAID-assisted PRONOEI communities, carried out in October/November, 1983, and repeated a year later; tests administered to a sample of 334 children; interviews with 400 parents and community leaders in conjunction with the testing and as part of 31 community case studies;

systematic observations carried out in 12 PRONOEI centers twice a week over five-months; an analysis of project budgets, expenditures, and costs; a review of results from previous evaluations; and discussions carried out with project participants in the sample communities, in the four departmental pilot sites, and in Lima -- at USAID and in the Ministry of Education. Documents presenting detailed results from these individual studies are appended to the report.

### Project Status

1. Project goals set for coverage, training, construction, and materials development have been met or even surpassed. The project is now active in over 2000 communities in the four pilot sites and over 60,000 children are enrolled in the program. As many girls as boys are being served. In Puno, where the program pre-dates USAID involvement, more than 40 percent of all children in the state between the ages of 3 and 5 are covered. One hundred and seventy-three new PRONOEI buildings have been constructed with assistance from USAID. Curriculum guides have been developed and produced for use in each of the four project sites. Training abroad has resulted in an MA in educational administration for the Project's National Coordinator, and in improved skills for 10 initial education specialists who studied in the United States for two months each. Local training has been provided for several thousand para-professionals over the four-year period and for approximately 200 coordinating teachers.

2. The non-formal education service that has been established is reaching, in the main, poor rural families, often in inaccessible communities where complementary services are lacking. It provides, therefore, a basis for working with children and their families in many communities not normally served, and sets up the potential catalytic role in community development that is emphasized in the project title.

3. Sample survey data and classroom observations provide a description of how the system is functioning:

a. Attendance and drop out. Coverage (in terms of enrolled children) is high, but attendance is low (between 50 and 75 percent). Low attendance is related to distance, sickness, lack of parental interest, and competing demands on both para-professionals and children (e.g. the need to work the fields). Drop out from programs is a relatively low 10 percent and is usually related to a change of residence or to a major illness.

b. Facilities and materials. Many PRONOEIs continue to function with minimal facilities, some lacking such basic features as a roof or a bathroom. The percentage of PRONOEI buildings with a dirt floor ranged from almost 90 percent in Apurimac to about 40 percent in Puno. Classroom observations show that the gap in the availability of educational materials has been narrowed significantly, but some PRONOEIs continue to need materials. Generally, the availability of materials is less of a problem than improving their use.

c. The Para-professional (Animador). Profiles for animadores vary widely from project site to project site. In San Martin, almost all are women with complete secondary educations; in Puno only 30 percent are women and only about half have a complete secondary education. Most animadores live in the community they serve and have been chosen by the community. That, however, seems to be declining.

Turnover among animadores during the year is relatively low (less than 20 percent). Between 1983 and 1984 turnover was slightly over 50 percent and reached 90 percent in San Martin. Absenteeism is relatively high. (In the 12 PRONOEIs observed, teachers were absent between 30 and 62 per cent of the time.) Being chosen by the community reduces the chance of animador turnover. Animadores do not receive extra compensation from their communities. Although the project began as a community-based experiment linked closely to volunteer service and with the idea that communities would provide extra support, animadores now seem to view their small "propina" as a salary. The purchasing power of that propina, even with the increase from S/.15,500 to S/.50,000 in 1984, has eroded to 50 per cent of what it was in 1977. The para-professional position is often seen as a potential stepping stone to work as an uncertified teacher.

d. The Supervising Teacher (Docente Coordinador). Very few supervising teachers are initial education specialists. The number of PRONOEI each coordinators must supervise ranges from 6 to as many as 24. In 1984, an increase in the number of supervisors was budgeted by the MOE, but responsibilities are still, on the average, too widespread. The distances and the time required to get to communities (sometimes many hours on foot), and the lack of funds for travel, make it extremely difficult for some supervisors to visit their PRONOEIs more than once per year. In 1984, the average number of visits was 5. The turnover of coordinating teachers was about one-third between 1983 and 1984.

e. Training. Almost no animadores have had experience in the field of initial education or child development before taking on their work. Most have had little experience with community development. Yearly training courses have been able to provide only a brief orientation to the animadores. Courses have been adjusted to focus more on the use of materials and the management of the PRONOEI than on theory or on the creation of educational materials. A training alternative was tried out in 1984 involving supervising teachers in on-site training.

f. Curriculum. The basic curriculum for initial education has been set by the Ministry of Education, but each pilot site has created its own curriculum guide. A high percentage of the activities carried out by animadoras (85%) come directly from the curriculum guides. However, they carry out these activities during only a small portion of the time available. The curriculum does not include specific attention to reading and writing despite constant indications from parents that this is desired.

g. Administration. Project administration needs strengthening. That will be particularly true in the coming year if a national coordinator is phased out. Many of the administrative problems faced by the project require action within parts of the MOE other than Initial Education. For instance,

para-professionals were not paid anything for their efforts until as late as October in some places. Accounting procedures are not standardized across the several pilot sites nor for the system as a whole.

With the extended coverage, training, and curricular development that has been made possible under the project, what began as a pilot project has become an educational service. Establishing the service is a major accomplishment but is only the first step toward making it effective. Qualitative improvements are needed, together with adjustments in the guiding philosophy. Parents of PRONOEI children often view the PRONOEI as a lower quality CEI in which children learn to play and use throw-away materials rather than as a place in which to learn to read and write.

### Effects on Children

1. General. Over 95 percent of the parents interviewed felt that the program had changed their children. They felt that their children were more alert, less afraid, and better prepared for school.

2. Social effects. When scores on test items designed to measure social attainments were compared for PRONOEI and non-PRONOEI children, positive results were found favoring the PRONOEI children in Puno (in both the Aymara and Quechua zones and for all children taken together). A similar result was found in San Martín. In Cuzco, the absolute scores of PRONOEI children on social development test items are lower than those of non-PRONOEI children. But when changes over a five month period are compared, the change among PRONOEI children is significantly greater than among "control" children. The results suggest that a well-run rural PRONOEI can have a significant effect on the social behavior of very poor children.

When PRONOEI children are compared with children in the formal CEI pre-schools, the CEI children generally have high social test scores. That difference can be attributed principally to the better economic and social condition of the communities in which CEI are found. When comparable urban marginal PRONOEI and CEIs are compared, results are inconsistent. In some cases there is no effect, in others the CEI children have an advantage.

3. Intellectual effects. When test scores of PRONOEI and "control" children are compared, significant differences in the general intellectual attainments of the two groups are present in Puno, in both Aymara and Quechua areas. In San Martín and Cuzco, no significant differences were found. CEI children perform better than PRONOEI children in San Martín, but not in Cuzco. The lack of a significant difference in Cuzco between PRONOEI and CEI children is noteworthy, considering that CEI children are generally from wealthier communities and better-educated families. Generally, the children tested are weak in intellectual skills. Despite this fact parents of PRONOEI children claim that their children are better prepared for school.

4. Effects on physical development. Children in PRONOEI, CEI, and "control" groups showed consistently high attainment of "gross motor" skills. They did not do as well with fine motor skills. A significant difference

favoring the PRONOEI was evident when PRONOEI and non-PRONOEI children were compared in Puno. CEI children did significantly better than PRONOEI children in San Martín.

5. Schooling effects. No significant differences were found in the rates of repetition or school drop out for children with PRONOEI and non-PRONOEI backgrounds. The overwhelming and disturbing finding in the primary school follow-up study is the high level of repetition in the first grade in all pilot areas (over 50 percent). PRONOEI children appear, on the average, to enter primary school at a younger age than other children.

6. Nutrition effects. Effects on nutritional status are moderate, indirect, and differ by project site. In Puno and Cuzco, PRONOEI children were better nourished than non-PRONOEI children, but the reverse was true in Apurímac and San Martín. If height-for-age is used as the indicator of malnutrition and norms of the World Health Organization are applied, the level of "stunting" is relatively high. The highest rate, of 64 percent, appears among PRONOEI children in San Martín. If weight-for-age provides the standard, the general level of malnutrition (mostly mild or moderate) is even higher among PRONOEI children, ranging from 47 percent in Puno to 83 percent in Apurímac. When weight-for-height is used, the malnutrition level is lower, but still significant in most locations. Still, improvements in nutritional status occurred between 1983 and 1984 in the communities studied. Moreover, girls in PRONOEI communities are closer to boys in their nutritional status than in control or CEI communities. In Puno, food supplementation programs seem to have had a measurable effect. These effects are more closely related to exogenous factors than to the project per se. The project has not given adequate attention to nutrition.

7. Childrearing effects. Fundamental changes in child-rearing patterns were not detected in relation to the project.

### Effects on Communities

1. Community participation. Community participation in the project still seems to occur primarily through help with construction and feeding, or in agricultural projects for which project funds have been provided. Direct participation in the daily activities of the PRONOEI is usually limited to the volunteer service of the animador and to mothers who take turns preparing a meal for the children. The non-formal program is not structured to allow direct parental participation in curricular or pedagogical matters. The program is administered from outside even though parent associations exist in most PRONOEI communities. The construction of PRONOEIs, in the same way as other community constructions (such as primary schools, mother's clubs, or "comedores" for children), helps to build community participation and solidarity among families.

2. Women's participation. Participation in community meetings does not seem to be related to the presence of a PRONOEI or mother's clubs. The fact that children are in the PRONOEI for three hours during the day does not free rural women for leisure or learning or to do jobs that they would not otherwise do. In fact, it sometimes means a woman, rather than a young child, must tend the animals. Literacy courses for women are not connected to child care or childrearing so there is no intersection of programs. "Cursos de

Capacitación" designed to meet mothers' specific interests are scarce or non-existent in most PRONOEI communities.

3. Community organization. The PRONOEI project has helped to integrate an increased concern for education into existing forms of community organization. The project has frequently led also to creation of new organizational forms such as mothers clubs, parents' associations, and nutrition clubs. These form part of a larger set of community groups and activities which, taken together, help to diversify leadership and promote community development by mobilizing volunteer labor for the common good.

4. Community structure. There is no evidence that the presence of a PRONOEI makes a fundamental difference in the structure of a community. Although presence of new groups diversifies leadership, the leaders continue to play the same roles. The new groups are integrated into the traditional structure which, therefore, facilitates rather than impedes organization of pre-schools. The animador seldom takes a role as a community leader (there are important individual exceptions), but often helps to call community meetings and/or to participate as a secretary to the community leaders.

5. Supporting services and integrated development. In most PRONOEI communities, supporting services such as health and sanitation are not present. (Less than 15 percent of the communities had a medical post in Apurímac, Cuzco, and San Martín.) In Puno, over a period of 11 years, some progress has been made in providing complementary health, nutrition, and agricultural services that converge on PRONOEI communities, but coverage is still relatively low. (There, medical posts were present in more than one third of the communities.)

USAID does not make a point of providing funds for complementary services in the PRONOEI communities, except by coincidence. The supplementary feeding program does serve many PRONOEI communities (which, however, must pay for transport of the food).

The community gardens and small animal raising projects initiated under 527-0161 are not widespread. Their impact has been constrained by the lack of adequate technical assistance and by poor administration, providing another example of lack of integration among services. That appears to be true even in San Martín where an agreement with the Ministries of Agriculture and Health was established from the outset.

#### Costs and Financing

1. The total amount spent by USAID over the four-year life of the project is about US\$2,000,000 when grant expenditures and PL 480 expenditures are combined. If expenditures by the public sector, by UNICEF (in project communities only), and by local communities are added together, the expenditure total (in 1984 soles) is S/.40,215 millones, or more than US\$11,000,000 (using an August, 1984 exchange rate of S/. 3600).

2. USAID funds have been spent primarily for training, and for the construction and equipping of centers. The funds have been spent very much in

line with the operational plans presented. The spending pattern of the public sector, on the other hand, differed from what was budgeted; almost no funds were put into training. The amount spent to pay the para-professional's gratuity (the propina) absorbed more public funds than estimated. Supervision was also short-changed in the distribution of public expenditures.

3. The analysis of budgets and expenditures reveals a basic difference in programming strategy between USAID and UNICEF. The latter provides most of its funds for productive projects in PRONOEI communities rather than supporting educational programs per se. The two strategies have complemented each other in Puno, but similar complementarity is missing in other areas.

4. Per unit costs for the PRONOEI model are less than 50 percent of the costs of a formal pre-school center, meeting the Project Paper goal. Taking enrollment as the denominator and excluding from the calculation of per unit costs the contributions in labor and materials made by local communities, the per student cost of the PRONOEI program was about S/.99 or US\$28 in 1984. This per unit cost varies significantly from pilot site to pilot site and from PRONOEI to PRONOEI depending mainly on enrollment levels. If attendance rather than enrollment is used as the denominator, the cost approximately doubles -- an indicator of massive "wastage" in the system. A number of practical steps could be taken to cut down that wastage (see recommendations).

5. "Economies of scale" are suggested by the Puno case where coverage is much higher and costs are much lower than in the other departments.

6. Local communities bear about one quarter of the project costs, the public sector about one-half, and foreign assistance agencies about one-quarter. The USAID share of the costs is 14 percent.

#### Cost-Effectiveness

1. Judging the project on its own terms, it is cost-effective with respect to some expected outcomes (effects on the initial education system, test scores, and community participation), and not others (nutritional and health status, primary school progress, and productive projects).

2. The project is more effective in Puno where it has been in operation for a longer period of time and where an "integrated" approach has been followed, than in other pilot sites. The Puno results suggest that effectiveness and low costs can be achieved over time in a large-scale non-formal pre-school program. However, an extra effort will be needed to achieve the same result in other pilot sites that do not yet show the same level of effectiveness.

3. Resources would be used more effectively if attendance and use of time could be improved.

4. All three non-formal options examined (the center-based PRONOEI, the home-based adaption of the Portage model, and the peri-urban resource center and satellite approach) are effective when evaluated in terms of goals set, and all are significantly less costly than the formal equivalent, the CEI.

5. Differences in per unit costs among non-formal models are not dramatic. Therefore, choices among program options can be made on educational grounds rather than on a cost basis. Rather than view the several non-formal programs as alternatives, then, they can be viewed as complementary options, each with the potential for being cost-effective in particular situations and with particular age groups.

6. Additional attention is needed to the quality of programming and to the way in which initial education is integrated with other community development components such as health, nutrition, agricultural extension, and primary school education.

#### The Role of USAID

1. USAID has played a catalytic role with respect to establishing an educational service, by providing funds to cover investment expenses that might not have otherwise have occurred. The USAID funding has helped projects to get started in new areas, significantly extending coverage.

2. USAID has been a minor partner, covering less than one-sixth of total project costs.

3. By providing funds only to the MOE, USAID has reinforced a relatively narrow sectoral view of interventions designed to improve early childhood development. Within its own programming, little has been done by USAID to work toward the convergence of complementary services (health, nutrition, agriculture) in PRONOEI communities. Thus, the catalytic role envisioned for the project with respect to broad "integrated" community development has not yet been realized in PRONOEI communities.

4. The use of USAID funds to pay for a full time administrator of the program has facilitated and improved both planning and implementation. Without that supervision, it is unlikely that operational plans would have been as well formulated and as close to on time as they were. Implementation would have been delayed.

5. The overload on USAID's own administrative system has sometimes created undesirable delays in payment of funds.

#### The Role of the MOE

1. The MOE has backed the PRONOEI experiment by steadily increasing its share of project expenses, by providing counterpart funds well in excess of those stipulated, by picking up salaries of departmental specialists and supervisors, and by raising the level of the propina. This support has been given despite opposition within the MOE to the non-formal pre-school model.

2. The dual role played by the National Coordinator of the Project -- as project administrator and as DIGEI staff member -- has facilitated AID - MOE collaboration and facilitated adjustment by the MOE of its training, curriculum and supervision based on feedback from the present evaluation.

3. Bureaucratic snags -- particularly the failure by the MOE to pay para-professionals until late in the year -- have hurt the project.

4. The MOE lacks an approach to practical planning that is consistent across the various project sites.

5. Within the project, only minor efforts have been made by the MOE to collaborate with other sectors. A more appropriate mechanism is needed for such collaboration to occur at a significant level and to be effective.

To find any effects of the program on children and communities is encouraging given the relatively short time it has been in operation in most project sites, and in view of the existing structural, cultural, bureaucratic, and technical or pedagogical barriers to improvement. Even more encouraging are the significant results found across the board in Puno where the program has been in operation for the longest time and where supporting services are better established. These findings suggest that by improving the quality of the program, by becoming more responsive to parents' desires, by recognizing the need for incentives in what is no longer a "volunteer" program, and by seeing that complementary services converge in PRONOEI communities, the level of cost-effectiveness that has been reached can be raised considerably, to the benefit of poor rural children in Peru and their families.

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A survey of AID-assisted PRONOEI Communities, 1983:

The Sample

From a total list of 1936 PRONOEI communities, a sample of 148 communities was selected, in 1983, distributed among the four departments of Apurímac, Cuzco (including Sicuani), Puno and San Martín, as shown in Table 21. At the cut-off point for receiving survey returns, in November, 1983, data had been received for 141 communities. All seven of the communities for which no information was received, were from the Cuzco region (six from Cuzco proper, and one from Sicuani). The small number of non-responses did not, however, bias the sample significantly when checked against the three criteria used to stratify the sample (see below). Thus, even though five of the missing cases from Cuzco arrived later, they are not included in the tabulations and the analysis presented in the preliminary report and drawn on in the final report in Section II.

Criteria: Three basic criteria were used to classify communities. In Cuzco, Apurímac and Puno, the classification was made in advance and communities were selected randomly within each of the strata defined by the criteria. In San Martín, a random sample was chosen, then checked against the three criteria to assure representativity.

1. Accessibility. In Apurímac and Cuzco, a community was considered accessible if it was possible to arrive by road to within 45 minutes walking distance of the community. The most inaccessible community in the list was Ocrabamba in Apurimac, requiring 11 hours to reach by horse. In Tarapoto, accessibility was differentiated in terms of arrival by road, by river, and by path. In Puno, almost all communities were accessible by road so there was

TABLE 22  
A Sample of USAID-assisted PRONOEIs in Apurímac,  
Cuzco, Sicuani, Puno, and San Martín, 1983.

Department	Total No. of PRONOEIs with USAID funding <sup>a</sup>	Selected <sup>b</sup>	Number for which data were obtained	% response	weight
Apurímac	218	30	30	100	1
Cuzco	260	34	28	82	1.3
Sicuani	152	20	19	95	1.1
Puno	1,140	44	44	100	3.6
San Martín	<u>162</u>	<u>20</u>	<u>20</u>	<u>100</u>	<u>1.1</u>
Totales	1,932	148	141	95	

<sup>a</sup>Totals were taken from current listings in each department.

<sup>b</sup>Except in Puno, a sampling interval of between 7 and 8 was used.

<sup>c</sup>To arrive at figures for the entire population, it could be necessary apply the weights presented in this column to the departmental figures. Because the departments are so different, results will be reported on a departmental basis.

<sup>d</sup>Not included in the total for Cuzco are 140 communities in which PRONOEIs are receiving support from UNICEF. The exclusion is artificial because animadores in these communities receive training in courses provided with USAID assistance. In at least one UNICEF community, USAID funds were also used for construction. We have, however, followed the administrative division made by the departmental free in Cuzco and have excluded the 140 communities from the evaluation.

relatively little difference by this variable.

2. Socio-economic characteristics. Different definitions were used in different departments to define socio-economic characteristics. In Apurímac Cuzco and Sicuani, communities were classified according to commonly accepted "ecological zones" corresponding roughly to altitude. Altitude determines crops grown which, in turn, influence the economic structure of the community and its level of economic development. The four zones are: the puna (high

mountain where only potatoes and quinoa are grown and herding is a major activity); quebrada (mountain sides, with agricultural terracing and some mix of crops, including some corn); valle (here agriculture is productive and crops include corn and wheat. In addition, valleys are usually served by main roads); and, ceja de selva (the semi-tropical area which is also fertile, but where accessibility can be a problem. Very few communities fell in the last category (none in Apurímac and Sicuani). In general, the poorest communities are found in the puna and cannot be reached by road.

In Puno, communities were classified some what differently into five zones: the circunlacustre (or lake zone); zona de altura; selva (or high jungle); frontera (with Bolivia), and trocha carrozable (wide path). In addition, communities were distinguished according to the predominant language/culture: Quechua or Aymara.

The San Martín sample was divided into urban and rural communities - an unnecessary division in the other departments where almost all of the participating communities are rural. Further division in San Martín was not deemed necessary. Although there are undoubtedly some significant socio economic differences among the rural communities, it was assumed that these were picked up through random sampling.

To classify communities in advance proved to be a major task in Cuzco where such a classification had not been made previously. We asked departmental staff, docentes coordinadores (in a few cases), and personnel in the agricultural and special studies departments of the CORDECUZCO. Ratings were compared and in the few instances where rates differed, information was accepted from the raters deemed most familiar with the community. Although a classification of "micro regions" has been done for the Department of Cuzco, that classification was not sufficiently precise to rate individual communities.

APPENDIX A

SAMPLING CRITERIA AND COMMUNITIES CHOSEN

3. Age of the PRONOEI. In Apurímac, Cuzco, and Sicuani, a division was made between programs functioning for 1 or 2 years, and those functioning 3 or more years. In Tarapoto, the split was between 1 and 2 years.

The attached matrix (Table 13) shows how the communities were arrayed in Cuzco and the numbers chosen within each cell. Following the Cuzco matrix is a list of the communities chosen in each department, together with the number of children enrolled in each PRONOEI.

Adjusting the Sample and Obtaining Data in 1984

A decision was made to return to the same communities in 1984 that had been surveyed in 1983. In so doing, however, several adjustments were required. In Apurímac and Cuzco, it was necessary to drop a number of communities in the sample because the threat of terrorism made it inadvisable to repeat the survey there. These were replaced with communities that, presumably, had similar characteristics. The net result, however, was a set of 1984 communities that, in relation to 1983, are slightly more accessible, on the average.

As in 1983, docente coordinadores were asked to collect the survey information. Orientations were given which included discussions of results from the 1983 survey. For administrative reasons it was not possible to give a proper orientation to the Sicuani coordinators. Consequently, results were received from only 4 of the 19 communities and a decision was made to drop Sicuani from the 1984 presentation.

In each of the four departments, additional attrition occurred because docente coordinadores did not collect the information. In Apurímac, 24 communities were surveyed in 1984 (versus 30 in 1983); in Cuzco, 29 (vs. 28); in Puno, 39 (vs. 44); and in San Martín, 16 (vs. 20). As a result, a further bias toward accessible communities was introduced.

APPENDIX A (Continued)

LIST OF COMMUNITIES INCLUDED IN THE SAMPLE OF USAID-ASSISTED PRONOEI

---

Code	Name of Community	Number of Children enrolled	
		1983	1984
<u>Apurimac</u>			
A- 1	Ccarancc	23	-
A- 2	San Juan	51	-
A- 3	Nahuinlla Alta	22	-
A- 4	Nahuinlla	25	-
A- 5	Tamburo Pampa	30	-
A- 6	Pumamarca	34	-
A- 7	Ocrabamba	20	-
A- 8	Ratcay	27	-
A- 9	Totora Pampa	24	-
A-10	Kullco	25	-
A-11	Tamboraccay	36	38
A-12	Acullia	14	19
A-13	Silco	34	-
A-14	Pumachuco	25	-
A-15	Urucancha	39	-
A-16	Ccanabamba	18	23
A-17	Totora	20	-
A-18	Huarquiza	22	16
A-19	Ccarancalla	28	24
A-20	Argama Alta	24	24
A-21	Amuyuay	54	-
A-22	Chihuampata	43	24
A-23	San Mateo	18	24
A-24	Huayao	25	-
A-25	Huancarpuquio	26	24
A-26	Taquebamba	30	17
A-27	Minune	23	17
A-28	Paccaypata	29	24
A-29	Puca Puca	19	30
A-30	Pacobamba	26	25
A-31	Tapayrihua	-	24
A-32	Mollepina	-	24
A-33	Calcauso	-	24
A-34	Promesa	-	25
A-35	Moyobamba Baja	-	24
A-36	Challhuani	-	10
A-37	Cayara	-	10
A-38	Taramba	-	24
A-39	Checyapa	-	22
A-40	Colca	-	38

Code	Name of Community	Number of Children enrolled	
		1983	1984
<u>Cuzco</u>			
C- 1	Rumira	32	-
C- 2	Pallata	26	31
C- 3	Huilloc	40	31
C- 4	Pillahuarua	15	15
C- 5	Paroccan	23	21
C- 6	Idma	23	20
C- 7	Lauramarca	21	23
C- 8	Ccorihuayrachina	27	24
C- 9	Bombon	19	22
C-10	Nucchuyoc	23	22
C-11	Alcabala	24	22
C-12	Pintacha	42	48
C-13	Kallarrayan	41	23
C-14	Huancacalle (replaced A-35)	19	-
C-15	Oyara	15	21
C-16	Chanca	28	-
C-17	Pasto Grande (Replaced A-36)	12	-
C-18	Mika	20	20
C-19	Huayllanata	14	29
C-20	Llochapampa	14	-
C-21	Santo Domingo	21	24
C-22	Qoraquechua	26	23
C-23	Mayuhuaylla	20	21
C-24	Kosco Ayllu.	35	39
C-25	Ttio	33	23
C-26	Llampa	30	24
C-27	Urcos Pampa	18	15
C-28	Cjunucunca	26	24
C-29	Secscencalla	23	24
C-30	Andamayo	27	28
C-31	Pillao	18	-
C-32	Chequerec	21	26
C-33	Racchi	28	-
C-34	Cruzpata	11	-
C-35	Urco	-	35
C-36	Acobamba	-	19

Sicuani

S- 1	Quijota	34	
S- 2	Chacaraya	31	
S- 3	Lutto	39	
S- 4	Esquina	28	
S- 5	Viluyo	13	
S- 6	Lahua Lahua	26	
S- 7	Puca Puca	23	
S- 8	Tarucuyo	34	

Code	Name of Community	Number of Children enrolled	
		1983	1984
S- 9	Ayracollawa	29	
S-10	Quecamayo	32	
S-11	Totorani	22	
S-12	Chacapata	15	
S-13	Sausoya	26	
S-14	Tandabamba	22	
S-15	Chanchapata	32	
S-16	Machaucoyo	22	
S-17	Livincayo	22	
S-18	Llaullero	21	
S-19	Ccancayllo	28	

Puno

P- 1	Lacconi	30	37
P- 2	Cochiraya	28	24
P- 3	Titile	31	24
P- 4	Isani	31	31
P- 5	Coraraca	30	33
P- 6	Ancoputo	40	30
P- 7	Umacollana	35	33
P- 8	Nacoreque Chico	26	26
P- 9	Yanamayo	16	-
P-10	Sicuni	16	-
P-11	Quiquera	22	-
P-12	Callantira	50	43
P-13	Quenque	27	-
P-14	Chujucuyo	32	34
P-15	Jasana Grande	32	47
P-16	Ancomarca	40	-
P-17	Pusuyo	30	26
P-18	Jayujayu	41	45
P-19	Huañuscuro	32	26
P-20	Checca Pupuja	35	31
P-21	Potajani Grande	41	39
P-22	Salechico	43	39
P-23	Moyopata	33	21
P-24	Achacuni-Cahuarani	29	23
P-25	Suagachi	39	43
P-26	Huancollusco	48	30
P-27	Collana	33	31
P-28	San Pedro de Remir	36	-
P-29	CCaccá	34	34
P-30	Batalla	33	44
P-31	Carucaya	28	29
P-32	Tolamarca	25	25
P-33	Milluni	28	27
P-34	Isivilla	21	44
P-35	Huanutuyo	24	27

Code	Name of Community	Number of Children enrolled	
		1983	1984
<u>Puno (Continued)</u>			
P-36	Pesquería	29	33
P-37	Tequena	31	37
P-38	Ccompi	39	34
P-39	Vilcallami Central	40	46
P-40	AncoaqueCentral	37	31
P-41	Suchis	32	32
P-42	Jaillihuaya	30	22
P-43	Huancahuacani	23	17
P-44	Santa Cruz	17	60
<u>San Martin.</u>			
T- 1	Nejazapa	18	-
T- 2	Nuevo Arequipa-Veluzá	10	-
T- 3	San Francisco	12	-
T- 4	Cumplimiento	15	10
T- 5	Cayena	24	32
T- 6	Pucacaca del Río Mayo	16	16
T- 7	Barrio San Martín	25	15
T- 8	Bajo Morales	20	-
T- 9	Aminio-San José de Lisa	26	25
T-10	Alto Cajumbuza	21	25
T-11	Paraíso Papaplaya	21	21
T-12	San Antonio	33	17
T-13	Nueva Unión	14	21
T-14	Shapumba	12	14
T-15	Chontamuyo	16	15
T-16	San Pedro de Combaza	24	14
T-17	Santa Rosa de Combaza	25	24
T-18	Curiyacu-Chazuta	25	32
T-19	Carachamayoc	21	23
T-20	San Andrés	17	13

LIST OF COMMUNITIES INCLUDED IN STUDY OF:

1. IMPACT ON CHILD/FAMILY
2. IMPACT ON COMMUNITY (NUTRITION)
3. TRAINING
4. PRIMARY SCHOOL PROGRESS
5. COSTS

Department and Community	Child/ Family	Community	Training	Primary	Costs	Surveys	
						1983	1984
<u>SAN MARTIN</u>							
Barrio San Martin	*	*		*		*	*
Cumplimiento	*	*		*		*	*
Amiño		*		*		*	*
Curiyacu	*	*		*		*	*
Santa Rosa de Cumbaza	*	*		*	*	*	*
Churuyacu (control)	*						
Victor Andres B. (cont)	*	*					
Tupac Amaru (CEI)	*	*		*			
Cedro Pampa (CEI)	*	*		*			
Chontamuyo (control)			*	*		*	*
Sacanche			*				
Eslabon			*				
Huapo de Lamas			*				
Nuevo Codo				*			
<u>APURIMAC</u>							
Atancama		*					
Cotarma		*					
Cayhuachahua		*					
Pacobamba		*				*	*
Munaqui (control)		*					
Juta (control)		*					
Tamburo Pampa				*		*	
Kullco				*		*	
Urucancha				*		*	
Argama Alta				*		*	*
Huancarpuquio				*		*	*
Pacobamba				*		*	*

Department and Community	Child/ Family	Community	Training	Primary	Costs	Surveys	
						1983	1984
<u>CUZCO</u>							
Pintacha	*	*	*	*	*	*	*
Huayllapata	*	*		*		*	*
Pyri					*		
Pampacahua (control)	*	*					
Huilloc	*			*		*	
Chequerec (CEI)			*	*		*	
Tintaya (control)	*	*					
Huallabamba (CEI)	*	*					
Pillahuara				*		*	*
Mayuhuaylla				*		*	*
Llampa				*		*	*
<u>SICUANI</u>							
Chauchapata	*	*		*		*	
Chacapata			*	*		*	*
Usucupata	*						
Cheetuyoc (CEI)	*	*		*			
Santa Barbara		*					
Totorani			*				
<u>PUNO</u>							
Huanuscuro	*	*		*		*	
Jaillihuaya	*	*		*		*	
Coracaca	*	*		*		*	
Chicani Uma	*	*			*		
Sanquira Central			*				
San Roque	*	*					
La Union					*		
Mayopata	*	*		*			
Suchis	*	*		*		*	
Suagachi	*	*		*		*	
Escuri Arriba			*				
Collana Chillora(cont)			*	*		*	
Chullunquiani(control)	*	*					
Ancoputo				*			
Potojani Grande				*			
<b>T O T A L E S</b>	<b>26</b>	<b>31</b>	<b>12</b>	<b>34</b>	<b>6</b>		

TABLE 23  
 PROYECTO: EDUCACION INICIAL COMO INCENTIVO PARA  
 EL DESARROLLO DE LA COMUNIDAD

CLASSIFICACION DE COMUNIDADES Y UNA MUESTRA: CUZCO, 1983

		"NUEVOS" 1, 2 AÑOS		"ANTIGUOS" 3 o mas AÑOS		TOTALES	
		ACCESIBLE	NO ACCESIBLE	ACCESIBLE	NO ACCESIBLE	#	%
CEJA DE SELVA	T	1	1	15	5	22	9
	M	(0)	(0)	(2)	(1)	(3)	(9)
VALLE	T	16	4	31	3	54	21
	M	(2)	(1)	(4)	(0)	(7)	(21)
QUEBRADA	T	18	7	39	3	67	26
	M	(2)	(1)	(5)	(1)	(9)	(26)
PUNA	T	14	27	44	32	117	45
	M	(2)	(3)	(6)	(4)	(15)	(44)
TOTALES	T	49	39	129	43	260	
	#	(6)	(5)	(17)	(6)	(34)	
	T	19	15	50	16	100	101
	%	(18)	(15)	(50)	(18)	(101)	(100)

APPENDIX B

QUESTIONNAIRES USED IN

"A Survey of USAID-Assisted PRONOEI Communities"

- I. Datos del Niño y su Familia
- II. Ficha de datos del Animador
- III. Ficha de datos sobre Local, Mobiliario  
y Material Didáctico
- IV. Ficha de datos sobre la Comunidad
- V. Encuesta para Docentes Coordinadores

IV.- FICHA DE DATOS SOBRE LA COMUNIDAD.

Comunidad \_\_\_\_\_ Sede de supervisión \_\_\_\_\_

¿ A qué distancia de la carretera? \_\_\_\_\_

1.- La comunidad cuenta con:	No		Si		¿El local es propio?	No		Si		¿en que año se construyó?	¿con financiamiento externo a la comunidad?		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a.- PRONOEI	<input type="checkbox"/>	a.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
b.- Escuela	<input type="checkbox"/>	b.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
c.- Club de madrss	<input type="checkbox"/>	c.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
d.- Local para la capacitación laboral	<input type="checkbox"/>	d.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
e.- Almacenes agrícolas	<input type="checkbox"/>	e.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
f.- Almacenes de víveres	<input type="checkbox"/>	f.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
g.- Posta médica	<input type="checkbox"/>	g.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						
h.- Carretera	<input type="checkbox"/>	h.-	<input type="checkbox"/>	<input type="checkbox"/>	No	<input type="checkbox"/>	Si						

2.- La comunidad cuenta con:	No		Si		¿con financiamiento externo a la comunidad?	No		Si		¿ Qué organización?
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
a.- Red de agua potable	<input type="checkbox"/>	<input type="checkbox"/>	a.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
b.- Desagüe	<input type="checkbox"/>	<input type="checkbox"/>	b.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
c.- Instalación de letrinas	<input type="checkbox"/>	<input type="checkbox"/>	c.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
d.- Instalación de pilos	<input type="checkbox"/>	<input type="checkbox"/>	d.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
e.- Recojo de basura	<input type="checkbox"/>	<input type="checkbox"/>	e.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
f.- Servicio de limpieza	<input type="checkbox"/>	<input type="checkbox"/>	f.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				
g.- Control de pestes	<input type="checkbox"/>	<input type="checkbox"/>	g.-	<input type="checkbox"/>	<input type="checkbox"/>	_____				

3.- Existen en la comunidad huertos familiares o comunales?

No

Si

¿ Desde cuándo?

Antes de 1981

1981

1982

1983

Programadas para 84/85.

¿ Quién solicitó su instalación?

\_\_\_\_\_

4.- ¿Se han introducido en los tres últimos años algún proyecto de crianza de animales menores para consumo o comercialización?

No   
 Si

<p>¿Que tipo de animal? _____</p> <p>¿Cual es su uso?</p> <p><input type="checkbox"/> Reparto en hogares.</p> <p><input type="checkbox"/> Venta.</p> <p><input type="checkbox"/> Preparación de alimentos comunitarios.</p> <p><input type="checkbox"/> Otro _____</p>
--

5.- ¿ En la comunidad existen cursos de alfabetización o de capacitación (laboral o producción)?

No   
 Si

<p><input type="checkbox"/> Alfabetización.</p> <p><input type="checkbox"/> Técnicas agrícolas o ganaderas.</p> <p><input type="checkbox"/> Costura.</p> <p><input type="checkbox"/> Artesanía.</p> <p><input type="checkbox"/> Salud y nutrición.</p> <p><input type="checkbox"/> Otro _____</p>
---

6.- ¿ Ha gestionado la comunidad algún tipo de crédito a instituciones?

No   
 Si

<p>¿ Cuándo ? _____</p> <p>¿ A quién ? _____</p> <p>¿ Para que ? _____</p>
--

7.- ¿ Se han distribuido las raciones de los alimentos complementarios para el PRO:OEI en 1983 ?

No   
 Si

<p>¿ Cuántas veces ?</p> <p><input type="checkbox"/> 1   <input type="checkbox"/> 2   <input type="checkbox"/> 3   <input type="checkbox"/> 4   <input type="checkbox"/> 5 ó más.</p> <p>¿ Que tipo de alimentos ?</p> <table> <tr> <td><input type="checkbox"/> Leche en polvo</td> <td><input type="checkbox"/> Habas</td> <td><input type="checkbox"/> Sal</td> </tr> <tr> <td><input type="checkbox"/> Leche fresca</td> <td><input type="checkbox"/> Cañihua</td> <td><input type="checkbox"/> Manteca.</td> </tr> <tr> <td><input type="checkbox"/> Avena</td> <td><input type="checkbox"/> Papa</td> <td><input type="checkbox"/> Carne.</td> </tr> <tr> <td><input type="checkbox"/> Trigo</td> <td><input type="checkbox"/> Arina</td> <td><input type="checkbox"/> Huevos.</td> </tr> <tr> <td><input type="checkbox"/> Arroz</td> <td><input type="checkbox"/> Frutas</td> <td><input type="checkbox"/> Aceite.</td> </tr> <tr> <td><input type="checkbox"/> Quinua</td> <td><input type="checkbox"/> Azucar</td> <td><input type="checkbox"/> vegetal.</td> </tr> </table>	<input type="checkbox"/> Leche en polvo	<input type="checkbox"/> Habas	<input type="checkbox"/> Sal	<input type="checkbox"/> Leche fresca	<input type="checkbox"/> Cañihua	<input type="checkbox"/> Manteca.	<input type="checkbox"/> Avena	<input type="checkbox"/> Papa	<input type="checkbox"/> Carne.	<input type="checkbox"/> Trigo	<input type="checkbox"/> Arina	<input type="checkbox"/> Huevos.	<input type="checkbox"/> Arroz	<input type="checkbox"/> Frutas	<input type="checkbox"/> Aceite.	<input type="checkbox"/> Quinua	<input type="checkbox"/> Azucar	<input type="checkbox"/> vegetal.
<input type="checkbox"/> Leche en polvo	<input type="checkbox"/> Habas	<input type="checkbox"/> Sal																
<input type="checkbox"/> Leche fresca	<input type="checkbox"/> Cañihua	<input type="checkbox"/> Manteca.																
<input type="checkbox"/> Avena	<input type="checkbox"/> Papa	<input type="checkbox"/> Carne.																
<input type="checkbox"/> Trigo	<input type="checkbox"/> Arina	<input type="checkbox"/> Huevos.																
<input type="checkbox"/> Arroz	<input type="checkbox"/> Frutas	<input type="checkbox"/> Aceite.																
<input type="checkbox"/> Quinua	<input type="checkbox"/> Azucar	<input type="checkbox"/> vegetal.																

INFORMACIÓN DE DATOS DEL ANIMADOR (P.2)	Animadores anteriores								
	Animador actual			-1-			-2-		
	Antes de trabajar como Animador.	Durante el trabajo como Animador.	Después del trabajo como Animador.	Antes de trabajar como Animador.	Durante el trabajo como Animador.	Después del trabajo como Animador.	Antes de trabajar como Animador.	Durante el trabajo como Animador.	Después del trabajo como Animador.
Actividades que realiza o realizó	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Estudiante	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Ama de casa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Chero eventual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Cultivo de su propia chacra	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Pastorío	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Pesca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Alfabetizador	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Profesor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Promotor de salud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Promotor de escuela	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Otro _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.- Retribución por el trabajo	\$/_____ Propina que recibe del sector. \$/_____ Compensación adicional de la comunidad. \$/_____ Otra compensación. De que fuente? _____			\$/_____ Propina que recibe del sector. \$/_____ Compensación adicional de la comunidad. \$/_____ Otra compensación. De que fuente? _____			\$/_____ Propina que recibe del sector. \$/_____ Compensación adicional de la comunidad. \$/_____ Otra compensación. De que fuente? _____		
2.- Monetaria.									
3.- No monetaria	<input type="checkbox"/> Colaboración en cultivo de la chacra. <input type="checkbox"/> Ayuda con productos alimenticios. <input type="checkbox"/> Ayuda con vestidos. <input type="checkbox"/> Otros _____			<input type="checkbox"/> Colaboración en cultivo de la chacra. <input type="checkbox"/> Ayuda con productos alimenticios. <input type="checkbox"/> Ayuda con vestidos. <input type="checkbox"/> Otros _____			<input type="checkbox"/> Colaboración en cultivo de la chacra. <input type="checkbox"/> Ayuda con productos alimenticios. <input type="checkbox"/> Ayuda con vestidos. <input type="checkbox"/> Otros _____		

II.- FICHA DE DATOS DEL ANIMADOR

Comunidad \_\_\_\_\_

Sede de Supervisión \_\_\_\_\_

Por favor, escribe los nombres de las personas que han desempeñado el cargo de Animador a partir de 1982. Indica los datos de cada uno de ellos.

NOMBRE:	Animador actual		Animadores anteriores	
			1.-	2.-
1.- Fecha de ingreso al programa	Año _____ Mes _____		Año _____ Mes _____	Año _____ Mes _____
2.- Fecha de salida del programa	No corresponde.		Año _____ Mes _____	Año _____ Mes _____
3 y 4.- Sexo y edad	<input type="checkbox"/> M <input type="checkbox"/> H Edad _____ años		<input type="checkbox"/> M <input type="checkbox"/> H Edad _____ años	<input type="checkbox"/> M <input type="checkbox"/> H Edad _____ años
5.- Años de escolaridad.	Hasta el _____ grado o año de _____		Hasta el _____ grado o año de _____	Hasta el _____ grado o año de _____
6.- Hijos:	Número _____		Número _____	Número _____
7.- Idiomas que habla	<input type="checkbox"/> Castellano <input type="checkbox"/> Aymará <input type="checkbox"/> Quechua <input type="checkbox"/> Otro _____		<input type="checkbox"/> Castellano <input type="checkbox"/> Aymará <input type="checkbox"/> Quechua <input type="checkbox"/> Otro _____	<input type="checkbox"/> Castellano <input type="checkbox"/> Aymará <input type="checkbox"/> Quechua <input type="checkbox"/> Otro _____
8.- Domicilio (o domicilio) en la Comunidad.	<input type="checkbox"/> Si <input type="checkbox"/> No		<input type="checkbox"/> Si <input type="checkbox"/> No	<input type="checkbox"/> Si <input type="checkbox"/> No
9.- Elegido:	<input type="checkbox"/> Por el docente coordinador. <input type="checkbox"/> Por el personal del NEC o supervisión. <input type="checkbox"/> En la asamblea comunal. <input type="checkbox"/> Por la junta directiva de la comunidad. <input type="checkbox"/> Por el Animador anterior. <input type="checkbox"/> En concurso. <input type="checkbox"/> En curso de capacitación/selección. <input type="checkbox"/> A su solicitud.		<input type="checkbox"/> Por el docente coordinador. <input type="checkbox"/> Por el personal del NEC o supervisión. <input type="checkbox"/> En la Asamblea comunal. <input type="checkbox"/> Por la junta directiva de la comunidad. <input type="checkbox"/> Por el Animador Anterior. <input type="checkbox"/> En concurso. <input type="checkbox"/> En curso de capacitación/selección. <input type="checkbox"/> A su solicitud.	<input type="checkbox"/> Por el docente coord. <input type="checkbox"/> Por el personal del o supervisión. <input type="checkbox"/> En la asamblea comun <input type="checkbox"/> Por la junta directiva de la comunidad. <input type="checkbox"/> Por el Animador Antu <input type="checkbox"/> En concurso. <input type="checkbox"/> En curso de capacita <input type="checkbox"/> selección. <input type="checkbox"/> A su solicitud.

III.- FICHA DE DATOS SOBRE LOCAL, MOBILIARIO Y MATERIAL DIDACTICO.  
Comunidad. \_\_\_\_\_

LOCAL

1.- Es el local:

Propio No  Si  Con apoyo de \_\_\_\_\_  
 Alquilado No  Si  Quién paga \_\_\_\_\_ Cuánto \_\_\_\_\_  
 Cedido No  Si  Por quién \_\_\_\_\_

2.- El local cuenta con:

Aula No  Si  Area: \_\_\_\_\_ M2.  
 Comedor No  Si  Area: \_\_\_\_\_ M2.  
 Cocina No  Si  Area: \_\_\_\_\_ M2.  
 Tópico No  Si  Area: \_\_\_\_\_ M2.  
 Depósito No  Si  Area: \_\_\_\_\_ M2.  
 Otros No  Si  Area \_\_\_\_\_ M2.

3.- ¿Cuál es el material predominante?

Piso: Tierra  Madera  Cemento   
 Pared: Adobe  Ladrillo  Madera  otro \_\_\_\_\_  
 Techo: Galamina  Teja  Otro  \_\_\_\_\_

4.- Estado del local

Terminado: Si  No

¿ Que falta?		
<input type="checkbox"/> Ventanas	<input type="checkbox"/> Piso	<input type="checkbox"/> Paredes
<input type="checkbox"/> Puertas	<input type="checkbox"/> Techo	<input type="checkbox"/> Otro _____

EQUIPAMIENTO:

Mobiliario del aula

Sillas: No  Si

Cantidad: _____	Adquirido por:
suficiente para el	La comunidad <input type="checkbox"/>
Nro. de niños <input type="checkbox"/> Si <input type="checkbox"/> No	El Sector <input type="checkbox"/>
	Otros <input type="checkbox"/> _____

Mesas: No  Si

Cantidad: _____	Adquirido por:
suficiente para el	La comunidad <input type="checkbox"/>
Nro. de niños <input type="checkbox"/> Si <input type="checkbox"/> No	El Sector <input type="checkbox"/>
	Otros <input type="checkbox"/> _____

Otros: \_\_\_\_\_  No  Si

Cantidad:	Adquirido por:
	La comunidad <input type="checkbox"/>
	El Ministerio de Educación <input type="checkbox"/>
	Otro _____ <input type="checkbox"/>

Vejilla:

¿ Ha recibido dotación de vejilla?

\_\_\_\_\_ No \_\_\_\_\_ Si \_\_\_\_\_ Donado por: \_\_\_\_\_  
\_\_\_\_\_ Consistente en \_\_\_\_\_ Cantidad \_\_\_\_\_  
\_\_\_\_\_ Cantidad \_\_\_\_\_  
\_\_\_\_\_ Cantidad \_\_\_\_\_  
\_\_\_\_\_ Cantidad \_\_\_\_\_

MATERIAL DIDACTICO.

- Cuenta con material educativo?  Si  No
- Cantidad suficiente para cada año  Si  No
- Elaborado por:  
 los padres de familia.  los animadores.  
 Otros \_\_\_\_\_

- Forma de adquisición:

comprado por los padres de familia.  enviado por el Ministerio de Educación.  
 donado por: \_\_\_\_\_

- Tipos de material:

Bloques de construcción	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Ensertado	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Enhebrado	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Encaje	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Recapacabezas	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Loterías	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Domínos	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Láminas	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Targetas	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
Otros: _____	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
_____	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
_____	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____
_____	No <input type="checkbox"/> Si <input type="checkbox"/>	Cantidad: _____

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G.-ASPECTO ECONOMICO:

RETRIBUCION POR EL TRABAJO:  
.....  
.....  
.....

GASTOS QUE EFECTUA PARA CUMPLIR CON SU TRABAJO:  
.....  
.....  
.....  
.....

NUMERO DEL ENCUESTADOR

PROYECTO " EDUCACION INICIAL COMO  
INCENTIVO PARA EL DESARROLLO DE LA  
COMUNIDAD " NR. 527-3161-A.I.C.

ENCUESTA PARA DOCENTES COORDINADORES

A.-DATOS GENERALES:

Departamento.....Provincia.....Distrito.....  
 Supervisión-Sede de Trabajo: .....  
 Nombre:.....Estado Civil.....  
 Edad:.....Nº. de Hijos:.....  
 Idiomas que habla:.....  
 Domicilio Permanente:.....  
 Grado de Instrucción:.....Título.....  
 Especialidad:.....Tiempo de Serv. en la Docencia.....  
 Fecha de Ingreso al Programa:.....

B.-DATOS SOBRE LOS PROGRAMAS A SU CARGO:

Nº de Progr.	Comunidades	Dist.co la Sede		Medio de Transporte					Nº. de Niños Frecuencia			
		km.	Tiempo	A pie	A camión	Carro	S.Moti	Otro	Ins.	Asist.	Visitas	

C.-PROCESO DE SELECCION:

COMO FUE SELECCIONADO

Por Concurso .....( )  
 A su Solicitud.....( )  
 Por Reasignación.....( )  
 A Propuesta de las Autoridades Educativas .....( )  
 Otro:.....( )

CRITERIOS QUE SE UTILIZARON:

Tiempo de Servicios.....( )  
 Experiencia en el Nivel.....( )  
 Especialidad.....( )  
 Prueba de Conocimientos sobre el Nivel.....( )  
 Entrevista Personal.....( )  
 Otras.....( )