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EVALUATION OF THE PERU
DISASTER RELIEF, REHABILITATION
AND RECONSTRUCTION PROGRAM
1983-1987

Final Report

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PREFACE

This final evaluation of the Peru Disaster Relief, Rehabilitation and Reconstruction Program (1983-1987) was prepared by the Joint Venture of Checchi and Company/Louis Berger International, Inc. under the term of an IQC delivery order agreement with the U.S. Agency for International Development. The evaluation team was made up of the following individuals:

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Field work in Peru was carried out over a six-week period during February and early March, 1987. A draft report was presented to USAID/Peru prior to the team's departure. This final report on the findings and recommendations of the evaluation team reflects comments received from the Mission on that draft.

List of Acronyms and Abbreviations

| | |
|------------|---|
| CORDE(s) | regional development corporation(s) |
| Government | Government of Peru |
| IBRD | International Bank for Reconstruction and Development |
| IDB | Interamerican Development Bank |
| INADE | National Development Institute |
| IQC | indefinite quantity contract |
| OFASA | Adventist Philanthropic Work and Social Assistance |
| PVO(s) | private voluntary organization(s) |
| SEPAS | Peruvian Evangelical Social Action Service |

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EVALUATION OF THE PERU DISASTER RELIEF, REHABILITATION AND RECONSTRUCTION PROGRAM - 1983-1987

Executive Summary

Disasters.

In 1983 Peru suffered two major disasters at the same time, which caused over \$1 billion loss of property and production and reduced gross domestic product by 6%. In the North, floods from the heaviest rains in centuries devastated major economic and social infrastructure in one of Peru's most populous and productive regions. Meanwhile, severe drought in the impoverished highlands of the South caused heavy livestock loss and near total loss of the 1982-1983 crop for subsistence farmers.

Response.

The Government of Peru responded with rapid and substantial emergency measures followed by a major national rehabilitation and reconstruction effort. In the North the prime objective was reconstruction of the flood damaged infrastructure. In the South, the dual objectives were to provide sustenance while helping the victims return to production as soon as possible. Income/employment generating activities included drought mitigating measures for improved water use, including irrigation systems.

To help the Government achieve these objectives, the multilateral development banks ("MDBs") reprogrammed existing project loans, plus some new money, through sector agencies for the irrigation, transport, power and sanitation sectors in the North. AID contributed over \$180 million to support the Government's decentralized reconstruction effort. The departmental development corporations or "CORDEs" were the primary project implementation agencies, coordinated at the national level by a new agency, the National Development Institute ("INADE").

AID employed a variety of assistance tools, including a \$60 million program loan, \$12+ million of housing loan guarantees, \$40 million of PL 480 Title I and Title II food assistance, and \$5 million for PVO grants. Key was a \$60 million modified project loan/grant approach, well suited to the needs of the situation. It included a flexible subproject selection system to respond to the needs and priorities of the Program as they might evolve. It also included ample technical assistance to bolster the managerial capacities of the fledgling implementation and coordination agencies.

Performance.

In general, the Program was designed well and executed in an outstanding manner. In addition to benefitting disaster stricken Peruvians and their country, the Program's success gained much good will for the United States.

Program achievements derived in large part from strong support at the highest levels of the Government under both the Belaunde and Garcia administrations. Strong commitment was manifest in the quality and continuity in tenure of personnel appointed and assigned to INADE and key CORDEs, and in self help financing totalling \$140 million through a reconstruction bond compulsory savings plan.

In the North 85% of the irrigation systems had been restored to function by April, 1984. While there were some problem projects, in general the definitive reconstruction effort has been completed timely and well.

In the South, the income from employment generation projects supplemented by feeding and food for work activities provided the needed sustenance pending return to production. While the farmers were not back to full production until the 1984-1985 crop year, the 1983-1984 crop achieved at least half of normal production. It might have been better with more emphasis on building and sustaining seed supplies, but the major factor in partial loss of the 1983-1984 crop was extreme lateness of the rains during the planting season.

The principal problems in the South arose with respect to various new projects in potable water and irrigation. Water management projects are much needed in this impoverished region where drought and aridity are common. Experience demonstrated, however, that more time is needed for preliminary studies, community preparation and follow through than is generally available in an emergency program.

Lessons learned.

We urge caution in generalizing from this Program experience to universal propositions applicable to all disaster reconstruction programs. Indeed the experience well demonstrated that flood and drought disasters have distinctive features which impose differing response requirements. Similarly earthquakes, hurricanes and other disasters can produce different phenomena with varying response requirements. Even with respect to the same type of disaster, the way in which assistance should be furnished may vary substantially from one situation to another depending on country specific, even region or department specific

factors.

For this Program, for example, the appropriateness of project as opposed to program assistance, and the extent of need for technical assistance, were substantially affected by the relative newness and initial weakness of the departmental implementing agencies and the national coordinating agency.

One approach used in this Program which seems particularly appropriate for broader application elsewhere in other disasters and other countries is decentralized implementation. Even with the nascent and inexperienced departmental development corporations, decentralized implementation worked in Peru. Further, Peru provided a good test case, because certain portions of the reconstruction effort were entrusted to sectoral agencies in health, agriculture, transport and power. In general, the sectoral agencies were outperformed by the decentralized agencies. Management of the decentralized agencies was closer to the damaged infrastructure and the affected people and to the firms, workers and equipment engaged in the reconstruction effort. The centralized agencies with their absentee decision makers, larger bureaucracies and longer lines of communication were less able to respond quickly when timeliness was a critical factor in Program effectiveness.

Further findings and lessons to be learned include the following.

Program design.

The initial selection of project as distinct from program financing was reasonable under the circumstances. The assignment of highest priority to economic infrastructure in the North and employment generation and production restoration in the South was sound. Inclusion of some new projects in the South was not unreasonable, given the high priority of employment generation. Problems might have been averted, however, by moving any new irrigation or other more complex project to a "slower track" for appropriate project development design, execution and follow up. Dispersion of the Program did not substantially prejudice its execution, but did present that potential.

Program implementation.

The implementation units in INADE, USAID and certain key CORPE performed in an outstanding manner. Relative autonomy of the project implementation units substantially facilitated program execution. The extensive application of program implementation technical assistance and reliance on US generalists in that role was reasonable given the high priority of timing in execution of an emergency project. But experience with the project indicates

that more of the technical assistance provided could have been Peruvian.

Housing.

Temporary housing was properly excluded from the program. Affected families were successful in working out their own temporary arrangements. The housing repair credit component was well conceived and implemented. To the extent that new housing be included in an emergency reconstruction program, proven technologies and implementing agencies should be favored. New housing projects were less successful where rushed in development and/or implementation. Because housing demand and construction are especially high following substantial destruction of stock, the developmental multiplier effect of demonstration projects, be it positive or negative, is magnified.

Procurement.

Particularly in a high visibility, extreme urgency disaster response context, procurement from the United States should be limited to those commodities which can be procured quickly and at competitive prices. There were delays, particularly in medicine procurement, which could have been avoided, in part at least, by prompt exercise of waiver authorities available to USAID and/or AID/W. Peruvian customs delays and thefts also hurt the Program.

General

Essential to an effective reconstruction program is striking the right balance in acceptance of risk to gain timely performance. The risks may include higher cost, poorer quality and even occasional project failure. But the stakes are high. In Peru, for example, 6% of gross domestic product depended on prompt restoration of irrigation and transport infrastructure in the North; and in the South the sustenance, indeed the very lives, of 150,000 subsistence farm families depended on timely provision of food, seed and interim employment.

Such risk taking includes abbreviated bidding procedures for procurement of goods and services, and delegation of authority to subordinate officials to permit faster decision making. It may even include domestic political risk taking for AID in permitting expanded off shore procurement for urgent requirements.

Looking to future AID involvement in reconstruction programs, AID should, in advance of need therefor, determine in principle the feasibility of program financing and issue policy and program guidance accordingly. Further, AID should determine the scope of expanded waiver authority to be granted to missions responsible

for reconstruction programs, and issue implementing manual orders accordingly. There were no procurement problems which could not have been addressed by waiver authority already possessed by AID. i.e. new legislation is not required to address procurement problems.

Similarly, the Government of Peru should determine the extent to which medical supplies, vehicles and other urgently needed equipment and commodities may be imported free of duty and delay in customs procedures. Alternatively the Government should devise a fast track procedure for processing emergency commodities through customs. The Government also should determine the appropriate circumstances and extent of emergency authority to modify or waive public contracting or other procurement procedures.

Looking to future disaster reconstruction in Peru, with the institutional experience gained, and a continuing development role sufficient to retain strong staff, INADE is well suited to its recently assigned continuing reconstruction role. In exercise of this role, INADE's coordination jurisdiction should be expanded, and representation on the national disaster relief committee would be useful. Similarly, the CORDES have proven their project implementation capability, which should be useful for development as well as reconstruction projects in the future.

Finally, we must note that the evaluation team was in the happy position of not having to point fingers for failure. The Program was an obvious success in which all who contributed can take great pride. Rather we have worked with those who carried out the Program in trying to determine and record some of the more important lessons learned. For none of these lessons can the evaluation team take credit. Virtually all criticism and suggestions for improvement have come from participants in the Program with the courage and confidence to identify and learn from their own mistakes as well as successes.

I. Introduction

The disasters

In 1983 Peru suffered a climatic disaster of major proportions, the worst disaster since the 1970 earthquake caused 70,000 deaths and close to a \$1 billion of property loss. The 1983 combination of floods in the North and drought in the South cost few lives, but did cost well in excess of a billion dollars of property and production.

The cause of these combined disasters derived from complex interaction between changing ocean currents and tropical wind

patterns. In normal years the prevailing wind patterns flowing over the high Andes from the east and the cold Humboldt current from the west produce little or no rainfall on the Peruvian coast and seasonal moderate precipitation in the interior highlands. Normally the warm tropical countercurrent known as "El Nino" (for its appearance around Christmas time) does not come southward far enough to affect Peruvian climate significantly. Some years, however, El Nino gains strength relative to the Humboldt Current and pushes further southward, substantially warming the waters along the Peruvian Coast. This cyclical phenomenon, which has occurred about 20 times in this century, and may be aggravated by abnormal wind patterns, tends to produce rain in the coast and dryness in the mountains.

1983 produced the worst manifestation of the Nino phenomenon in recorded history. Months of heavy rains on the northern coast produced 160 inches of rainfall in areas which normally receive less than 4 inches. This deluge caused rivers to overflow their banks, destroying or damaging irrigation systems, streets and highways, water and sewerage systems and electrical transmission and distribution lines. The damage to the irrigation systems in particular virtually eliminated production in several of Peru's most important agricultural areas. At the same time drought in the South substantially deprived of livelihood an estimated 150,000 subsistence farm families who are the vast majority of the population in the affected highlands. The crop failures and livestock loss from the drought deprived these families of not only their food for the year but also their self produced seed stock and modest working capital for the following crop.

The two disasters reduced gross domestic product for the year 1983 by over 6%. Further, this loss was superimposed on a deteriorating economic situation which was already producing significantly negative growth rates in the Peruvian economy and severely impaired the Government of Peru's capacity to respond to the twin disasters.

Further, both disasters developed gradually, tending to delay comprehension of their extent and significance. Neither the rains in the North nor the lack thereof in the South produced cataclismic effects in any given day or even week. The affected areas suffered severe losses for considerable time before the disastrous cumulative effects and the need for a major relief and reconstruction effort were even recognized, let alone acted upon. This delay was especially long in the South where there was virtually no tangible physical damage.

Although there were a relatively few departments notably hardest hit, namely Piura, Lambayeque and Tumbes in the North and Puno in the South, the Government eventually expanded its recovery program to include all significantly affected departments.

sixteen¹ of the twenty-five departments in the country.

The response

By April of 1983 the massive destruction wrought by rampaging Northern rivers was obvious and there was increasing concern for drought-induced hardship in the South. Particularly in the North, the Government's Civil Defense and other agencies began taking emergency measures and the Government began seeking help from abroad.

The tangible physical devastation in the North brought forth a strong international response in money as well as contributions in kind for disaster relief. The United States through the AID Office of Foreign Disaster Relief (OFDA) responded over a few months with nearly a million dollars plus substantial assistance in surveying the extent of disaster and the requirements for rehabilitation and reconstruction. AID reprogrammed project funds and in-country commodities to help meet immediate food and medicine needs.

As these immediate relief measures were being carried out, it became further obvious that a longer term rehabilitation and reconstruction program of major proportions was required. To mobilize and coordinate the recovery effort, President Belaunde appointed a highly regarded private sector engineer and political leader, Juan de Madalengoitia. As head of Peru's reconstruction program, he was given cabinet rank and designated director of the Institute for National Development (INADE). The Government established INADE to manage the disaster rehabilitation and reconstruction program ("Program") as well as major hydraulic and special development projects. While the Government was seeking financing from AID among other international development agencies, it wasted no time in embarking upon a nationwide program of compulsory contribution through payroll deductions. Such "reconstruction bonds" eventually produced Peruvian financing of about \$140 million for the Program.

Program objectives

The objectives of the Program in the North were early defined to restore to operation and permanently repair the damaged economic and social infrastructure. Highest priority was given to repair of economic infrastructure, particularly the main arterial

¹ This figure does not include a "seventeenth" department, Lima, which received a belated and relatively miniscule allocation of Reconstruction Program funding, including about \$9000 from AID, for flood damage in the Rimac valley.

highways and the irrigation system upon which virtually all agricultural production in the coastal areas depended. Second priority was given to restoration of sewage and potable water systems, then to other social infrastructure including schools, medical posts, and housing.

In the South, immediate priority was given to income generating employment for subsistence farmers whose crops had failed. Of comparably high priority for them was seed for the next growing season. Among projects for employment generation, highest priority was given to wells, small irrigation systems and other measures to enable the farmers to make better use of such water as was and would be available.

Donor approaches

To help Peru carry out its reconstruction program, the various donors adopted differing approaches. The IDB provided some new financing, but in large part the IDB and IBRD modified existing project loans in affected sectors to finance reconstruction of infrastructure in the North. These sectors included transportation, electric power, sewer and water systems, and most important, agricultural irrigation. In so doing, these donors chose to work with the same sectoral agencies responsible for implementation of the existing projects.

AID, on the other hand, could inject new reconstruction financing without prior commitment to particular sectors or agencies. AID chose to "buy into" the Government's reconstruction program, using the departmental development corporations or "CORDEs" as the principal project implementation agencies within the national program coordinated by INADE. This put AID in a position of filling in behind other donors in rehabilitation and repair of economic and social infrastructure in the North. AID also supported housing reconstruction in the North through the housing guarantee program, grants to private voluntary organizations (PVOs), and project funding for the CORDEs. With AID food aid and grant support, PVOs played a substantially larger role in the South.

For the rehabilitation and reconstruction program the Government provided a total of \$180 million dollars including \$60 million project loan/grant, \$60 million program loan, \$40 million of food assistance, \$12 million housing guarantee and \$5 million of PVO grants. The food assistance provided on credit terms under PL 480 Title I totalled \$10.5 million and Title II grants totalled \$30 million. The food assistance was used in various ways to finance and otherwise support execution of the Program and proved to be a highly useful tool. For further detail see Table 1 on page 57 below.

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Evaluation methodology

The evaluation team of four consisted of a civil engineer with experience in Peru among other less developed countries, a Peruvian agricultural engineer, an urban planning specialist and an international development generalist. Both of the latter two had substantial experience with disaster reconstruction in less developed countries.

The team spent one week of initial briefing and program orientation, both by the Government and AID, in Lima. They then proceeded to the affected areas of Peru for two weeks of interviews and site inspections. The civil engineer spent the entire two weeks in northern Peru where reconstruction of damaged civil works was the predominant activity; and the agricultural engineer spent a full two weeks in southern Peru where agricultural activities predominated within the Program. The other two members of the team each spent a week in each region.

It was not feasible to visit all departments in the time available. Accordingly, the team concentrated most of its time in the North in the three departments most seriously affected and in which most of the program activity occurred, namely Piura, Lambayeque and Tumbes. For comparison, two departments with smaller programs, La Libertad and Cajamarca, were also visited briefly. Similarly in the South the larger programs in Puno and Cusco received most attention, with comparison visits to three smaller programs in Arequipa, Moquegua and Tacna.

Following the two weeks in the field, all team members returned to Lima for further interviewing of USAID government and private sector participants in the Program and drafting of the report. The team leader spent an additional week in Lima and another two weeks in the United States completing the report.

We evaluate the program first by measurement of performance against stated objectives. Because the objectives and the means to their accomplishment varied substantially between North and South, we evaluate program performance in the two regions separately. And, because of the importance of organization and procedures in determining performance, we examine those aspects of the program separately for the Government and AID. Finally we examine certain basic program design issues. We do not pretend to be comprehensive in our approach to the evaluation. We have selected those salient elements of design and implementation, organization and procedure, which we consider to bear most strongly on program performance.

II. Program performance

A. Northern region

1. Distinguishing characteristics.

Unlike the drought in the South, the floods in the North produced extensive physical damage, including economic infrastructure of critical importance to the nation's economy and social infrastructure directly affecting public health or otherwise of major importance to the communities involved and their people.

Accordingly the highest priority objective of the rehabilitation and reconstruction program in the North was to restore the irrigation, transport and power systems to get the regional economy back on its feet. Certain social infrastructure affecting community health such as sewer and water systems had comparably high priority. Restoration of streets, residential electrical connections, and housing, had to be given lower priority. Temporary shelter was excluded, the magnitude of need not being sufficient to require emergency assistance.

2. Performance.

a. Timing.

The most critical element of the Program, restoration of economic infrastructure received maximum attention from the outset. Provisional restoration of the road from Piura to Paita was completed by August 1983 and the irrigation system in Piura was 85% restored by April 1984. When IBRD/IDB funding ran out for these vital infrastructure projects, AID loan/grant funds were immediately provided to prevent delay. Other infrastructure projects and the more definitive reconstruction of economic infrastructure required more time, but is now substantially complete. The housing program is subject to somewhat different criteria and raises separate issues that are discussed below in Section A.3.

b. Cost.

Review of project costs indicates they were within reason as compared to projects elsewhere in Peru. Costs tended to run higher during the relief and rehabilitation phases when urgency of work, particularly for restoration of production or protection of health, required that the job be done as soon as possible by whatever means were available. Further numerous provisional measures had to be taken which were wiped out by subsequent flood surges or substantially duplicated with more definitive replacement structures. For example, roads were cleared of silt and debris only to have as much if not more debris deposited by subsequent flooding. Temporary river defenses, even Bailey

bridges, were dislodged or destroyed by river surges. Such often futile efforts added substantially to the cost of the Program. While cost concerns had to yield to those of timing, our evaluation disclosed no flagrant disregard for cost factors in taking emergency measures.

As for the program's construction activities under more normal circumstances, there are instances in which poor design and/or supervision added substantially to cost of subprojects. Particularly in the early stages, some contractors were able to take undue advantage of inexperienced contract supervisors at the CORDE level. Also, as the reconstruction pace quickened, market forces of supply and demand tended to raise labor and material prices. But here again we found no pattern of failure to enforce reasonable standards of efficiency and economy in administering the Program. Program organization and procedures described below were reasonably devised to minimize contract cost.

c. Quality.

As indicated above, there were notable examples of poor quality construction. The Zanjon-Batan Grande bridge which collapsed before completion, and the still unfinished Sullana sewerage and water systems are but the most notorious examples of poor quality attributable to defective design or weak supervision of construction. Our evaluation indicates that such cases may fairly be considered aberrations within a program of many projects, most of which were of satisfactory quality. The provisions for review of project design and implementation, and the technical assistance and consultant services to build and supplement CORDEs capacity were of a nature and amount reasonably to be applied to such a program. To have spent more in an effort to achieve the highest level of quality control would not have been worth the cost in money and time for the marginal benefits to be achieved.

3. Housing assistance

The unprecedented rains and floods in the north left 10,000 families homeless; and, for 30,000 other families, substantially damaged their homes and/or electricity or other utility connections. Of immediate concern to AID working with the Government, was the basic issue whether to provide temporary shelter for the homeless. They decided against a temporary shelter program, reasoning that in a relatively warm and normally dry climate, even the poorest people can arrange temporary housing for themselves. Their need for help arises more with permanent housing repair and reconstruction.

The next issue to be addressed promptly was whether the

reconstruction program should include any special housing program at all. Highest priority had to go to repair of economic infrastructure, the irrigation systems, arterial highways and farm to market roads within the transportation system. Of comparably high priority was restoration of basic urban infrastructure, with clogged and broken water and sewage systems posing major health hazards. Diverting money, equipment, skilled labor and management resources toward housing reconstruction could bear a significant cost in delay of higher priority projects. Moreover, housing for the poor is largely constructed and repaired by the people themselves. Such housing is relatively small and simple and susceptible to substantial self-help input. Higher income families should be able to address their own needs without support from the Government.

Initially, INADE and AID decided to help with repair and rebuilding of housing by providing credit through existing institutions, but without direct government involvement in housing construction. \$12.5 million of AID-guaranteed AID loan funds plus \$1 million of the project loan were channeled through the Peruvian Housing Bank and Materials Bank to provide credit for reconstruction of housing and utility connections. The Materials Bank share financed materials for repair and reconstruction of housing. Also, AID grant/loan project funds were channeled through the CORDEs for sites and services projects.

As these credits began moving through the system, it soon became apparent that they were not reaching all of the people who needed help. Poorer people could not meet the credit worthiness requirements of the lending institutions. Pressure was building from the affected municipalities and departments reflecting the pressures from their constituents whose needs were not being met. Accordingly INADE and AID decided on additional measures to extend the reach of housing reconstruction assistance.

Using a \$300,000 grant, CARE developed and executed an innovative program of loan guarantees for people who otherwise would not qualify for home reconstruction credit. Additional project funds went to the CORDEs for rehabilitation and reconstruction of housing. In Lambayeque CORDELAM constructed housing at six sites, five with traditional housing methods, one with state of the art stabilized adobe, earthquake resistant methods developed at the Catholic University. CORPIURA built housing at ten sites, averaging about fifty units per site, using conventional adobe or cement block construction.

CORTUMBES attempted a more experimental approach, collaborating with CARE on project organization and the Materials Bank on credit. Over two hundred units were constructed using the traditional quincha material of cane mixed with mud, but extending its use to the roof to minimize cost and use of

imported materials. The quincha was reinforced with wood and some concrete mixed with the traditional mud. In the roof a sheet of thin plastic was added between the reinforced quincha layers for waterproofing.

Looking at the results, we must keep in mind that within the emergency program context, the time for preparation and follow through of individual housing projects was quite limited. The more conventional projects were more successful in achieving reconstruction program objectives. The channeling of a high volume of credit through capable existing credit institutions, such as the National Housing Bank and the Materials Bank, reached many people and in good time. The conventional housing went up reasonably quickly and was, in general, readily accepted by the people. With a minimum of preparation of the participants, the sites and services projects were still relatively successful.

Even with the more conventional new housing projects, problems arose where early participation of beneficiaries in site selection and project execution was not obtained. With time limited for community preparation, self-help participation in projects was less than hoped for, but still reached levels of about 70% on the average. The more innovative approaches, such as application of the stabilized adobe earthquake-resistant construction techniques, tended to delay construction.

The most serious problem was the failure of the experimental roofs in Tumbes. The technology involved had not been adequately tested under conditions of heavy rainfall. The result of the near 100% failure rate was that a promising concept of low-cost roofing suffered a major set-back in acceptance which may require years to overcome. Where massive destruction has created the need for a lot of housing in a hurry, visibility is high and the multiplier effect is strong for failure as well as success. Applying new technology takes time; moreover the cost of experimentation that goes sour can be much higher in terms of lost credibility for techniques that otherwise might be significantly useful with further development. To add a touch of irony, the 1987 rains were uncommonly heavy, of the sort that might be expected once in twenty-five years. With luck, the roofs might have survived numerous normal years, even in Tumbes.

Conclusions:

Our conclusions from the experience with the housing component in the program include the following:

1. Where there is need, and there are adequate resources already available to address higher priorities in a reconstruction program, housing may and should be included.

2. In an emergency situation where the need for housing is urgent, use of existing institutions and conventional technology is to be favored, assuming of course that the existing technology is adequate for the circumstances.

3. An emergency reconstruction program is not the occasion for experimentation with new technology.

4. While the project with reinforced stabilized adobe was slower to meet the needs of the homeless, the training of skilled house-builders in these techniques should have a longer term payoff. To gain it however, there must be follow up with the community in promoting the desirability of such houses for higher resistance to earthquakes.

5. To avoid fostering a dependency mentality among the low-income beneficiaries of subsidized housing, a maximum of self-help participation in lieu of payment should be sought. Although such self-help participation takes time in working with the community in project preparation and execution, delay is not that critical a factor for permanent housing.

B. Southern region

1. Distinguishing characteristics

As noted above, the effects of the drought in the South were different and produced different requirements than the flooding in the North. Apart from dessication of pasture and cropland, the drought left no physical damage, but instead substantial deprivation of the 1982/83 crop. Further, the farmers suffered heavy losses of livestock through death from starvation and forced sale at low prices to accommodate to drought induced reductions in forage.² Subsistence farmers were thus deprived not only of the food for their sustenance, but also of their seed and other resources necessary for planting the next crop.

2. Program objectives

Accordingly, in contrast to the North, the objectives in the South included: 1. generation of employment through civil works to provide sustenance for subsistence farm families pending return to production; 2. provision to farmers of seed and such other assistance as they might need in preparing for the next

² To the extent that flock reductions helped relieve a severe overgrazing problem, the disaster cloud had some silver lining. Far better for the farmers, however, that flock culling be other than by forced sale with market at bottom.

crop; and 3. water use and management projects to mitigate drought impact as well as increase production during normal years in that most impoverished region of Peru. Further, priority was given to water use management in selection of employment generating activities.

3. Program performance

a. Short term sustenance

(1) Employment generation.

To provide employment and food distribution for subsistence farmers to sustain their livelihood, a substantial number of activities were initiated relatively soon for repair, maintenance and improvement of roads, irrigation canals, etc. These activities were well calculated to respond to the need for employment of unskilled manual labor. It appears that they were substantially successful in meeting their objectives. Unfortunately, however, the reporting system for reconstruction projects did not specifically include periodic reports on the number employed for each activity. It is difficult, even at this relatively late stage in the Program, to determine how many people were employed and the proportional cost in money and/or food.

Recommendation:

In any future program where employment generation is an objective, the reporting system should provide current data on the number employed in the various activities within the program. Only thus is it possible to measure the effectiveness and efficiency of the program in meeting that objective.

(2) Feeding and food for work.

The Program included some feeding activities, particularly during the rehabilitation phase when there was either insufficient food on the market or people were without means to buy it. Such initial feeding activities drew heavily on food already in the country for other types of PL480 Title II programs. The food was distributed by both US and Peruvian private voluntary organizations. In Piura especially, Peruvian private voluntary organizations composed of "Damas" or "Madres" were quite active and effective in such emergency food distribution. Otherwise, however, direct feeding as well as food for work, were used principally in the South, and the U.S. food assistance administered exclusively by the four PVOs most active there: Caritas, CARE, SEPAS and OFASA.

The preferred alternative for food distribution was food for work; food for work avoids undermining the dignity of the recipients through donation dependency. Food for work, however, has its own problems, and hence tends to be the last resort of PVOs and other organizations when food is more available than money. Ordinarily money for work is preferred by both the administering organizations and the beneficiaries. Particularly in an emergency situation, food logistics pose problems. Food is much more difficult to move from country to country and from town to town within a country than is money. To use food within a country, the administering agency has to set up its own logistical system which tends to duplicate in many respects the logistical systems within the private marketing system. Food for work programs, as well as other food distribution programs, tend to cut into the clientele of local suppliers, often low income people themselves depending on meager sales for their livelihood.

Southern Peru following the drought presented a rather special situation, however, more appropriate than most for use of the food for work concept. Food was needed by subsistence farmers who ordinarily grew their own. Accordingly the provision of food within a food distribution or food for work program was not taking clientele away from local suppliers. It was meeting an abnormal requirement not ordinarily served by the normal food distribution and marketing system.

Even so the food for work programs as well as the food distribution programs could suffer from failure to take advantage of efficiencies of scale. It was not unusual for a PVO leased truck half full of supplies to be headed for a remote location at the same time a private supplier was trying to put together a truckload for the same destination. Also, we learned of some failures of coordination between the PVOs administering food assistance. Occasionally food for work projects would be prejudiced by an overlapping feeding program in which participants did not work for their food.

AID entrusted food assistance exclusively to the PVOs. This caused resentment from the CORDEs, which resentment in turn tended to produce friction and impair cooperation. In the case of Caritas such friction aggravated preexisting mutual mistrust. The CORDEs performed reasonably well in handling food assistance from other sources. The AID mission suggests, and we concur, that in any future reconstruction program AID should consider channelling food assistance through capable government agencies as well as PVOs.

Recommendation: Consider Government agencies for inclusion in future feeding and food for work programs.

b. Production restoration.

The second Program objective in the South was to help the farmers restore their production as rapidly as possible. Potato is the main crop, planted as soon as the early rains produce sufficient soil humidity for seed germination. The normal growing season runs from the planting season, mid October through mid January, to the harvest season, April through June. The months of June through October are generally too dry and too cold for any second crops. Because the planting and growing seasons are in different calendar years the crop for a given season is identified by reference to both years.

The 1982/83 crop was substantially lost because of lack of rain throughout the planting and growing seasons. The 1983/84 crop was about half of normal and the 1984/85 crop was close to normal.

The 1983/84 crop was affected by lateness of rain. The drought did not finally break until late December and early January, leaving very little of the normal planting season. When the rains did finally come there was insufficient seed. There was virtually no seed stock left over from the preceding year. The drought's continuation through most of the 1984 planting season further depleted seed stock by discouraging farmers from keeping seed potatoes that could also be eaten. Then after the drought broke, those crops planted near Lake Titicaca to take advantage of the fertile humid soils were flooded when unusually heavy rains raised substantially the Lake level. The rains were so heavy that many of the higher fields planted in potatoes were washed out as well.

Even for the 1984/85 season, which had more normal rains both in amount and timing, there was some reduction in crop because of shortage of seed. There had not been a normal supply of seed from the previous years partial crop, and a contractor relied upon to bring potato seed from Huaraz did not perform well. The PVO's, however, were credited with excellent work in helping with the importation and distribution of seed.

While the program for restoration of production in drought stricken highlands was generally successful, there is still one important lesson to be learned. Recovery of the 1983/84 potato crop would have been stronger with an ample supply of seed stock.

Recommendation:

During drought special efforts should be taken to build and maintain seedstock supply through the very end of the planting season, to be prepared should the drought break in time for at

least some planting.

c. Water use and management.

In the course of the Program, irrigation projects may have acquired a life and purpose of their own beyond the original primary objective of providing useful results from employment generating activity. Activities focused on maintenance, repair or modest improvement of existing irrigation systems seem to have been relatively successful. Where more ambitious new irrigation and water supply projects were attempted, the Program was least successful and some serious problems arose.

Irrigation projects, even those relatively simple in design and modest in proportion, require more time for appropriate feasibility analysis and other studies, and particularly preparation and follow-up with participant communities, than is available within an emergency program. Further, the drought afflicted highlands of the South were populated largely by the culturally distinct indian descendants of the Incas. The history of development projects in this part of Peru is checkered with failures resulting from inadequate consideration for the cultural context. For the emergency program, fast track project selection and implementation procedures were applied and proved inadequate. We found irrigation canals in the wrong places, and sections of major canal construction projects that may never be completed because they bore excessive cost relative to benefits. Even for irrigation projects well completed, communities would be unprepared to put them to good use.

Conclusion:

As distinct from the urgently required infrastructure repair in the North and short term employment generation in the South, new projects, particularly in irrigation, were not appropriate for a fast track.

In fairness to INADE and AID, their first priority was not new projects. Rather, need to provide employment in a hurry, and availability of massive funding for an impoverished region, drove the inclusion of new projects. Further, the obvious area for new projects in the South following the drought was water use and management. Irrigation systems, wells and other means of more efficient water use could help maximize production in normal times and mitigate effects of cyclical dry periods. We are informed that the issue whether to include new irrigation projects was raised early in program design, and received appropriate consideration before the final decision to include them. We understand the decision was made with eyes open to the risks involved, but with a willingness to accept such risks in

the belief that the benefits would exceed the cost.

In our judgment, the experience tends to indicate otherwise. The costs were greater than anticipated in terms of investment in projects of questionable selection, design and/or execution because of inadequate studies and insufficient community involvement in preparation and follow up.

Such conclusions are easy enough to reach with benefit of hindsight. We do not suggest that the Government or AID acted unreasonably under the circumstances in deciding to include new irrigation projects in the program for the South. Rather, looking to the future, we suggest there is a lesson to be learned from this experience, that new irrigation projects should be reserved for situations which allow adequate time for design and implementation. We note however that even within the emergency context, certain irrigation projects included in the Program might have fared substantially better with a relatively few more months for necessary studies. See further discussion of related issues in IV.B below.

Recommendation:

For droughts, the immediate response to provide sustenance through employment should be directed at simple activities for maintenance, repair and improvement of existing roads, irrigation canals, etc. Drought mitigation approaches involving new projects in irrigation in particular should follow a different, more deliberate "slower track" for development and execution. Adequate time must be provided for necessary hydrologic, economic and physical feasibility analysis and work with the participating communities both at the preparatory and the follow-up stages. Only thus may be gained adequate assurance that the project design is appropriate and that the resulting investment will be well used.

III. Organization and procedures

A. Government of Peru

1. Organization

To implement most of the national reconstruction effort, the Government, with the support of AID, chose a two-level system with the CORDEs as the primary implementing agencies and INADE as intermediary/coordinator at the national level. Outside this system were those activities financed by the multilateral development banks for restoration of damaged infrastructure in the North. That reconstruction was carried out by the various sectoral agencies in agriculture, transport, sanitation and

electric power with whom the banks had been working previously.

a. The departmental development corporations ("CORDEs").

(1) Background

The departmental development corporations are the current manifestation of the Government's decentralization policy. As implementing agencies, some of the CORDEs were new organizations, barely formed, while others derived from one or more predecessors dating back a decade or more. An institutional ancestor of CORDEANCASH, for example, was CRYRZA, the organization for rehabilitation and reconstruction of the zone (mostly Ancash) affected by the earthquake of 1970. That experience with the prior disaster reconstruction made CORDEANCASH one of the more effective agencies dealing with the current disaster.

As established in 1982 from departmental development committees of varying competence, the CORDEs were responsible for implementing investment projects in their respective departments. The central government still held the power of the purse, however. Except for those few departments, including Piura and Tumbes, favored with mineral royalty revenues, the CORDEs were essentially dependent on the central government for funds. Appropriations by the national assembly responded in varying degrees to annual budgets submitted by the CORDEs.

(2) Strengths and weaknesses

As implementing agencies, the CORDEs offered the following advantages: First, management and execution of construction projects are clearly within their primary functions as governmental agencies. They have flexibility to carry out such work by contract and agreements with other agencies, as well as by direct administration or "force account." Second, because their leadership and management is closer to the affected community than is the highly centralized management of the sectoral agencies, the CORDEs tended to be more responsive to community needs and priorities. Since the CORDEs in general were relatively new organizations, they tended to be less set in their ways and bureaucratic in their workings. Also, in any event, they are smaller bureaucracies with less bureaucratic inertia.

The newness and inexperience of many of the CORDEs was also a disadvantage tending to hamper response of many of them, especially at the initial stages. Further, their closeness to community constituencies makes them more vulnerable to local political pressures which can be a disadvantage when larger issues are at stake.

After reviewing their performance, we conclude that the CORDEs

were the better choice as implementing agencies for the program. Their performance may have been variable and far from perfect at best, but nonetheless notably stronger than the performance of the sectoral agencies. For development projects with substantial technology innovation and/or system and institution building aspects, where timing may not be as critical a factor, it may be appropriate to work with the sectoral agencies, particularly in agriculture. Even in such situations, however, the decentralized institutions are worthy of consideration.

Recommendation:

That the Government and AID plan to continue with the CORDEs as the primary implementation agencies in any disaster reconstruction program, especially where timing of response is a critical factor.

(3) Internal decentralization

Many of the CORDEs established relatively autonomous reconstruction program implementation units within the CORDE. Such autonomy for the implementation unit as a temporary organization for a program of limited duration, facilitated expansion of capability with contract personnel. At least some of such contract personnel, with INADE collaboration, could be compensated at levels adequate to attract higher level professional and managerial skills.

There was significant correlation between the degree of autonomy of the implementation unit and the performance of the CORDE in Program management. Autonomy helped shorten chains of command and lines of vertical communication within the CORDEs. In some CORDEs autonomy also bypassed unwieldy internal financial management systems, ill suited to speedy implementation of emergency measures. On the other hand, looking to longer term developmental effectiveness as distinct from short term emergency performance, those CORDEs which integrated their implementation unit into their permanent organization are more likely to keep the key personnel and sustain implementation capacity.

Recommendation:

That autonomy of implementation unit be encouraged for emergency programs of short duration in which timing is critical.

(4) Cooperation with PVOs

Despite the friction over food, more generally the Reconstruction Program in the South did provide many occasions for the CORDEs

and the PVOs to work together toward common objectives. Also, in the North, the housing projects in particular afforded similar occasions. One of the favorable consequences of the Program should be improved working relationships between PVOs and CORDEs growing out of the mutual knowledge and respect gained from such work together.

b. National Development Institute ("INADE").

(1) Background

INADE was created on June 28, 1983, to coordinate the flood/drought rehabilitation and reconstruction program and also manage certain national hydraulic and other major special projects in the highland and jungle regions.

INADE's Rehabilitation and Reconstruction Division reviewed and approved subprojects submitted for financing with external or reconstruction-bond financing, provided guidance and technical assistance to the CORDEs, including services of individual professionals as well as consulting firms, and served as an intermediary between the CORDEs and ministries and other agencies of the central government.

(2) Strengths and weaknesses

In choice of agency for the intermediation/coordination role, the strengths and weaknesses of INADE are somewhat similar to those of the CORDEs. As a new agency, INADE was smaller and less entrenched in its bureaucratic ways, and therefore in a position to respond more quickly and flexibly to a new major task suddenly thrust upon it. Also, as a new agency, INADE's status within the national bureaucracy was determined by the importance of the task and leadership currently assigned to it, rather than by any lower hierarchical level pre-determined by its bureaucratic history. Most important, to attract and keep quality staff, INADE was authorized to pay salaries above the Government's bureaucratic norms.

On the other hand, INADE like the CORDEs brought relatively little experience to its role and required some time to gain the necessary staff and expertise for performance of that role. Lack of experience in the bureaucracy and consequent absence of useful linkages with other Government agencies required substantial investment of effort to establish useful working relationships, particularly at the outset.

Conclusion: INADE was a good choice for coordination of the Program.

While INADE was a good choice in concept for the coordinating role, it could also have been a highly risky choice in practice, if not well managed. That the program succeeded reflects the strong support given by both the Belaunde and Garcia administrations. Outstanding leaders were chosen and they in turn hired excellent staff. The strength of the Government's commitment and resulting quality of staff and leadership is reflected by the low turnover of professional staff with change of administrations. Such continuity of key staff contributed substantially to the effective management of the program.

Conclusion: INADE thrived on strong support from above.

The Government further demonstrated its strong support for INADE and the Program by delegating highly useful emergency authority to waive regulations normally applicable to public contracts and procurements. INADE, in turn, demonstrated its worthiness of such delegation of authority by being judicious in its use. INADE leadership recognized that many regulations have basis in reason. Particularly in the contract area, usual bidding procedures tended to ensure quality performance at competitive prices while protecting against fraud and collusion.

(3) Program coordination.

One weakness of the Government reconstruction organization was that it did not go far enough in placing all reconstruction activities within the coordination jurisdiction of INADE.

In the North, INADE jurisdiction included all reconstruction financed by AID and most of that financed by reconstruction bonds. Included were some activities in the irrigation, transport, power, and sanitation sectors carried out by sectoral agencies under "convenios encargo" between them and the CORDE. Excluded, however, was the major portion of the reconstruction program for these sectors, financed by the IBRD and the IDB. For these reconstruction activities, the sectoral agencies dealt directly with the Banks without any coordination role of INADE. Similarly INADE had no coordination role in the \$600,000 medical project financed by AID from the reconstruction project loan, and for which the Ministry of Health was the executing sectoral agency.

INADE's strong performance elsewhere indicates that INADE might have been able to prod and facilitate performance by the Health Ministry in the medical subproject, had that project been within INADE's coordination jurisdiction. Most important, INADE might have saved at least part, if not all, of the \$30 million of multilateral bank financing lost by failure of sectoral agencies to meet certain conditions precedent pertaining to timely

submission of design documents and assurance of adequate counterpart. In the reconstruction program generally, INADE performed a useful role in expediting completion of plans and specifications. Further, it appears that, with proper coordination within the Government, a substantial portion of the reconstruction bond proceeds could have been credited against the Government's counterpart obligation for the MDB financing.

These are but two of the more notable examples where limitations on INADE's coordination role may have adversely affected the reconstruction effort.

Recommendation:

That in any future reconstruction program, the jurisdiction of the Government coordinating agency should be defined to include all substantial reconstruction activities.

(4) Continuing roles

(a) Reconstruction programs

On March 1, 1987, the Government designated INADE as the agency responsible for intermediation/coordination of future disaster rehabilitation and reconstruction programs. This designation takes advantage of the existing capability of an organization and procedures established for such role.

Further it is comforting that, so far at least, INADE retains its other roles with respect to certain hydraulic and other major development projects. One disadvantage of a permanent disaster reconstruction agency is that the role between disasters may not have enough substance or status to attract and retain the top-quality personnel needed for a major reconstruction program. The fact that INADE does have other relatively important functions in managing major hydraulic and special projects is a definite asset. It has enabled INADE to retain many of the key staff members which it had been able to attract for the Reconstruction Program.

Conclusion: INADE is an appropriate choice for the coordination role for future disasters.

(b) Preparation for reconstruction

In its coordination of the Program, INADE performed a particularly useful role as sometime advocate, sometime mediator on funding issues between the CORDEs and the Ministry of Economy

and Finance. Unfortunately, INADE's continuing functions between disasters are not of a nature to sustain strong working relationships with the CORDEs.

INADE could, however, assume a constructive role in preparation for future disaster reconstruction programs. Such preparation could include periodic sessions between INADE and CORDE representatives to formulate, refine and adjust reconstruction program implementation plans and procedures. It might be difficult to sustain a lively agenda over an extended disaster-free period. Over the short to medium term, however, there is plenty of room for useful work on reconstruction strategies for the different types of disasters prevalent in Peru. And in the process INADE could be sustaining useful working relationships with the CORDEs which would facilitate reconstruction response to the next major disaster.

Recommendation:

That INADE assume an active role in preparation for future reconstruction programs, and that AID provide material support to INADE in such role.

(c) Disaster relief

In this connection, INADE could also use the time between major disasters to develop close working relationships with Civil Defense. The line is not always clear between disaster relief, for which Civil Defense is responsible, and disaster rehabilitation and reconstruction for which INADE is responsible.

INADE involvement is hardly necessary in rehabilitation and reconstruction activities consequent to minor disasters. Ordinarily management of such activities is well within existing capability of the CORDE for the affected department. Where the disaster is of such magnitude and scope as to affect more than one department or require continuing substantial involvement of foreign donors in the rehabilitation and reconstruction phases, the necessary support and coordination roles seems clearly within INADE's mandate.

Wherever there is likely need for INADE follow-up on rehabilitation and reconstruction activities, the more and sooner INADE is brought into the relief phase, the smoother the transition on a stronger base for the rehabilitation and reconstruction phases. Inclusion of an INADE representative on the national disaster relief committee would help insure timely involvement of INADE in the Government's response to major disasters. It would also provide benefit of INADE's accumulated experience and expertise in determining the Government's response

to major disasters. The rationale for inclusion of CORDE representation on the Department Disaster Relief committee is even stronger since the CORDE will almost inevitably be involved in departmental rehabilitation and/or reconstruction activities.

Recommendation:

1. An INADE representative should serve on the national disaster relief committee.
2. A CORDE representative should serve on each departmental disaster relief committee.

2. Procedures

a. Project execution methods

The CORDEs executed projects by one of three alternative methods: force account, agency agreement, and contract.

(1) Force account.

In construction by force account the implementing agency in effect acts as its own contractor in hiring people and equipment as necessary to do the work.

Force account construction offers the advantage of immediate commencement of work without need for prequalification of contractors, competitive bidding procedures, etc. The disadvantage is that it demands more management from the implementing agency. The agency must employ the labor, rent the equipment, procure the materials, etc., and public agencies are not often blessed with abundance of entrepreneurial management capacity. Moreover, they are often encumbered by unwieldy procurement procedures. A further disadvantage of force account relative to contracting is that the cost of the work is not definitively determined in advance.

Assuming a reasonably capable implementing agency, and the CORDEs had varying degrees of construction capability, force account is more appropriate for smaller, simpler works for which private contractors may be reluctant to mobilize and accordingly charge high overhead. Also, since a private firm prefers full control over the people performing work for which the firm is responsible, force account may be the more appropriate means of implementing a project with substantial community self-help involvement.

(2) Agency agreement

"Convenio-encargo" or agency agreement is an arrangement by which the implementing agency, in this case the CORDE, entrusts project execution to another Government agency, usually a sectoral agency. In the emergency program, convenios were also arranged with municipalities, who in turn might carry out the project on a force account or contract basis.

The convenio method offered the advantage of drawing on experience and expertise for such projects within the sectoral agency. Also convenios with municipalities enabled the reconstruction program to reach communities at such distance from CORDE headquarters as to preclude effective direct management by the CORDE.

The disadvantage of the agency agreement method of project execution is the inherent division of responsibility. The CORDE will intend the contracting agency to bear primary responsibility for the project. Since the funds are coming from the CORDE, however, the executing agency may look upon the project with something less than a desirable degree of proprietorship. The degree of supervision during construction and the extent of maintenance after construction may suffer as a consequence.

Conclusions:

1. The agency agreement method may be appropriate for major public works requiring the specialized management expertise of the public agency responsible for the particular sector.
2. Also for more remote municipalities beyond reach of effective CORDE project supervision, agency agreements afford an appropriate means for expanding program benefits.
3. Use of the agency agreement method is subject to the strong caveat, however, that such arrangements must clearly define respective responsibilities of the parties, particularly cost accountability of the contracting agency.

(3) Contracting.

The third alternative is contracting with a private firm to perform according to contract specifications. The contractor is responsible for provision of whatever equipment, labor and materials are necessary to carry out the work.

Contracting offers the advantage of cost determined before construction, and by a competitive bidding process which should insure reasonable price. Also prequalification procedures should

provide adequate assurance of quality of performance.

Contracting imposes less management burden on the implementing agency than does the force account method. On the other hand, contracting does impose a more sophisticated management burden, that of managing contractors. As the reconstruction program well demonstrated, weak or unscrupulous contractors can cause major problems if their work is not properly supervised. Good management systems and skills are needed to detect and obtain correction of defective performance before the work is severely prejudiced.

Another major disadvantage of contracting with private firms is the time required by normal bidding procedures. The Government, however, granted broad discretion for abbreviating such procedures under the Reconstruction Program. Such waiver authority was put to good but judicious use.

Conclusion: The contract method is to be recommended generally, and particularly for large expensive projects requiring application of sophisticated equipment, specialized labor and professionals, e.g. bridges, highways, larger irrigation structures, water and sewage systems, etc.

(4) Contract modes: design-construct

Ordinarily construction projects to be executed by contract are divided into design, construction and construction supervision responsibilities. In the usual case construction is not performed by the same firm that designed the project, and the construction is supervised by a separate firm. Quite often the design and construction supervision responsibilities are performed by the same firm. In Peru however, a system is sometimes used in which design and construction are both performed by the same firm, the so called "concurso oferta" or design-construct method of contracting.

The design-construct method offers some saving of time in that the design and the construction need not be contracted for separately. This method may also offer some saving in money to the extent that the knowledge of the project gained during design can be applied by the same firm to the construction. One disadvantage of the design-construct method is that it provides less protection from design error. In the usual case, where the design and the construction are carried out by different firms, the separate construction firm is in a position to detect and correct any obvious error in design.

The critical disadvantage of design-construct, or concurso oferta as practiced in Peru, however, derives from the absence of

a pre-existing design. Absent detailed specifications with which all bidders must comply, each bidder proposes a mere design concept, each of which may differ significantly from the others. This opens the bidding to subjective evaluation, which in turn renders the bidding process vulnerable to nontechnical considerations. Also, with but a vaguely defined design concept to conform to, there is excessive leeway for the contractor to reduce standards to the detriment of the project.

Conclusion: While the design construct method may offer some advantages for smaller low-cost projects of relatively simple design, it is not recommended generally and definitely should not be used for any large or complex project.

(5) Contracting for management capacity.

The CORDEs' Reconstruction Program experience exposed them to use of contracts to expand their capacity to meet the needs of the job at hand. They did so not only by using contractors to expand their capacity for carrying out construction projects. They also used contracts to supplement the CORDEs' managerial and administrative capacity to handle the often substantially increased workload of the Program.

Many of the CORDEs used contracts to add necessary professionals and other staff to their project implementation units during the reconstruction program. For lower level professional needs they were generally able to get the people they needed for the period they wanted them. There was no obligation to continue that employment beyond the period of the Program.

In contracting for higher level skills and/or experience, CORDE salary ceilings for contract as well as permanent employees were often an obstacle. INADE was sometimes able to help by contracting within higher ceilings for stronger professionals who were then detailed to more demanding CORDE positions.

INADE contracts were used to expand the capacity of the CORDEs in certain other aspects. Occasional bad experiences in Program implementation impressed on the CORDEs the critical importance of qualification of project designers and construction supervisors. To help CORDEs with design of projects within the Program, INADE contracted private firms. Also some CORDEs used these firms to supplement the capacity of the project implementation units for supervision of construction.

Looking to the future, INADE will not be available on a continuing basis to contract higher level professionals for the CORDEs. To manage projects properly CORDEs must have either higher, more competitive salary schedules at professional levels,

or at least authority to contract professionals at higher compensation for special tasks on a temporary basis. Such authority can usually be rationalized on the principle that the higher salary compensates for lack of job security.

Conclusion: The reconstruction program experience was useful to the CORDEs, exposing them to ways in which they could look to the private sector as a source of help. Private firms served the CORDEs not only as construction contractors, but also as consultants to supplement the CORDEs' own capacity for design, analysis and supervision.

Recommendation: That at least for emergencies, the Government should authorize CORDEs to contract on a temporary basis for higher level professionals at higher salaries.

b. Fund disbursement.

Among the more problematical factors in Program implementation was the Government's requirement of monthly subproject budgeting and supporting accounts of expenditures on previous advances. Grant proceeds were managed on a relatively simple and expeditious basis directly by INADE. But for proceeds of reconstruction bonds or loans, or counterpart local currencies generated by PL 480 or program loans, the Ministry of Economy and Finance required monthly budgeting and accounting submissions as a basis for further disbursements. Such Government financing also had to receive annual legislative approval through the Government budgeting and appropriation process. This requirement for time-consuming bureaucratic and legislative process was further aggravated by need for supplemental appropriations. In addition to a normal amount of project over-runs, severe inflation of 100% to 200% per year caused substantial over-runs in local currency cost for virtually all subprojects.

Such paper work requirements on a monthly basis imposed a substantial administrative work load. Any delays in, or problems with, such paper work interrupted the flow of funds for subprojects with consequent delays in execution.

The Government requires such monthly processing of funding requests and disbursements in order to keep expenditures in line with income where cash flow is very tight. In such situation, of course, tight control of expenditures is not unjustified. Such justification does not apply with equal force, however, for expenditures from dedicated funds available in ample amounts to cover anticipated expenditures over an extended period.

Such was the situation under the Reconstruction Program with the Government's contribution, as well as the financing from AID and other sources. The AID funds were committed on a no-year, length-of-project basis; and the Government's funding source was the proceeds of the reconstruction bonds. Thus, both Government and AID funds were available in ample amounts for medium-term project expenditure requirements and could not be used for other purposes.

Accordingly, among Government preparations for the next disaster, we suggest prompt adoption of special budgeting and accounting systems for programs financed with ample amounts of dedicated funds. Such programs could prudently be administered on a longer cycle for budgeting and accounting paper work. A semiannual cycle might have been feasible for the Reconstruction Program. Even quarterly processing would be a big improvement over the monthly requirement applied to the Reconstruction Program.

The same rationale applies to certain other programs financed by AID and other international agencies. The rationale applies to Government contributions only to the extent that they are reserved in ample amounts for a particular project.

With respect to loans, the Government might want tighter control over disbursement because interest starts accruing from the date funds are drawn down by the Government. Certainly in an emergency program, however, the cost of program delay attributable to monthly paper work requirements would outweigh any cost of drawing down loan funds slightly in advance of need. Particularly is this so where the interest rates are in the one to three percent range of concessional loans from AID and the MDBs. Indeed, where such funds are drawn down somewhat in advance of need, the Government may have ways of keeping them in interest earning accounts. Such earnings could preserve or even increase the value of the loan funding during the period between receipt from the lender and disbursement by the Government.

Conclusion: Government monthly funding paperwork and procedures imposed delays in project execution.

Recommendation:

That for programs where ample dedicated funds are available the Government should consider lengthening the accounting cycle for implementing agencies.

B. AID

1. Organization

a. USAID organization.

To execute different elements of the Program, the AID Mission organized in various ways. The program loan was managed by the Development Resources office. Except for reconstruction uses of local currency, which were managed by a new and separate Disaster Relief, Rehabilitation and Reconstruction Division (DRR), the PL-480 food assistance was managed by the Program Office. DRR also managed the \$60 million Rehabilitation and Reconstruction Project loan/grant except for the health component managed by the Health Nutrition and Education Office, and the Materials Bank component managed by the Housing Division. The Housing Division also managed the Housing loan guaranty program. For further detail, see Table 1.

b. The Disaster Relief, Rehabilitation and Reconstruction ("DRR") Division.

The DRR Division, was at the fourth level of the Mission hierarchy. The Division Chief reported to the head of the Development Resources Office, who in turn reported to the Deputy Director, who in turn reported to the Mission Director. The DRR division, which employed over 30 people at its peak and will disband at program's end, was almost totally staffed by contractors, as distinct from U.S. direct hire personnel. Even the Division Chief, who carried the USAID title in Spanish of "Jefe del Programa de Rehabilitacion y Reconstruccion", was also a contractor. DRR, which included its own complement of agricultural technicians and financial analysts, as well as a thoroughly computerized project monitoring staff, was by far the largest single division in the AID Mission. DRR also depended for technical and administrative support on other mission offices, including the Engineering Division, Agriculture Office, Executive Office and Controller. The DRR complement of agricultural technicians and the three project funded engineers assigned full time to the project spent virtually all their time outside the office working with INADE and the CORDEs. The financial analysts were also working in the field much of the time.

c. The AID Project Manager.

It was logical to use contractor personnel to staff the temporary USAID office responsible for managing the temporary Reconstruction Program. The head of that office, however, ideally should have been a direct hire AID foreign service officer. Under the applicable U.S. Government laws and regulations, there are certain authorities in agency decision making and document signing which can be exercised only by a

direct hire person and not by a contractor. On the AID side at least, the USAID division chief/project manager was perhaps the most key person of all in the performance and ultimate success of the Program. It was awkward that he should be encumbered unnecessarily in the performance of his responsibilities.

The evaluation team did not determine the precise nature and extent of the Mission and AID Washington efforts to identify a division chief/project manager from among AID direct hire foreign service personnel. We do know, however, that relatively early in the proceedings, and timing certainly was of the essence, the Mission sought the best qualified person it could find on a direct personal service contract basis. Within three months it had an outstanding professional, with extensive AID experience, on site in Lima ready for a three-year assignment.

The DRR Division was in many respects a mission within the Mission requiring managerial and leadership abilities comparable to those of a mission director. In putting together the remainder of the Mission program management team, the Program Manager selected well. Sound principles of business management were applied in the organization of the team and management of its program. The program management team was expanded as necessary to meet program needs, but never to such size as to be unwieldy.

The division chief/program manager was situated seemingly low in the Mission hierarchy compared to the Program's importance. Nonetheless, he and senior Mission management saw to it that in general, major program implementation issues were promptly addressed. Meanwhile, such organizational arrangement helped buffer the DRR Division and the Program from other bureaucratic requirements of Mission operations. The practical problem of limited signing authority was addressed by a close working relationship with the head of the Development Resource office, an AID foreign service officer who did have necessary signing authority.

Conclusions: A program of the size, complexity and importance of the Reconstruction Program requires a high level of leadership and managerial ability. Knowledge of AID is also important. A direct hire AID officer is preferable if readily available. For an emergency program, if the managerial and leadership strengths are not readily available in a direct hire, they should be sought through contract.

d. Program coordination

One disadvantage of the DRR Division location within the Mission hierarchy was that it did not give the Division Chief as much

"clout" as needed to coordinate Program activities managed by other Mission offices. This could have been a factor in the problematical performance of the health subproject. Possibly also, closer coordination of food assistance would have been achieved thereby. In general, however, regardless of theoretical hierarchy, the USAID organization was small enough, and the actors able enough that the more critical concerns were communicated and actions timely taken.

The USAID/Peru organizational arrangement is not necessarily a model for future reconstruction programs. In organizing a Mission for a reconstruction program, as in other aspects of Mission organization, there must be flexibility for adaptation to the strengths and weaknesses of the various individuals and offices involved.

e. Technical assistance.

(1) Amount and nature

(a) INADE/ CORDE "advisors".

Among the issues to be faced immediately in a reconstruction program is the need for technical assistance and the amount and type thereof. In the "El Nino" Program, the USAID injected a heavy component of technical assistance. Indeed, of the first \$13 million authorized under the project loan/grant, less than one third was directed to financing of subprojects. The rest was allocated to technical assistance and administrative support. In fairness, the USAID contemplated substantial additional subproject financing from both AID and GOP sources. The first allocation to technical assistance was intended to cover the whole program, of which the amount served by such technical assistance eventually totalled close to \$200 million. By any standard, however, the \$8 million allocated to financing of technical assistance for INADE and the CORDEs was high.

Various types of technical assistance were financed under the program. The financing of local consulting firms to bolster the capacity of the CORDEs for design and supervision of major works was relatively noncontroversial; indeed we strongly recommend it as a model for future reconstruction programs. The more controversial element of technical assistance was the group of nine departmental advisors, plus the environmental and irrigation advisors.

This team of "technical assistance" personnel worked virtually full time with INADE and the CORDEs. The team included one "advisor" assigned full time to INADE headquarters in Lima and nine departmental advisors attached to the various CORDEs outside of Lima. There was only one advisor per CORDE for the

departments with the largest programs. Other departmental advisors were assigned to two or three CORDEs depending on the size of the departmental programs. In addition there was an irrigation specialist, and an environment specialist whose clientele included INADE and all CORDEs requiring their services.

This group of technical advisors was employed not under a single institutional contract, but rather all were hired under personal service contracts with the AID Mission. They were recruited by the AID Mission in consultation with INADE, employing the services of an IQC consulting firm to screen applicants. Initially all were expatriates, but, in the later stages of program implementation, three Peruvians were hired to fill departmental advisor roles.

Against this technical assistance team in particular, it can be argued that Peru had ample capacity to administer repair of damage to existing infrastructure without a lot of outside technical assistance. Because of the nature of such repairs, there was little technical innovation involved and, in general, rather straightforward engineering, construction and supervision. Of the administering organizations, however, INADE was new and the CORDEs had varying degrees of experience and capability, some of them with histories nearly as short as INADE's. Further, we heard general agreement among INADE and the CORDEs as well as AID that the technical assistance helped substantially in expediting the program. And, for an emergency program especially, heavy weight must be given to timing of performance. We note, however, that the most time sensitive of all reconstruction work, the restoration to function of the northern irrigation systems on at least a provisional basis, was 85 percent complete by April 1984, at which time the INADE and CORDEs advisors had barely arrived.

The rather substantial investment in such technical assistance represented a conservative approach in helping ensure that the program was not delayed by institutional and system weakness that could be addressed by such assistance. In the special circumstances of this Program, with relatively inexperienced and unproven coordination and implementation institutions, we do not find that such amounts of technical assistance were excessive. It should not necessarily, however, serve as a model for future emergency reconstruction programs.

Conclusion: The level of technical assistance was justifiable, given the nature of the program and the implementing agencies.

(b) Nomenclature v. substance

Among the problems for the CORDE "advisors" was the misuse of the term "assessor". Their intended work was coordination and

bureaucratic trouble shooting/expediting. Although some did have professional credentials, they were hired as generalists rather than professionals or technicians. Accordingly, their titles may have lead at least some CORDE management and other personnel to expect too much of them in the way of professional or technical expertise. This likely caused use of them as "advisors", other than as intended, with consequent shortcomings and loss of respect. We suspect that this factor accounts at least in part for dissatisfaction expressed in some CORDEs with performance of their "advisors."

Recommendation:

1. Use a more accurately descriptive term than "advisor" or "assessor" when the role is more in the nature of coordinator/bureaucratic expediter.

2. Since the function of such "coordinators" is largely management system trouble shooting to assist in identifying and removing bureaucratic obstacles, business administration expertise and experience, along with knowledge of AID and relevant overseas experience, should be weighted heavily in recruitment.

(c) Environmental advisor.

We question the need for a full-time American environmental advisor for the Program. The Mission justified such environmental advisor as insurance that the program not be delayed by environmental issues raised at critical times in project design and execution. The Mission could cite no instance in which the repair of an existing facility raised a substantial environmental issue. For a reconstruction program primarily concerned with repair of pre-existing facilities, it seems appropriate to make a blanket determination at the start that there were no environmental considerations such as to preclude repair of existing structures.

The program in the South involved some new projects and was substantially concerned with water management, including improved exploitation and conservation of existing water sources. Thus environmental counsel was appropriate, but could have been provided as needed by consultants with more specialized expertise at less cost. And as discussed below, in most if not all cases necessary consultant services could have been provided by Peruvians as effectively and at less cost, with more favorable long term developmental consequences.

Conclusion: The full-time American environmental advisor for the

Reconstruction Program was not justified.

Recommendation:

That for a Reconstruction Program of this nature AID should make an initial blanket determination that repair or maintenance of existing structures does not raise substantial environmental issues.

(2) Source of technical assistance

(a) INADE/CORDE advisers.

Accepting that the team of departmental advisors performed a useful role, there still remains an issue as to their source. The Mission initially contracted for all departmental advisors from the United States. The United States is an expensive source of technical advisors. The average cost of providing a U.S. professional in the field, including allowances overhead, etc. is usually well in excess of \$100 thousand a year.

In addition to being more expensive, most U.S.-hired technical assistance contractors require considerable time to learn the country and the way it works, unless, of course, the person has recent experience in the country. In practice, the departmental advisors received mixed reviews, some received high marks on all sides for their contribution to the emergency effort. Concerning others, there was considerable doubt as to whether they were worth the cost.

In the later stages of the program, rather than go back to the United States for additional advisors, the Mission contracted Peruvians to serve in this capacity. Peruvians offered the advantage that they were less expensive, more readily available and inherently familiar with their country and how it worked. Instead, their learning curve related to knowledge of AID and how it worked. One further advantage with Peruvians is that the experience and expertise acquired in the performance of their role stays in the country and is more readily available to respond to similar needs in Peru in the future.

Among arguments against use of Peruvians in such management coordinator/facilitator roles is that, working in their own country it is more difficult for them to be completely objective, or, equally important, have the appearance of objectivity, in dealing with controversial issues. Further, the coordinator/facilitator role calls for a certain willingness to take on the establishment or the system in confronting specific problems or problem people obstructing execution of the program. In the usual case, this is probably easier for someone who has

come from outside the country and will return to a home and career outside the country, than for someone who will have to live and work with the system and the people involved in the future.

In practice, it appears that the performance of the Peruvian departmental advisors compared favorably with that of the foreign advisors. The "advisory team" leader suggested that a mixed team with at least a majority of Peruvians would have better combined the strengths of domestic and foreign sources in this situation.

Conclusion: The coordination/facilitation team would have performed comparably well at less cost with more Peruvians.

Recommendation:

The need for foreign source advisory personnel should be faced early in the design of an emergency reconstruction program, with special consideration for the specific type of assistance needed and the context in which it would be furnished. Host country personnel should be favored unless the foreign source provides a clear advantage; and even then, complementarity of respective strengths and weaknesses within a mixed team should be sought.

(b) Technical advisors.

In any event, for the technical advisors in environment and irrigation, the arguments in favor of foreign advisors do not apply with substantial force. There is an abundance of capable irrigation expertise and experience available in Peru, on either a long or short-term basis to meet virtually any requirement. While expertise on environmental issues is less abundant, it is available in Peru. Moreover, such use of the available environmental expertise would add to its credibility in Peru, thereby strengthening its influence after this program is done.

Conclusion: U.S. source for technical advisors to the Program was not necessary.

Recommendation: That AID use host country technical expertise whenever appropriate and otherwise feasible.

2. Procedures

Procedures for administration of the Program were various.

indicated above, certain aspects of the Program were administered within the AID Mission's normal program. These included the PL 480 Title I and Title II and Health components. Except as discussed above with respect to program coordination and below with respect to the health component of the program, these procedures were not considered to present substantial issues. The system of particular interest for this evaluation is the somewhat special system developed for management of the \$60 million Disaster Relief and Reconstruction Project Grant/Loan and also applied to much of the local currencies generated under the PL 480 programs.

a. Project selection and definition.

The project grant/loan included a mixture of project financing and program financing concepts often applied to intermediate credit institutions where the specific subprojects to be financed are not known at time of obligation. The program to be financed is defined in terms of illustrative activities and the criteria to be applied in selecting projects.

In this case the AID financed program was to be executed by the CORDEs, using INADE as the intermediate institution. In the Project Paper, subprojects to be financed were identified by an illustrative list adapted from the Government's survey of disaster damage along with subproject selection criteria and an order of priorities. The Government's Institute for National Planning had determined the global needs by survey of affected departments backed up by the AID Mission's own surveys. In implementation of the Program more specific needs and determination of priorities within the affected departments was the responsibility of the CORDEs, subject to approval by INADE with USAID concurrence.

The subproject identification and approval process evolved into three distinct steps. The CORDE submitted project concepts for approval in principle as "Form A". Project components were identified and approved in principle in "Form B." Approval of necessary subproject plans, specifications and schedules was certified by "Form C". Any substantial change was submitted for approval as "Form D".

b. Disbursement.

Upon INADE/USAID acceptance of "Form C", first disbursement could be made to the CORDE for contractor mobilization or other advance. Subsequent disbursements to the CORDE depended on either contractor progress reports for contracts or, for force account work an accounting for past advances.

Hobbling the project approval and disbursement processes, particularly at the outset, was the relative inexperience of INADE and many of the CORDES. To help address this inexperience, AID conducted extensive training programs for INADE and the CORDES in dealing with AID requirements and procedures. Most important, these were conducted at the very beginning of program implementation, and by USAID personnel expert in subject matter and fluent in Spanish. Also, the departmental advisors acted as a nexus between AID and the CORDES in helping the CORDES to meet AID's requirements.

At the start of the Program, the USAID Controller Office was short handed and caused delays in fund disbursement and project execution. This problem was addressed initially by giving highest priority to DRR documents and somewhat belatedly by substantial expansion of the Controller staff. Some TDY assistance was obtained in the interim. Then, as paperwork backed up both at the CORDES and in Lima, AID hired financial analysts on the DRR Division staff and sent them into the field to help the individual CORDES at their own offices in review and processing of disbursement requests and backup documentation.

To facilitate disbursement of local currency, the USAID was given and extensively used "emergency disbursement" authority. However, exercise of this authority often was hampered by Embassy delay in cashing prepositioned dollar checks. There was notable conflict in priorities between the USAID controller seeking prompt disbursement and the Embassy Budget and Fiscal Office seeking maximum local currency return for dollars in a highly inflationary economy.

The CORDES varied in their ability to meet AID and GOP disbursement requirements; some were more innovative than others in borrowing among accounts to avoid delays in project execution. Some never completely succeeded in mastering AID and GOP paperwork requirements. But in general, with good instruction, advice, intermediation, and accumulated experience, most CORDES succeeded in mastering these requirements and reducing to a minimum delays in project execution because of delays in disbursement. In the evaluation team's visits and interviews, which extended to virtually all of the participating departments, we heard no complaints of unreasonable paperwork requirements by AID.

Conclusions: The following measures were significant factors in reducing program implementation delay:

1. Early instruction in AID paper work requirements by qualified people and at the operating level.
2. Continuous presence at the CORDE level of qualified procedural rouble shooters.

3. Assistance from USAID financial analysts in the field.
4. Expansion of USAID Controller staff to meet emergency program requirements.

Recommendation:

1. That such measures be timely incorporated into any emergency reconstruction program, and addressing Government as well as AID procedural requirements.
2. That, for any emergency program, the Ambassador duly instruct the Embassy Budget and Fiscal Office on foreign policy priorities in generating local currency with dollar checks.

c. Procurement.

(1) Services - technical assistance.

In contracting the INADE/CORDE "advisor" technical assistance team, the Mission chose to use separate personal service contracts rather than a single institutional contract. Personal service contracting reduces apparent cost by eliminating contractor overhead. However, such use of personal service contracts adds to Mission overhead certain costs which would otherwise have been borne by the firm contract. Accurate allocation of Mission overhead costs to the personal service contracts would increase the cost per year per consultant substantially closer to the cost under an institutional contract.

Further, use of an institutional contract would have facilitated appropriate charge to project funds of project costs. Otherwise, the indirect overhead costs for the personal service contracts are borne by the AID operating expense appropriation which is usually very tight.

Apart from financial cost, individual personal service contracting imposed a continuing cost in terms of time and energy of USAID support and supervisory staff. Further, this managerial cost extended right up to the project manager and mission director's office during a period when their managerial input was at a premium for other aspects of program management.

A single institutional contract would also have facilitated clearer definition of lines of command and communication between the CORDEs advisors, their "team leader" at INADE, and the AID project manager. The situation was pregnant with potential for conflicting guidance and voids in communication and

responsibility. The fact that this arrangement was made to work by some outstanding people does not argue against avoidance in future reconstruction programs.

Conclusion and Recommendation: For technical assistance missions of this size and nature, an institutional contract is to be preferred.

(2) Commodities

(a) Vehicles.

i. U.S. procurement.

Early in program execution the Government and AID identified the need for vehicles for mobility of INADE and CORDE advisors and project supervisors. The AID Mission and INADE agreed to import the vehicles from the United States with financing from the project loan. Although more vehicles would have been useful, the AID Mission decided to cut the number back to seven, two for INADE and five for the CORDE advisors. (The vehicle for the sixth CORDE advisor was provided by that CORDE from its own vehicles). This cutback kept the procurement within the \$100,000 limit on the AID Mission Director's authority to waive certain time consuming competitive bidding requirements.

The vehicles arrived at Callao in March, 1984 shortly after the advisors had arrived during January and February. The vehicles were then held up in Peruvian customs for five months because of a combination of factors. During part of the period the customs staff was on strike. Also, because the vehicles were financed with loan rather than grant funds, certain special procedures were required within the Peruvian Government; and INADE lacked experience in dealing with these requirements.

ii. Local procurement.

By early 1984, with expansion of the program to sixteen departments from the original six, it was obvious that many more vehicles were needed. CORDE supervisory personnel as well as the advisors needed vehicles to oversee the Program properly. INADE and AID determined that at least 50 additional vehicles were required. Procurement from the United States was considered and rejected not only because of the experience with the initial seven vehicles, but also because of concern for the public relations image in Peru of 50 foreign vehicles arriving en masse during a period of austerity. Accordingly it was agreed that each CORDE would purchase its own vehicle requirements within country using local currency proceeds of the PL 480 Title I

credit.

Here again, however, the loan rather than grant source of financing introduced complications. As proceeds of a loan, the local currency had to go through the Government's entire budget and funding procedure right through to appropriation by the national assembly. The funds were not available until November 1984, the vehicles not purchased until December 1984, and not ready for use until January 1985, about a year after the need was identified.

Meanwhile to avoid project problems from inadequate oversight pending acquisition of vehicles, the Mission encouraged INADE to lease vehicles with program funds. Heavier duty vehicles were either unavailable or available at seeming unacceptably high cost. Some CORDEs followed a policy of vehicle leasing as necessary with considerable success, while others either could not or would not.

Conclusion: Project supervision was impaired to some degree by a lack of mobility for supervisory personnel, and that lack of mobility was caused by avoidable delays in vehicle procurement.

Recommendations:

1. Where timing is critical, for a program of relatively short duration, vehicle rental should be considered immediately as an alternative to vehicle procurement. In any event, where there is urgent need for vehicles, rental should be considered pending delivery of purchased vehicles. In weighing rental cost, there must be due consideration for program cost of lack of vehicles.

2. Where procurement of vehicles from the United States is preferable, the Mission should seek waiver authority from AID Washington to provide adequately for program needs with a minimum of delay. This is an area where the predetermined reconstruction program waiver authority recommended elsewhere in this evaluation would be particularly useful.

3. Where in-country vehicle procurement with local currency is appropriate, such procurement would be simplified, in Peru at least, and quite likely in most countries, by using the local currency proceeds of Title II grants rather than Title I credits.

iii. Legality/propriety of vehicle procurement with commodity import generated local currency.

The use of local currency to purchase in Peru vehicles assembled in Peru from components produced abroad raises an issue

concerning propriety of such financing. The assembly of the vehicle in Peru provides a certain amount of value added in Peru. Still most if not all of the components are imported from abroad, making the vehicle predominantly a foreign exchange cost rather than local currency cost of the Program. Such local currency expenditure acts to expand foreign exchange use by the country. This effectively cancels pro tanto the effect of the PL 480 dollar credit or grant, as the case may be, in helping close the country's balance of payments gap.

Such use of PL 480 generated local currency also raises an issue as to appropriate use of foreign assistance funds. In effect U.S. foreign exchange financing is being used indirectly to finance inelegible foreign exchange costs. In our own legislative process the Congress each year determines through appropriation the amount of foreign exchange costs to be financed through the foreign assistance program. The financing of foreign exchange costs with local currency generated from PL 480 and other commodity import financing effectively expands the foreign exchange financing provided by the foreign assistance program. Without pretending to offer the last word on the subject, we suggest that it raises a policy issue and possibly a legal issue, that should be addressed by the appropriate policy and legal offices in AID.

Recommendation:

That AID/Washington GC and PPC offices determine the extent to which local currency generated by commodity import programs may legally, and should as a matter of policy, be used to finance foreign exchange costs within country.

(b) Medicines and medical equipment.

Delays in certain medical procurement have been described and analyzed at length in an AID/IIG audit report and in the USAID response thereto. The AID response includes a good presentation of lessons to be learned. In general, the complexities and problems of medical procurement are similar to those of vehicle procurement. There are, however, some notable differences worthy of further discussion.

The project paper for the October 25, 1983 project grant/loan amendment identified \$600,000 to finance purchase for the Ministry of Health of "emergency" medicines, vaccines, and nutrition monitoring and basic health equipment. This allocation addressed increasing incidence of malaria, tuberculosis, gastrointestinal and skin diseases as an aftermath of the earlier flooding in the North. The Mission and the Ministry of Health Epidemiology Division worked on the proposal through April 30,

1984 when a sub project agreement for the \$600,000 was executed. The agreement provided \$500,000 for procurement of medicines and equipment from the United States, \$60,000 dollars for procurement within Peru and \$40,000 for training.

The AID Mission did not seek waivers for the procurement; normal procedures for U.S. procurement were followed. Arrival in Peru averaged 3 to 6 months from initiation of procurement, one malaria drug taking eleven months. Upon arrival in Peru the medicines and equipment languished in customs for an average of 3 to 4 months, with considerable loss through theft. Upon release from customs most required from 3 to 4 months on the average for delivery to the disaster area. Meanwhile the Ministry of Health failed to take any action on the \$60,000 of procurement from within Peru.

Review of this subproject indicates several organizational and procedural shortcomings which should be avoided in future reconstruction programs. First, as to organization, there was notable failure in both the Government and AID to fix project responsibility on individuals with the time and/or authority to keep the project moving. Project responsibility was accepted for the Government by the head of the Epidemiology Office and for AID by the head of the Health and Nutrition Division. Both appear to have been too preoccupied with other matters to give this emergency project implementation the sort of persistent day to day follow up that it required.

Further, neither the Government nor AID involved any representative from the affected region in project development and execution. Such participation might have contributed not only to a better sense of priorities within the project, but also surely to a greater sense of urgency. Such a local representative has to live on a day to day basis with the problem to be addressed. The consequent sense of urgency should help expedite project implementation generally, and particularly those actions to be taken in the affected area where such representatives themselves have capacity to act.

Also notable with the medical procurement, as with the vehicle procurement, was the failure to take advantage of fast track waiver authorities available at Washington as well as USAID levels. This failure is surprising in view of the outstanding performance of the Mission and its Health Nutrition and Education Office in expediting \$100,000 of medical procurement within a month at an earlier emergency stage.

The project may have been adversely affected by excessive funding. Such availability permitted inclusion of relatively low priority items within the overall procurement. Such inclusion likely interfered at least to some degree, with expeditious procurement, processing and delivery of higher priority items.

Finally, and perhaps most important, was the ever present obstacle of the Peruvian customs, which in this case contributed an average three to four months delay in delivery along with substantial loss from theft.

Recommendations:

The Government and AID should take the following extraordinary organizational and procedural measures to establish a fast track for emergency procurement in reconstruction programs:

1. On both sides responsibility for project implementation should be clearly fixed on one individual with authority and time to follow up on necessary actions.
2. In developing and executing the project, representation of the affected area should be included.
3. The responsible AID and GOP offices should meet periodically, at least monthly, during project implementation to assure that problems are identified promptly and measures timely taken to address them.
4. The amount of project funding should be determined by the amount of high priority needs to be addressed, keeping in mind that inclusion of lower priority items may delay action on highest priority items.
5. In its fast track procedure, AID should take full advantage of available waiver authorities.
6. The Government should establish a system for expediting emergency commodities through customs. This could include code and/or special color designations for emergency procurement commodities. Possibly special expeditors should be contracted with project funds. In one way or another, this perennial problem should be addressed immediately in preparation for the next emergency.

d. Project monitoring

The monitoring system for those portions of the Program assigned to the DRR office was remarkably thorough and current, well designed and operated to identify and address problems promptly. The same cannot be said for those portions of the Program administered by other offices in the mission. Some were well managed; others less so. But we found no system of periodic accountability whereby senior Mission management would be promptly alerted to problems. The health project problems for

example would have been identified for attention more promptly with a quarterly or even semiannual detailed program review. Even before the long drawn out procurement was initiated, this purportedly "emergency" subproject had languished for more than half a year between authorization and execution of subproject agreement.

Recommendation:

Mission management should review all major elements of a reconstruction or other emergency program on at least a quarterly basis.

e. Donor coordination

During the early stages of relief response to the Nino Disaster, assistance came in from many directions. The Government called numerous meetings to explain the Peruvian predicament and solicit assistance. For the major reconstruction effort, however, the major donors soon shook down to a relatively small group, including the World Bank, the IDB, AID and Germany. As it worked out, each donor financed activities related to those of other donors. Further, AID contributed some financing directly to projects of each of the other major donors.

Our discussions with IDB and USAID officers indicate that no special coordinating mechanisms were established. Rather coordination was achieved through informal contacts "as needed". The IDB continued its usual practice of having its visiting teams meet with AID, and informal contacts were sustained at both staff and mission management level. Our interviews indicate that, at least as far as IDB and AID were concerned, such manner and intensity of donor coordination was considered satisfactory. An IDB representative did, however, drop the observation that on occasion the first notice of AID financing for a particular IDB financed activity might be the discovery of an AID handclasp at the project site.

Further, we were informed that the Government had lost about \$30 million of available emergency financing from the Banks because of lack of timely contribution of counterpart funds and preparation of implementation plans and specifications. This was attributed to weakness of the responsible sectoral implementing agencies. It is possible, however, that, had AID been timely alerted to the problem, AID working with INADE might have been able to help address such short-comings. Certainly AID's chances of timely notice of such problems could have been enhanced by more regularly scheduled coordination sessions with the other donors.

We do not suggest that lack of closer coordination was necessarily causal of such loss of funds. We do suggest, however, that the informal contacts, which are valuable in themselves, be supplemented rather than displaced by more structured periodic consultation among donors. Such sessions could not hurt and might be of help in ensuring complementarity of donor programs and gaining maximum impact from limited resources. Needless to say, this observation applies to normal development programs as well as emergency programs, but particularly to relief, rehabilitation and reconstruction program where timing is of the essence.

Recommendation:

AID should seek more regular and systematic coordination relationships with other donors, particularly during reconstruction programs.

IV. Program design issues

A. Project vs. program financing

The bulk of the AID financing for the Program was provided by a \$60 million Project Loan/Grant obligated in July-October 1983 and a subsequent \$60 million program loan obligated in mid 1984. Thus AID chose to sequence its assistance with the project loan/grant first and the program loan second. Alternatively, AID could have provided the program loan first and the project grant/loan second.

Certainly by mid 1983, the massive loss from flood damage of cotton and other export crops provided adequate justification for the foreign exchange component of a program loan. Further the predominantly local costs of construction for repair of damaged infrastructure would have readily absorbed the local currency proceeds of a program loan.

The practical advantage of the program financing approach is that the local currency proceeds could be used to cover local costs of the reconstruction program by attribution rather than by the much deeper AID involvement required for financing of specific projects and subprojects. No time would be required to build up USAID project monitoring staff or to contract technical assistance and training to build the capacity of implementing agencies to handle AID project management requirements. This would be avoided the risk of project delays while Peruvian

implementing agencies learned such procedures on the job.

The immediate requirements for provisional restoration of irrigation function and even the more definitive irrigation and other infrastructure reconstruction in the North, were essentially repair projects. They did not call for technology or construction capacity that was not already present in Peru. Similarly, in the South, simple infrastructure maintenance, repair, and improvement projects to provide short-term employment did not call for capabilities which were not already present. These sorts of activities are entirely appropriate for financing by attribution.

In support of the initial project loan/grant format, the AID Mission notes that Washington had already rejected an earlier mission request for program loan in 1983, before the disaster struck. Many of the most urgent requirements were covered by relatively untied assistance through the AID Disaster Relief Office along with the early proceeds of the Government's reconstruction bonds. Further the AID project loan/grant PID approval and authorization provided for retroactive financing of eligible GOP expenditures from the date of PID approval June 17, 1983. Thus that loan/grant essentially took effect on that date, encouraging the Government to incur necessary reconstruction expenditures without delay, assured in principle of financing by AID.

The Mission also argues that the relatively deep AID involvement in the reconstruction program, with its technical assistance for INADE and the CORDEs, actually helped to accelerate subproject execution by building and sustaining the project implementation capacity of the Peruvian implementing agencies, the CORDEs and INADE. The Mission claims that disbursement delays leading to project execution delays were caused much more by Government than AID requirements.

As noted elsewhere in this evaluation, there is validity in the USAID position as it applies to this particular program executed by relatively inexperienced Peruvian agencies. But necessary technical assistance can as readily be provided in support of program financing as project financing. Further, we are inclined to believe that accomplishments of the current Peruvian reconstruction program derive more from the strength of certain key personnel than from the strength of the systems used.

In a normal situation, USAID project implementation requirements might be more of a problem in delaying implementation of an urgent reconstruction program. In such situations greater flexibility of response under a program loan or grant should be thoroughly considered. To save time in authorizing such program financing, AID should have a policy statement already issued in advance of future disaster emergencies.

Conclusions:

1. The most time sensitive elements of the reconstruction program were appropriate for financing by attribution rather than direct project loan financing.
2. The AID decision to use project financing at the outset was not unreasonable in view of the inexperience of the program implementing and coordinating agencies.
3. Authorization of financing retroactive to date of approval in principle, i.e. PID approval, is a useful device for accelerating the impact of AID reconstruction financing.

Recommendations:

1. For disaster reconstruction programs AID should favor program financing unless special factors in the situation make project financing more appropriate.
2. To prepare for prompt authorization of program financing for appropriate reconstruction programs in the future, AID/W should issue a policy statement including guidance on the criteria applicable to choice of such financing in disaster reconstruction situations.

For many of the activities included in the Program we do not question the project loan/grant format. Indeed deeper AID involvement, application of specialized expertise and requirement of project specific feasibility analysis was highly desirable for the types of new irrigation and improved water use projects executed in the South. For such projects time should have been taken for appropriate technical studies and supervision. Accordingly, it is not the type of financing used in the Peru reconstruction program which we question, but rather the sequencing of the program and project financing.

Among the risks for a project loan in an emergency context is that subproject design and implementation systems might tend toward a compromise between that required for repair and maintenance projects on the one hand and completely new irrigation and other water use projects on the other. While hesitating to conclude that this was generally the case under the Program, our field visits did reveal several instances in which relatively simple projects had been over engineered and more ambitious new projects had received less than their due of feasibility analysis. Particularly in the South, there were numerous instances where precious financial resources would have been better used had more time been given to necessary

preliminary studies. This brings us to the question whether the differing disasters of the North and South should have been addressed in the same program.

B. Should the North and South programs have been integrated?

The difference between drought and flooding as causes of disaster induced substantial differences in objectives for the reconstruction activities in the North and the South, and, logically, in the programs responding to those objectives. The Northern reconstruction activities were primarily concerned with repair of existing structures which had been damaged by the floods. Further the North was blessed with a relative abundance of capable individual and institutional resources to carry out technically relatively simple repair and rebuilding activities.

Detailed plans and specifications were required for definitive reconstruction of major works and substantial damage to irrigation systems might call for rather significant changes from original designs. In the usual case, however, there was no substantial need for extensive studies or feasibility analysis for selection and design of the projects or for the development implications of their manner of execution.³ Accordingly, it was entirely appropriate that the reconstruction program for the North be put on a fast track calling for maximum emphasis on rapidity of reconstruction.

In the South, on the other hand, the principal requirement was to provide sustenance to farmers after failure of their crops, and to help them gain access to seed and other inputs for the next planting. The sustenance requirement was addressed by emergency food distribution and employment generation. Unlike the situation in the North, there was no massive construction requirement to provide employment opportunities. There was, however, as in most less developed countries, plenty of useful repair and maintenance work to be done on existing public infrastructure. Fast track procedures were entirely appropriate for such employment generation activities.

The search for employment generating activities, however, extended beyond repair, maintenance, and improvement of existing facilities to hurried design and implementation of new projects.

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Design of some new river defenses required some highly specialized and sophisticated consultant services from the U. S. Corps of Engineers. It was of the sort of innovation which could be provided quickly, however, without need for extensive periods of preparation and follow through, community development and institution building, etc.

And it is for new projects that time was really required for adequate analysis of feasibility and relative priority and how the project can be designed and executed to maximize positive developmental impact. The programming issue, therefore, was not so much whether North should have been separated from South, but rather whether the new project activities requiring more time for development and implementation should have been administered on a slower track. This could have been done either with separate project financing or under a separate project management system within the same financing.

Conclusion: While the fast track procedures were appropriate for simple repair and maintenance employment generating activities, the new subprojects in the South were sufficiently different to require a separate system of subproject implementation and management at least, if not a completely separate project.

C. Program focus

Flood damage and drought loss was largely concentrated along the northernmost coast and in the Puno altiplano in the South. The nation's economy had most at stake by far in the coastal irrigated agricultural infrastructure of the northern departments of Lambayeque, Piura and Tumbes. Such concentration contrasts rather sharply with the broad dispersion of the Reconstruction Program over 16 different departments. Of the Program financing, Piura received about 1/3 and Piura, Tumbes, Lambayeque and Puno together received about 2/3, with the remainder dispersed among the twelve other participating departments.

We understand that the issue whether to so broaden the Program, and AID support thereof, from the areas of maximum impact was discussed extensively in both the Government and AID. There was natural sympathy for individuals affected by disaster regardless of the extent of impact within their particular department. Further, the Government was concerned for political backlash from affected communities excluded from participation, particularly when the forced saving 'reconstruction bond' program extended country wide. Also, certain of the marginally affected departments such as Ayacucho, Apurimac and Huancavelica were prime targets of the "Shining Path" movement.

On the other hand, dispersion of program meant dispersion of managerial as well as financial resources, with consequently increased risk that higher priority needs would not receive adequate attention. In this connection, we were informed that the marginal 1/3 spread over the twelve departments imposed well over 1/2 of the program management burden.

Ultimately the Government decided that the Program should extend

to all significantly affected departments. And, in this case, the Government gained the political and humanitarian advantage without substantially impairing the performance of the Program. Incidentally, the United States also benefitted from the broadened impact of a Program with which it was closely identified. We suggest, however, that such minimal cost of dispersion was a matter more of luck than of logic. Fortunately ample financial resources were available to meet the needs of the marginally affected departments without significantly reducing availability for highest priorities of the more critically affected departments. Indeed, availability of financing was a factor tending to drive the program outward to the marginally affected departments.

Also fortunate was the fact that Piura and Lambayeque, the two most important departments in terms of contribution to the agricultural economy, both had relatively strong leadership and capable development corporations. Decentralization of program implementation further helped by insulating these departments from the problems of other departments, as long as there was no special requirement for concentration of external management resources on Piura and Lambayeque.

Tumbes was not so blessed with managerial strength, however, and the program in that department might have proceeded better had INADE and AID been able to direct more attention and support to that department. Also even in Piura and Lambayeque there were problem projects which might have benefitted from more and earlier AID/INADE attention.

In addition to the area dispersion of the Program, there was another type of dispersion that tended to divert managerial resources in particular from highest priority projects. The number of subprojects was extraordinarily high even for a program of this size, and most of them were quite small. Again, as with the smaller departmental programs, the smaller projects can demand a disproportionate amount of managerial attention.

Many of the more troublesome projects in terms of eligibility under AID criteria, or feasibility of AID monitoring, eg strife-torn Ayacucho, were financed exclusively by Government money. However, considering the amount of Peruvian counterpart contribution to Program financing, it should have been feasible to screen out a much larger number of small projects from AID involvement. This would have permitted simpler subproject management, without need to follow both AID and Government subproject approval and disbursement requirements. Most important it would have reduced demands upon AID's program management and monitoring resources. Either less AID staff would have been required in the first place or the same staff could have been focussed more intensively on the larger projects.

Looking to future reconstruction programs, there is substantial risk that wide dispersion of financial, and particularly management, resources will be at the expense of areas of most critical need. This is an area, however, in which political factors should be weighed along with economic factors, provided that the economic risks and costs are recognized and given their due proportion of weight.

Conclusion:

Although dispersion of the program did not substantially impair program performance, it did carry some costs, particularly in distraction of program management.

Recommendation:

The risk potential of program dispersion, in diversion from highest priorities of both managerial and financial resources, should be weighted heavily in design of future reconstruction programs.

D. Grant v. loan financing

1. General

For most programs, grant financing enhances the acceptance of necessary technical assistance by relieving the sensitivity of foreign personnel salaries. For programs addressing reconstruction or other emergencies there is another argument in favor of grant financing. As noted above at page 30, the Government's internal money management procedures are much more flexible and less time consuming for proceeds of grants than for loans. Thus for emergency assistance, when timing is of the essence, the grant component should be maximized to facilitate processing the proceeds through host government procedures to the point of emergency action as rapidly as possible.

Recommendation:

AID should maximize grants relative to loan funds in financing reconstruction programs.

2. PL480 generated local currency.

Not all of the Title II food was distributed in kind for feeding or food for work programs. Rather during the Reconstruction Program, more than in most situations, a major

portion of the Title II food was sold on the market with the local currency proceeds used for the Program. The commodity so sold was vegetable oil, which helped fill the local market void left by lost cottonseed oil production in northern Peru. Under this so-called "monetized Title II" program much of the local currency went for such usual uses as financing costs of in-country transportation and distribution and other costs of administering food for work programs. However, a substantial share of the proceeds was used for local currency costs of other projects within the Reconstruction Program. In this respect the use of Title II proceeds was quite similar to the use of Title I proceeds.

Under the Title I program, as is usual, the US agricultural commodities were obtained through concessional credits and sold on the Peruvian market, in this case by Government of Peru approved marketing agencies, with the local currency proceeds used for jointly agreed Program purposes. Most of the Title I local currency went to project costs within the reconstruction program. As noted elsewhere a significant portion was used to procure in Peru vehicles for the Program.

Both Title I and Title II local currencies offered the advantage of availability to cover costs which were ineligible for project/grant loan financing, such as internal taxes on "off shelf" purchases in Peru. Otherwise, however, the Title I local currency was notably less agile and less flexible in use. The Government tended to look upon the loan generated currency as their own money, to be administered in the same way as other Government revenues, subject to normal Government budgeting and appropriation processes by both executive and legislative branches. These procedures, as noted elsewhere in this report, were time consuming and bureaucratically burdensome. The local currency proceeds of the Title II program, on the other hand, were managed by the Government in a manner comparable to that for project grant funds; they were administered directly by INADE with much less involvement of the Ministry of Finance and the central government bureaucracy and legislature.

Recommendations:

Especially for emergency programs such as disaster reconstruction, the US government should maximize the grant portion of food assistance under Title II as compared to Title I in order to enhance agility and flexibility of counterpart local currency financing.

Postscript - Building on the reconstruction base.

Finally our evaluation of the Reconstruction Program prompts us to suggest an area of particular concern for future development programming. Experience with irrigation in the Reconstruction Program amply demonstrates the need for work with irrigation in the altiplano. The usefulness of irrigation has been demonstrated in altiplano areas where it had never been seen before; and the farmers have shown receptivity. We suggest that it would be highly desirable to carry out further small scale irrigation and other water management activities in Southern Peru, building on the foundation laid by the emergency program. This is justified not only to help mitigate the effects of future drought disasters in this drought prone area, but also to help to higher levels of productivity the altiplano indians who are clearly the poor majority of Peru.

In this connection we note that the irrigation projects were not the only reconstruction activities in the South, of such developmental nature as to require substantial follow-up beyond the emergency in order to realize anything approaching full potential benefit. Such activities include the introduction of beneficial insects as a plague control device and the testing of spray and droplet irrigation systems for high intensity irrigated farming systems of the coastal valleys.

TABLE 1 USAID/Peru disaster assistance

| <u>Activity</u> | <u>Amount</u> | <u>Responsible USAID/ Peru Division</u> |
|---|---------------|---|
| OFDA and reprogrammed activities: | | |
| OFDA | 1.0 | DD, DRR, ENGRI |
| Reprogrammed medicines | 0.4 | HNE |
| Reprogrammed food | 0.4 | FFD |
| Reprogrammed 416 milk | 3.5 | FFD, PROG |
| Reprogrammed HG | <u>1.4</u> | HUD |
| | 6.7 | |
| New funding: | | |
| Bilateral DRR Project (527-0277) | 60.2 | DRR (except as Note 1) |
| PVO grants (527-0277) | 4.8 | FFD (except as Note 2) |
| PL 480, Title II food donations to PVOs | 18.3 | FFD |
| PL 480, Title II monetized food | 7.9 | DRR |
| PL 480, Title I | 10.5 | DRR, PROG |
| HG-011 Amendment | 12.5 | HUD |
| Disaster Assistance Program Loan | <u>60.0</u> | DR |
| | 174.2 | |
| | <u>180.9</u> | |

Notes:

1. The Materials Bank Portion of the bilateral project (1.0) is being managed by HUD, and the Ministry of Health portion (0.6) by HNE.
2. The grant with CARE for housing activities (0.3) is being managed by DRR.

TABLE 2 Accrued expenditures by quarter- 527-0277 Project Loan/Grant

| <u>Quarter</u> | <u>All CORDE subprojects</u> | |
|----------------|------------------------------|------------------|
| | <u>Amount</u> | |
| <u>1983</u> | | |
| 9/30/83 | \$ | 220,000 |
| 12/31/83 | | 239,829 |
| <u>1984</u> | | |
| 3/31/84 | | 74,982 |
| 6/30/84 | | 2,199,090 |
| 9/30/84 | | 10,518,409 |
| 12/31/84 | | 10,262,795 |
| <u>1985</u> | | |
| 3/31/85 | | 7,700,513 |
| 6/30/85 | | 3,340,917 |
| 9/30/85 | | 1,201,663 |
| 12/31/85 | | 1,819,916 |
| <u>1986</u> | | |
| 3/31/86 | | 4,770,378 |
| 6/30/86 | | 2,789,269 |
| 9/30/86 | | 1,327,766 |
| 12/31/86 | | 873,409 |
| <u>1987</u> | | |
| 3/31/87 | | - |
| | | <hr/> 47,338,936 |