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EVALUATION OF THE END OF PHASE 3 OF THE D.A.S.R.P.
APRIL 11-19, 1986

PROJECT No. 279-0077

PROJECT TITLE: DHAMAR AIDED SELF-HELP RECONSTRUCTION PROJECT

FINANCIAL ASSISTANCE FROM:

KINGDOM OF NETHERLANDS
EUROPEAN COMMUNITIES (EEC)
UNITED STATES OF AMERICA AID - (PL 480 PROCEEDS)
YEMEN A.R. Beneficiaries

PROJECT MANAGEMENT BY:

NETHERLANDS - DHV ENGINEERING CONSULTING FIRM (PRIMARY DESIGN
+ MNGMNT)
US PEACE CORPS - (MANAGERS OF THE BUILDING ADVICE CENTERS)
USAID (ONE PROJECT OFFICER) (CONTRACTOR - ASSISTANT PROJECT
DEVELOPMENT OFFICER)

Implementing Institutions (H.C.) Yemen A.R.

E.O.R. - Executive Office of the Supreme Council for Reconstruction
of Earthquake affected areas, (primary responsibility).

C.P.O. - Central Planning Organization

M.O.F. - Ministry of Finance

Evaluation Mission

Netherlands - Ir. Cor Dijkgraaf - Director of the Institute for
and E.E.C. Housing Studies - BIE (Rotterdam, Netherlands)

USAID - Dean Swerdlin - Assistant Housing and Urban
Development Officer - USAID - KHUDO (Tunis - Tunisia)

11/86

Dhamar Aided Self-Help Reconstruction Project

Background Information on the Project

In December 1982, the Dhamar Province was hit by an earthquake, which measured 5.8 on the Richter scale.

Approximately 2,000 people were killed and another 2,000 injured. Women and children were mostly affected, since men were out farming the fields.

It is estimated that 40,000 houses were affected by the earthquake, of which 20,000 were completely destroyed.

The Government immediately started relief activities, and established the "Supreme Council for Reconstruction" (EOR) in charge of preparing a programme for reconstruction of the earthquake affected areas.

The reconstruction programme prepared by the Supreme Council consisted of 3 components:

- 1) new unit construction on the plateau area;
- 2) repair of damaged houses in the city of Dhamar;
- 3) self-help reconstruction in the mountainous areas.

1. In the new unit construction program, approximately 15,000 houses are to be built by private contractors. The new units are to be grouped into new village complexes on the plateau. The whole plateau area has been divided into 15 tender areas. Each tender area has been awarded to a single contractor. The contractor built housing is primarily financed by an outright grant from Saudi Arabia; additional funds have been provided by the United Nations and the Italian Government. Construction of these units began in November 1984. Approximately 4,500 units have been completed, but no one has moved into any of the completed units.

2. In the repair program, 200 damaged houses in Dhamar city are being repaired. The repair program is also being undertaken by private contractors. An earthquake-resistant repair technique is being applied that was developed by a U.S. engineer (T.A. financed by USAID) and an Indian engineering consulting group. The repair program began in November 1984 and is near completion. The repair program addresses only a minute quantity of the damaged homes in the whole project area. It is important to note that many residents in the Dhamar province proceeded with the repairs of their homes at their own expense.

3. The Dhamar self-help reconstruction project, began in November 1983, is co-financed by the Yemen Arab Republic, The Kingdom of the Netherlands, The Commission of European Community, and the

Government of the United States (USAID). Donor contributions are as follows:

The Netherlands	Dfl	8,580,000	- \$	_____
EEC	ECU	2,550,000	- \$	_____
USAID	YR	86,330,500	- \$	approx. 13.0 million.
YAR Contribution	YR	_____	- \$	_____

The project objectives are:

- a) short-term: provide shelter for the people affected by the earthquake, particularly the homeless;
- b) long-term: transfer the technology of appropriate earthquake-resistant building techniques.

To achieve the project objectives, the major project components include:

- a) physical (self-help) construction of approximately 1,000 homes.
- b) an in-depth training program that transfers the knowledge of improved earthquake-resistant building techniques to local masons, village officials, and home owners.

The self-help project is organized as follows:

There are two major districts where the target population is located: Maghrib Ans District and Jabal Ash Sharq District. The city of Dhamar serves as the central point for project management. The main project offices and building supply depot are located in Dhamar, and are managed by the Dutch DMV engineering consultant group. In each district there are a number of sub-project offices, called Building Advice Centers (three in Maghrib Ans and two in Jabal Ash Sharq). The building advice centers are built using the earthquake-resistant construction technique. Each Building Advice Center serves as the focal point for disseminating the construction and training activities in their area. Each center is staffed by one American Peace Corps Volunteer (in charge of managing the building advice center), one Yemeni engineer (in charge of supervising the training in his area), and four foremen (who provide daily supervision of the actual construction).

The project employs a large number of local villagers for construction labor, masons, storekeepers, etc. The project also pays the local village people by the load to transport project materials in their own vehicles. The villagers bring farm products to Dhamar town, and on the way back take back a load of building materials.

There are a significant number of aspects of the self-help project worth mentioning:

- 1) the project utilizes an earthquake-resistant construction technique that also preserves the traditional Yemeni architecture and style of building;

- 2) the houses are built in the existing villages, usually right next to the damaged house; no new social infrastructure is necessary (ie: schools, shops, mosque, community facilities, etc...), and villagers are not relocated to new sites;
- 3) houses are occupied as soon as they are finished;
- 4) the project does not build on precious agricultural land;
- 5) an innovative set of training materials has been developed and is located at each building advice center; training materials include: posters, large photo panels, manuals in arabic, films and video;
- 6) the self-help aspect of the project not only provides badly needed homes, but also benefits villagers by providing jobs, career training, new technology, and significant income;
- 7) the building techniques are not just applicable to housing construction, but can also be used for public-community facilities; one village has already built a mosque using the new technique.

USAID - RHUDO - Evaluation Report (FINAL REPORT)
Draft Report Prepared April/May 1986
BY: Dean Swerdlin

Project: No. 279-0077 DHAMAR Aided Self-Help Reconstruction Project.

Purpose of the Evaluation: USAID Sana'a requested the assistance of RHUDO/Tunis to assist in the evaluation of the project. The USAID Mission's (request) intention, primarily, was for an "outside" evaluator to observe the project from the USAID perspective, to identify project constraints, and assess the overall success of the project.

USAID Sana'a particularly wants the RHUDO and PRE/II to know about this project, since it is a project originated by the Mission using PL 480 proceeds.

Background

The project planning was divided into five phases of nine months each. The first phase began in December 1983 and phase five is to end in September 1987. Detailed planning and budgets for each phase are prepared just prior to the beginning of the phase. At the end of each phase the project is evaluated by an outside consultant team.

The implementation of the Maghrib Ans district project covers phases one through four. The Jabel Ash Sharq district project covers phases three through five, (although the first building advice center in Jabel Ash Sharq district was built at the end of phase two).

The project planning for each phase includes establishing a PERT chart and budget for the following project components:

- 1) construction of the building advice centers;
- 2) assignment of expatriate staff;
- 3) assignment of local staff;
- 4) construction of equipment offices, staff houses, stores, and model houses,
- 5) introduction of project to beneficiaries;
- 7) survey of eligible beneficiaries;
- 8) signing of contracts;
- 9) ordering and delivery of building materials;
- 10) construction of self-help houses.

The Dhamar Aided Self-Help Reconstruction program has been evaluated, on three separate occasions by an outside Dutch consultant, representing the Netherlands Government and E.E.C. These evaluation Missions occurred in October 1984, May 1985, September 1985 to evaluate phases 1, 2 and the beginning of phase 3 respectively.

It was not until this evaluation Mission, to review project progress on the end of phase 3 and beginning of phase 4, that USAID Sana'a requested a USAID evaluator to be a member of the team.

The evaluation reports of the Dutch Consultant are accurate and complete. They provide excellent information on the progress of the project, project constraints, and recommendations.

The evaluation reports are supplemented by the accurate, informative quarterly progress reports of the DHV Engineering consultants based in Dhamar. USAID and E.O.R. have copies of all these reports.

1.0. Evaluation Comments

1.1. The attached paper (Agreed Minutes of Meeting Between the Executive office (EOR) and the Evaluation Mission) was prepared by the Evaluation Team in consultation with the DHV Project Manager. The paper summarizes major findings of the evaluation team.

1.2. General Comments

Overall, I would say that the Dhamar Aided Self-Help Reconstruction Project is a great success, and should be publicized as a successful case project.

It is impressive to see what has been accomplished in a short amount of time under a variety of administrative and physical constraints. The way the project has been set up with various donors and project managers taking on different aspects and responsibilities of project implementation is an excellent approach.

While AID has provided the lions share of project financing, the DHV consulting firm must be given credit for getting this project off the ground and for their continuous, tight and efficient management of the project. The three Peace Corps Volunteers managing three of the five building advice centers must be commended for generating an excellent spirit of cooperation with the local authorities and beneficiaries. Their enthusiasm and belief in the project was very evident during the site visits.

The self-help approach to housing has long been advocated by AID-IRE/H, and the Dhamar Self-Help project is exemplary of a successful self-help project. The Yemenis fully realize that the self-help approach has been the most successful program of all the "contractor" and "other donor" reconstruction programs currently being implemented in the same region.

The choice of construction techniques, is very appropriate to the region, particularly the U-Block masonry solution, (900 units to be built). The 100 proposed "Nagron Houses," an experimental, semi-prefabricated unit is less successful, but adequate to suit the needs of the region. Both solutions are technically sound, earthquake resistant structures. The Yemeni masons have been very good about following the construction specifications. The quality of the materials used and workmanship is good. The same finishing materials are being used as in traditional Yemeni houses.

The training materials, financed by USAID, produced by DHV and administered by Peace Corps Volunteers, DHV and Yemeni Engineers are excellent. Video tapes, poster boards, training manuals, etc. are all of high quality and are proving to be very successful in transferring the technology of building earthquake resistant structures. At the site I heard about local masons already using the construction techniques in other buildings, such as mosques and schools, and masons ordering U-Block moulds for their own use.

As mentioned in prior DHV reports, the project has the full support and enthusiasm of the local administration and beneficiaries. During the current one month delay in project funds and building materials, it was encouraging to see that beneficiaries were fully willing to advance the cost of building materials and labor costs of local masons in order to continue with the construction of their homes.

2.0. Comments on specific project activities

2.1. Construction Progress

- 1000 houses are to be built under the program.
 - Approximately 140 houses are at various stages of completion.
 - 115 houses are completed.
 - 860 houses yet to be started.
 - The rate of construction for the whole project area is 60 houses completed per month.
 - It takes an average of 2 1/2 months to complete one house; some houses being completed in 6 1/2 weeks (record time), others taking up to 3 months.
 - The houses are built in the existing villages usually right next to the damaged house. No infrastructure is provided, although some beneficiaries are wiring their houses for electricity, installing turkish toilets, and building cess pits. There is no construction on precious, terraced agricultural land. The houses are occupied immediately after construction is complete.
- Most beneficiaries plan to expand their units vertically. One beneficiary has started a second story.

I am in full agreement with the DHV and Dutch Consultant recommendations on the Nagron House, an experimental semi-prefabricated housing unit that is imported from abroad.

"The Nagron House:

The mission would like to make a couple of remarks, partly already noted in the previous evaluation reports. The cost of these houses is 25,000 Yemeni riyal lower for the beneficiaries. This is in fact artificial, due to the fact that the foreign currency component is higher and therefore the additional cost is paid for by the project itself. There are still a few technical problems with the design and implementation. All houses show cracks in the walls, which

might lead to corrosion in the future. The mission cannot give any forecast about the lifespan of these houses. Due to the high differences in temperature between day and night, and the relatively thin layer of material on the roof, there is a condensation problem on the ceilings of NAGRON houses.

The model houses, which can be seen on the site in Dhamar, have been painted; under the project, the paint is not included for the houses that are sold to the beneficiaries. Due to the susceptibility of cracks on the outside walls of the Nagron Houses, the mission recommends that paint should be provided to the beneficiaries.

Originally it was thought that the NAGRON house needed less supervision than the Traditional Improved house. The reality has proven to be otherwise, a NAGRON house needs more supervision. The house has a lower self-help component, and the money redistribution, in terms of local laborers employed, is lower with the NAGRON house than with the Traditional Improved house. The metal U shaped ceiling will cause difficulties for finishes, apart from the above-mentioned condensation problem.

All 100 NAGRON frames and other components have been delivered to the site in Dhamar. There is still doubt as to whether 100 beneficiaries will sign for the NAGRON house.

My own observations of the Nagron House revealed that: the cost of this semi-prefabricated housing unit is more than the U-Block unit; there are some technical problems with the design and actual construction of the Nagron House: it is labor intensive, relies too heavily on an imported building technique and building materials, is beginning to show cracks in the exterior walls which might lead to corrosion of the house frame, thus endangering its structural soundness over time.

A small number of Nagron Houses have been built by project beneficiaries. One beneficiary used an exterior resin-based plaster coating on the exterior wall which may be a preferred and more durable solution to the traditional stucco plastering. DHV and Peace Corps building advisors will need to monitor the construction of the Nagron Houses and determine whether it makes sense to continue building the 100 Nagron Houses proposed or convert to the U-Block housing unit.

Since there is doubt about the long-term structural soundness and social acceptability of the Nagron Houses, it is my feeling that the Nagron House solution should be phased out of the EOR reconstruction program. The remaining Nagron building materials at the Dhamar depot could be used for building social infrastructure such as clinics and schools. Such community facilities could be easily maintained by the its users.

2.2. Contracts with Beneficiaries

The "self-help" aspect of this project can be translated into the following responsibilities:

- 1) The programme provides:
 - all building materials not available in the project area, as to guarantee the earthquake resistant concept;
 - payment of the masons, as to guarantee good workmanship;
 - training and supervision, as to guarantee a just transfer of knowledge.

- 2) The beneficiary himself provides:
 - all building materials available in the project area, such as stones from the destroyed houses, sand and water from the wadi, etc.
 - the unskilled labor force, which consists mostly of relatives or friends; and
 - the building site on which the beneficiary wants to build his new house.

Apart from the arrangement described above, which was worked out at the project paper level, there is no cost recovery system. Nor does there seem to be an attempt to institutionalize such an operation.

The cost recovery issue is a delicate one largely because of the parallel "contractor-built" housing project, which technically is a gift from Saudi Arabia to their Yemeni brothers/neighbors. Since the contractor housing is being provided for free, or for just the cost of acquiring the right to the land, it becomes difficult to institute a major cost recovery program for the self-help project particularly when the beneficiary is providing local building materials and unskilled labor.

The process for selection of beneficiaries is not very clear. The project paper does not deal with this subject. From what I could gather, beneficiaries are selected by a council of local officials and approved by the EOR. None of the donor agencies have a say in beneficiary selection. The DHV feels that this is a sensitive local/political issue that should not require the intervention of the donor agencies.

The eligibility of beneficiaries seems to hinge on the extent of the damage of the beneficiary home, and their inability to pay for the reconstruction. The project area was surveyed three times by the EOR to assess the damage of homes and the financial status of beneficiaries. It appears that although the EOR selected a sufficient number of "eligible" beneficiaries, there is continual doubt as to whether certain beneficiaries are really entitled to a self-help house. This has caused the withdrawal of contracts from beneficiaries who already started the construction of their homes under the self-help project.

In part, the nature of Islamic law and the nature of the local politics (the region of the earthquake is the last region in North Yemen to accept the rule of the new government) complicates cost-recovery and beneficiary eligibility issues. It may also be that the DHV and AID did not focus on the cost recovery and beneficiary selection issues at the project design stage, which adds to the uncertainty of beneficiary eligibility. (The EOR is proceeding with a fourth survey to re-survey the whole Dhamar area. As the DHV puts it, the project managers feel very strongly that project staff should not be involved in the whole beneficiary selection procedure, and that it is solely an EOR and local officials activity).

Current progress on beneficiary selection indicates that 750 beneficiary contracts have been signed and approved by the EOR, up from 400 contracts reported in the last evaluation Mission (Sept. 85). I believe the building advice centers and completed housing units have played an important role in advertising the project and prompted more people to sign-up. Between now and the summer of 1986 the remaining 250 contracts should be signed.

The project may find that the incredible success of the program will generate a greater demand for self-help housing than what the program can provide.

There are a number of the poorer residents of the project area that have been determined ineligible under the current program; these include beneficiaries who have trouble providing local building materials and unskilled labor, and/or who wish for a modified "starter-core house" that they can expand over time as funds become available. DHV is working with EOR to assess whether there is a way of including a small number of these poorer beneficiaries under the program. DHV has recommended that the beneficiary contribute 10,000 YR in local building materials or unskilled labor, and the project provide the remaining 45,000 YR.

The Peace Corps Building Advisors mentioned to me that many of the unskilled, paid workers under the program are the poorer beneficiaries requesting "starter-housing". Indirectly they are already benefiting from the project by being paid for providing the services of unskilled labor.

2.3. The Delivery of Building Materials

At all the building advice centers and in Dhamar there were no more building materials, particularly cement, wood joists, and plywood. There has been a delay of one month in the delivery of building materials by the Yemen Foreign Trade Commission (YFTC) to Dhamar. Up to 3,000 bags of cement have been bought by project beneficiaries, with their own funds, under the assumption and trust that they will be repaid in kind in the near future.

This problem of the delivery of project building materials by the YFTC has been a constraint and cause of delays from the beginning of the project. The delays in the delivery of project materials has necessitated the stopping of construction activities for long periods of time.

According to the agreement between EOR and the YFTC, import licenses which provide significant tax exemptions, are to be provided for each delivery of materials. Up to now no import licenses have been provided, and the problem seems now to be tied up at the Ministry of Economic Affairs. The Central Planning Office (C.P.O.) is addressing a letter to YFTC in order to resolve this particular bottleneck.

If the problem is not resolved within a short period of time, the evaluation team suggested, and EOR agreed, that the building materials be bought on the local market.

The consequence of purchasing building materials on the local market will cause an increase of 12,000 YR per house, or, another way to look at it, every month's delay in the delivery of an adequate supply of materials will result in 10 less houses being built, per month.

It is felt by the project managers and the EOR, that the purchasing of the building materials on the local market is an acceptable "interim solution," which will maintain the current pace of construction and enthusiasm generated by the project. The project managers additionally agree that this particular problem should be worked out, and that USAID should try and take a more active role in mediating these administrative problems and negotiate long-term/permanent solutions with the Yemeni government institutions.

2.4. Financial Flows

The attached document (Minutes of the meeting between EOR and the Evaluation Mission) under section 3, B.C. and D., describes the constraint of the flow of USAID PL 480 funds from the Central Bank to the Dhamar project account. Past reports have dealt with this issue in depth as well.

A March 15, 1986 memo prepared by DHV summarizes the constraints of the supply of USAID funds:

"Since USAID joined the project, the project faced several delays in the provision of funds by USAID through EOR.

USAID's involvement with the project started with the second phase (on September 1, 1984). However, USAID funds were not available to the project at the beginning of this period. As a result, the required funds had to be pre-financed (by DHV) to an amount of YR 2.5 million.

In the second part of phase two and during the first two quarters of phase 3, funds were made available by USAID to EOR, but delays occurred in transferring these funds to the project account, since EOR asked for detailed justifications of the spent funds before providing new funds.

During the last evaluation it was decided that USAID funds would be provided independently from the justifications asked for by EOR, in order to allow the project to continue without interruption of its programme. This was considered sufficient, as all project expenditures are examined at the end of each phase by an internal auditor. In practice however, EOR still asks for these justifications before releasing any funds.

During the last evaluation it was also decided that the USAID funds would no longer be transferred first to an EOR account in Sana'a, but directly from the Central Bank account to the project account in Dhamar. Again, this has not been implemented.

In order to release funds from the second PL-480 (1985) an agreement (Project Implementation Letter) will have to be signed between the authorities of the Yemen Arab Republic and of the United State of America. Although a decision about the allocation of these funds to the project was taken 6 months ago already, drafting of such an agreement only started recently. The project therefore was without (USAID) funds at the end of phase 3 (and was forced to stop all construction activities) and is still without funds.

The DHV and the Dutch Consultant representing EEC and the Netherlands Government made it clear to the E.O.R. that they are not prepared to continue financing management costs (850,000 Yk per month) if there are continued delays in receiving the PL 480 project funds. It was also made clear by USAID and DHV, that a permanent solution needs to be arranged in order not to run into similar financial flow problems later on in the implementation of the project.

I believe all parties are genuinely concerned about this problem. The DHV project managers are particularly angry with AID; they feel that AID has not been particularly vigilant in monitoring this problem, nor have they made enough of an effort to overcome the administrative obstacles.

At this time in the project, a disruption in the flow of funds seriously jeopardizes the momentum of the self-help aspect of this project.

During the evaluation mission a meeting had been arranged by DHV and USAID, with the key top-level administrators of the project (EOR, C.P.O., and Ministry of Finance) in order to resolve the financial flow constraints prior to May 1st 1986.

In the meantime a 6,000,000 YR advance has been provided by EOR, until USAID PL 480 funds are made available, (further indication of the Yemeni commitment to this project).

2.5. Management and Training Component

As stated in the general observations of this report, the management and training components of this project are excellent, particularly by DHV (overall project managers) and secondarily by Peace Corps Volunteers, who manage the building advice centers.

One minor observation to make is that now that there are trained Yemeni engineers and counterparts at all of the Building Advice Centers (BAC) a number of the Peace Corps Volunteers feel that their role has shifted from technician to administrator. Two volunteers have left the program because they feel their technical expertise is not adequately being used, and that they were too involved with the nitty-gritty administrative details of the project.

I met with three Peace Corps Volunteers during the site visits (Elliott Smith, Jaimie Stone, Jerry Collette). The volunteers are enthusiastic about the project, plan to stay through their term, and are providing valuable technical and administrative assistance to the project.

At Al Juma'ah, Jerry Collette feels that his Yemeni counterparts are not being very careful about training the local masons or transferring the earthquake reconstruction technology. He feels that the training component in El Juma'ah has slipped and is not what it should be. DHV is aware of the situation and will be monitoring the training component and the Yemeni counterparts more closely.

It was interesting to observe that there is a reluctance of some of the residents of the affected areas to use the earthquake resistant building techniques. Sometimes, right next to a U-Block unit, a resident was building a house using the old traditional building techniques. The explanation given was that many of these residents are poor and cannot afford using steel or other materials to strengthen their new houses. These residents may also not be thoroughly convinced that the earthquake resistant housing is better or worth the additional cost. This may be an issue worth pursuing in greater detail, particularly at the PAC's by the Building Advisors.

It may be worth the EOR's and DHV's time to investigate other options for lower income beneficiaries. Agencies like Intertect of Dallas, Texas has much expertise and documentation. EOR may need to diversify its earthquake reconstruction solutions.

As stated earlier, the DHV would like to see AID pay closer attention to the management of the project. DHV feels that the AID project officers, although committed to the project, oftentimes have too many other things to do and thus do not spend the time necessary to focus on project issues and constraints.

Since DHV provides the primary management of the project, AID could focus its energies on the project constraints that are centered in Sana'a, particularly at the EOR, CPO, and Ministry of Finance.

It would also be helpful if the AID Project Officer and/or assistant project officer visited the sites more often. The Peace Corps volunteers particularly felt that AID should conduct more site visits and provide an AID evaluator on each of the evaluation missions.

2.6. Miscellaneous Activities

I did not have the opportunity to observe or visit any sites involved with the repair program.

The roads that the evaluation team travelled on were "passable". I understand from the DHV and the consultants that there has been a vast improvement in the roads and accessibility to the sites.

Related to this issue of accessibility, and the time it takes to get to some of the BAC from Dhamar, it seems to me that it would make imminent sense to have some kind of radio communication system between each of the BAC's and Dhamar.

2.7. Expansion/Future of the program

Although the emphasis of this project is on reconstruction of homes using earthquake resistant building techniques, it became very evident during the site visits that the physical and social infrastructure have been left behind or neglected. I was told that DHV and the Peace Corps Building Advisors have been discussing the possibilities of expanding the program. In the reports of the past evaluation mission an excellent case was made for expanding the program. As a result, DHV has made a detailed proposal and written a project description on how the project could be expanded. This proposal has been submitted to USAID and the EOR for their review.

In meetings during this evaluation mission, the DHV asked the EOR to focus on the proposal and to make a list of priorities of activities that the EOR feels are important in order to continue and expand the program.

The "Expanded Integrated Rural Development" proposal includes the following:

- (a) construction of additional 50 self-help houses;
- (b) strengthening the buildings of 10 schools, 2 schools per project area;
- (c) construction of 10 new schools using the earthquake reconstruction technique (2 schools per project area);
- (d) construction of 10 rural health clinics using the earthquake reconstruction technique;
- (e) improving the roads in the Dhamar province to improve accessibility;
- (f) conduct a sanitation survey study to assess the possibility of developing self-help sanitary sewer program for the villages in the Dhamar province;
- (g) increased training component that would produce three video films and assemble project literature for distribution. Outside the project, knowledge of the Dhamar earthquake reconstruction program is limited. The purpose of these additional training materials is to inform the population at a national scale, as well as policy makers and technicians of the dangers of earthquakes and what the options are to limit damage in case of earthquakes.

The additional project components being proposed are expected to be implemented over a 12 month period. The additional project components are to be considered an integral part of the Dhamar Aided Self-help Reconstruction Project and are to be executed by the current project staff and the self-help Department of the Executive Office for Reconstruction (EOR). The EOR will act as intermediary for the contacts (planning/execution) between relevant authorities in the other ministries.

Of the items listed above; the EOR particularly mentioned that it was most interested in the construction of additional self-help housing units. The EOR seemed to recognize the importance of extending the earthquake resistant construction techniques to social infrastructure, but seemed hesitant about taking on the responsibilities of expanding the program. I believe the hesitancy stems from EOR's concern about the possible difficulties of coordinating the expanded project components with the relevant authorities in the other Ministries, and whether an expanded integrated rural development program is really within the current mandate of the EOR.

I believe that the DHV and USAID need to work with the appropriate YARG officials to expand the EOR's mandate, and work out how the EOR should be restructured in order to take on new and long-term responsibilities.

In principle and concept, I believe the DHV has a very good proposal, and if at all possible, USAID should be involved with the financing of this "Expanded Integrated Rural Development" proposal. DHV is interested in USAID financing. The DHV and the Dutch Embassy are exploring the possibility of additional funding from the Netherlands and the EEC.

DHV and the EOR plan to finalize a project proposal and budget for expansion of the project by the end of phase 4.

3.0 Recommendations

A. Again, refer to the attached Minutes of Meeting between the EOR and the Evaluation Mission for a summary of the major recommendations relating to project constraints.

B. The project should be publicized. Emphasis should be placed on: (a) the project organization and coordination of several donors; (b) the excellent development of training materials; (c) the institutional strengthening of the EOR; and (d) the construction of the housing unit.

- a) An article could be written up in USAID Front Lines.
- b) The Yemenis and DHV should consider presenting this project as a case study at the International Year of Shelter, 1987. All the training materials can be easily converted into a presentation.

C. The USAID project officer and/or assistant project officer should attend the Earthquake Disaster Construction-Mitigation Conference to be held in Ankara Turkey (from August 30 to September 9) this year. The EOR plans to send three of its representatives. The conference will particularly focus on how to improve existing shelter and social infrastructure in order to prevent major destruction during an actual earthquake.

D. USAID and DHV need to assess what will happen to the EOR once the earthquake reconstruction program is finished. The EOR is only a temporary organization, and it will be important to determine how the expertise and cadre of professionals will be absorbed in other ministries, or how the EOR can be converted into a national upgrading agency or some other similar long-term agency. I emphasized that the EOR should attend the Turkey conference, since the information presented there could help the EOR set up a long-term disaster mitigation program. Defining the role of the EOR and defining its future responsibilities, should have been built in the original concept of the program.

E. USAID Sana'a should be more involved with some of the project constraints that particularly affect the financial flow of PL 480 funds. The USAID Mission should also participate in more frequent site visits and also have a USAID representative on each of the Dutch-EEC evaluation missions.

F. If at all possible, in spite of recent budget cuts, USAID should seek to continue financing the project, particularly in the areas of physical and social infrastructure (ie: water supply, sanitary facilities, health clinics, schools). The institutional and management framework is already in place, and thus it would be fairly easy to finance and monitor an expanded "integrated rural development project". If AID were to get involved, this would require not only Peace Corps technical assistance but also possibly some AID contracted technicians.

G. If the project program is expanded, the EOR and donor agencies need to clearly define eligibility criteria, selection procedures of beneficiaries, and establish some kind of cost recovery mechanism.

H. Past evaluations of the project have only focused on individual project components and overall management issues. The final evaluation of the project should include an assessment of whether the Dhamar self-help Reconstruction Project has in effect improved the YARG's ability to handle reconstruction, and be prepared for future earthquakes.

AGREED MINUTES OF MEETING BETWEEN THE EXECUTIVE OFFICE AND THE
EVALUATION MISSION OF THE DHAMAR AIDED SELF-HELP RECONSTRUCTION
PROJECT

Place and date of meetings: Sana'a, Saturday April 19, 1966

Attending the meetings:

His Excellency Mr. Muhammad
Hussein Jaghman

Director of Executive Office

Mr. Jamal Mohammad Abdu

Deputy Director of the Executive
Office

Mr. Saif Mokbil Mohammad

Manager of the Self-help Depart-
ment EOR

Mr. Ahmed Obeld

Assistant PR Manager EOR

Mr. Jan de Roos

Charge d'Affairs Netherlands

Mr. Frits Weden

Director USAID

Mr. Howard Thomas

USAID

Mr. Steve Scavo

USAID

Mr. Dean Swortlin

Evaluation Mission

Mr. Cor Dijkgraaf

Evaluation Mission

Mr. Paul Sutmuller

Project Manager

Mr. Rien van der Weele

Project Manager

1. OPENING

His Excellency Mr. Muhammad Hussein Jaghman opened the meeting and asked the evaluation team to make a summary report of their findings.

2. GENERAL OBSERVATIONS

The mission members have worked in close co-operation and have no difference in opinion about the following observations.

The mission had meetings with the EOR in Sana'a and in Dhamar, meetings with the project staff in Dhamar and at the Building Advice Centers in Dubah, Wathan, Thilah, Medinat Ash Sharq and Al Juma'ah, with USAID and the Netherlands Embassy

The mission paid a two days visit to the Maghrib Ans and the Jabal Ash Sharq project area.

The Evaluation Mission is impressed with the continued progress made in the implementation of the project. The mission observed particularly the overall success of the following project components:

- a) The coordination of project implementation and monitoring by the three donors, Netherlands Government, E.E.C., USAID and the project implementation staff (DHV Consulting Engineers and the Peace Corps Organization).
- b) The full support and participation of the local authorities at all the sites;
- c) The quality and speed of the construction of the U-block units, and the ease of the local masons in learning the construction techniques;

- d) The effectiveness of the Building Advice Centers in providing the training and transferring the technology and skills to the local community;
- e) The clarity and presentation of the training materials;
- f) The enthusiasm of the local population, particularly the ones who are building the houses and transporting the building materials from Dhamar to the BAC's;
- g) The signature of 750 beneficiary contracts achieved by the EDR (up from 400 contracts from the last evaluation mission);
- h) The technical and managerial competence of all project staff in Dhamar and at the BAC's.

While the evaluation mission notes that there is approximately one month's delay in construction progress at the beginning of phase 4 (due to certain project constraints), it was very encouraging to see that beneficiaries were fully willing to pay for building materials and labour cost of local masons, in order to continue with the construction of their houses. This indicates clearly that the beneficiaries fully believe in the project and are willing to minimize any kind of project constraints and delays.

On this evaluation mission, it was clear to the team that the training component has been an effective part of the project. There is evidence at all the sites that the technology transfer has occurred. The team found that local masons are ordering the moulds for U-block construction in order to build other buildings, such as the mosque in As Salfah.

The BAC's now completed in all the proposed villages and more significantly, the completed selfhelp houses themselves, are playing an important role in teaching the local population the value of earthquake resistant construction.

3. PROJECT CONSTRAINTS

A. BUILDING MATERIALS

The supply of building materials especially cement, plywood and joists to Dhamar is still a main bottleneck for the implementation. The mission noted that the main problem is tax exemption. CPO will sign a letter to YFIC today on this subject. If despite this letter still material will not be available in time, the project management can buy material at the local market to assure continuation of construction. The consequence of purchasing building materials at the local market will be an increase of building cost of YR 12,000.- per house. Every month delay and consequently buying at the local market results in a reduction of 10 houses to be built.

B. SUPPLY OF FUNDS

As already noted during the evaluation mission of May 1985 and September 1985, the money-flow of USAID funds in Yemeni Riyal is still a major constraint. EOR has made available an advance payment of YR 6,000,000. but this will help the project to continue for only 2 months. It is therefore essential that a solution will be found before May 1st, 1986. A meeting will be arranged between the Ministry of Finance, CPD, EOR, the Director of USAID and the Netherlands Charge d'Affairs.

A disruption in the supply of funds may seriously affect the motivation of the beneficiaries and potentially cause the demise of the project. Since the USAID funds can only be used for project execution and the Netherlands-EEC funds for project management the question was raised how long management cost should be financed if construction had to be stopped.

C. JUSTIFICATION EXPENSES

During the evaluation mission the project management submitted all documents as requested by EOR for the justification of project expenses of phase 1,2 and 3. The mission is convinced that this has answered the remaining question of the EOR. *The justification of project expenditures of each quarter should be made in the subsequent reporting quarter.*

D. CASH FLOW

Implementation of construction work can only be smooth and continuous if a sufficient cash flow is secured. The minimum cash flow at any time is the budget required for three months operation. This should not depend on the approval of the expenditures of the previous quarter, as mentioned already in the agreed minutes of the meeting September 12, 1985.

4. THE PROGRAMME AND BUDGET FOR PHASE 4 AND 5 (SEE ANNEX)

a) Financial planning

The USAID contribution to the project is only in Yemeni Riyal, and therefore can only be used for project execution (construction and training). The EEC and the Netherlands have earmarked their contribution mainly to project management. From phase 4 onwards the accounting of expenditures will be separate for USAID funds and Netherland - EEC funds, as requested by EOR.

b) The final version of the programme and budget for phase 4 and 5 is approved.

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Comments made hereafter repeated from the previous evaluation on, are not strictly part of the evaluation and should be dered as a ^{contribution} ~~contribution~~ to longterm disaster preparedness ~~to make an optimal use of the impetus created by the project.~~ use of the U-block technique for other construction (e.g. health centers, schools) in the same districts to make use of the acquired knowledge of the people in the area, of the self-help concept and of the project organization.

as a proposal to extend the project in other areas, making optimal use of the technology training developed in this project.


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- b) Use of the U-block technique in other districts to reduce costs and improve safety of public buildings.
- c) Use the project organization and commitment of the population to execute other projects (eg watersupply)
- d) The benefit of information, experience and technical and social data for educational purposes in the country (eg universities, technical schools etc).

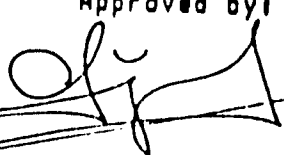

For the remaining YR 10 million provided by USAID the project management submitted a proposal which covers the above mentioned recommendations. During phase 4 a proposal will be worked out that includes expansion of the project into integrated rural development.

7. CLOSURE

Mr. Jaghman thanks the Mission for its presentation, and expresses the wish of EOR that the project is implemented according to the agreed upon planning.

Approved by 

The Executive Director for Reconstruction

Approved by:  

The Evaluation Mission

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