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**AN EMERGING MONITORING AND EVALUATION SYSTEM
FOR P.L. 480 TITLE II
FOOD FOR WORK PROGRAMS IN INDIA**

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I INTRODUCTION

This report is but one component in the development of a Food For Work (FFW) evaluation and monitoring system for India. It is a byproduct of a four week consultancy intended to help formulate a viable ongoing evaluation and monitoring system. In addition to obtaining a detailed background briefing during the first week in country, the author reviewed nine recently completed asset and beneficiary profile studies. Appendix A contains recommendations and a tentative outline of the summary document for those asset and beneficiary studies.

In order to embrace these prior studies in the dialogue leading to the development of an evaluation and monitoring system, an attempt was made to conduct a benefit-cost analysis based upon one of them--the Delhi zone asset study. Given the time constraints for preparation, one and a half days, the purpose of this analysis could not have been to determine the most reliable numbers. Rather, it had to be limited to the development of a specific example for facilitating discussions on how to capture evidence on some project costs, benefits, and effectiveness. Perhaps more important still was the discussion triggered by this study on what important factors cannot be captured by a benefit-cost analysis. A revised draft of this benefit-cost analysis is presented in Appendix B.

The second and third weeks of this consultancy were spent reviewing projects in two of the four CRS administrative zones, Cochin and Bombay. During this period, all of the team members were together, not only reviewing projects but also conducting an ongoing "seminar" on program design. In addition to the author, the team included John Chudy, N. Krishnamurthy, Donald Rogers, George Thomas, and Kiron Wadhera. Most of the content of this report was developed during that period. During the daytime, projects were visited and discussions held with CRS

zonal staff, consignees and project holders.' Evenings were devoted to team discussions and system design. Field survey and analysis instruments were developed and the first field test was conducted with a beneficiary farmer. Figure III is the third but not yet final draft of one of these survey instruments. Using the preliminary benefit-cost analysis for the Delhi zone as a model, a second such analysis for the Bombay zone was carried out independently by George Thomas and Donald Rogers of CRS.

Not included in this report is the work done by the team on zonal seminar and consignee workshop design. A separate report on this subject is being prepared by Kiron Wadhwa.

The fourth and final week was split between further discussion on evaluation and monitoring system design workshop format and content, USAID/Delhi briefings and the preparation of this report.

Because of the time constraints imposed on preparation, two and a half days, this report assumes the reader has already or can obtain relevant background information from other sources. Section II of the report reviews aspects of the existing CRS system which are important to the monitoring and evaluation system design but which perhaps have received less than full treatment in prior reports. Section III describes both the general and specific characteristics of the system including the role of the various workshops. Finally, Section IV provides brief comments and recommendations about other aspects of system evolution.

'Consignees are the "middlemen" in the distribution system responsible for directing food commodities to particular project holders within a bounded geographical area. Project holders are generally parish priests responsible for the design and implementation of one or more particular projects in their local parishes. Consignees can also be project holders.

II FACTORS AFFECTING SYSTEM DESIGN

A monitoring and evaluation system is always a tradeoff between what one would like to have and what is practical to implement given the reality of personnel and financial constraints. Much has been written about such systems in general and about the FFW programs of India, specifically. In this section, we include only those aspects which we believe to be especially important and which may have received less than full treatment elsewhere.

Program Type Variation

Currently CRS and USAID/India classify FFW projects into seventeen different types within four broad categories. This classification is quite helpful for programmatic decisions concerning relative emphasis and overall program activity rates. The scheme is based primarily upon the type of asset created from FFW. For instance, land levelling refers to those projects which result in some type of earth redistribution on a given plot of land. Similarly, tank construction involves removal of earth to form a catchment pond used either for irrigation or drinking water. While this classification system is quite helpful for many of the purposes for which it was designed, it is nevertheless important to recognize the huge range of project types within each of the seventeen categories. For example, land levelling can be applied to (1) clearing and contouring wasteland never before cultivated, (2) flattening land already under cultivation to facilitate irrigation, (3) removal of topsoil so that granite can be quarried, or (4) terracing hillside land in preparation for planting a small rubber tree plantation.

In addition to within-category variation, there is substantial overlap among categories. In the process of levelling land, bunds (small dykes) are often created. Whether the project is in the levelling or bunding category depends more upon relative project emphasis than clear

distinction. Similarly, tank construction can include bunding, land levelling and/or road construction depending upon how the removed dirt is utilized. Table 1 is an estimate of the assets generated with FFW by category type ordered by value of asset created.² Notice that the top five categories account for 80% of the value of assets created while the remaining twelve categories represent only 20%. Table 2 is a description of the project sites reviewed during our field visit.

In this table, the abbreviated descriptions of the project illustrate the aforementioned variation. Column three, photograph key, relates photos taken during the field visits to the specific projects and column four is keyed to the specific consignee or project holder shown in Appendix C.

This impressive variety of projects is both the strength and the challenge of Food For Work in India. Variation is a strength because it permits rich context-specific adjustments that are possible in a decentralized and localized program and a challenge because it creates complex management and evaluation problems. Although management might be far easier if there were but a few large scale, long term projects, such large projects can hardly be expected to reach the most "at-risk" populations in remote regions. Clearly there is a trade off between degree of outreach and simplified record keeping. Decisions of prior years have resulted in a program using the decentralized option. Given this reality, the design of a monitoring and evaluation system must accommodate wide variation in project type.

²The estimate of asset value is based upon a rough approximation of value and often includes non-Food For Work components. It is therefore not directly related to man-days expended.

**TABLE 1 - CUMULATIVE PERCENTAGE OF TOTAL ACCOMPLISHMENTS BY
ACTIVITY DURING 1982 UNDER FOOD FOR WORK - CRS INDIA^a**

1982 Rank	Activities	Value (Rs.) ^b	Value (US \$)	Percentage of Total	Cumulative Percentage
1	Low Cost Houses	81,326,400	8,560,674	40.27	40.47
2	New Irrigation Wells	27,810,000	2,927,368	13.84	54.31
3	Road Construction/Repairs	18,636,000	1,961,684	9.27	63.58
	School/Community Centre/Health Centre/Godown Construction	18,600,000	1,957,895	9.26	72.84
4	Bund Construction/Repairs	14,376,000	1,513,263	7.15	79.99
5	Tanks/Dams/Reservoirs	11,112,000	1,169,684	5.53	85.52
6	Land Clearing/Levelling	10,957,800	1,153,453	5.45	90.97
7	Irrigation Wells Deepening/Clearing	8,551,200	884,337	2.76	93.73
8	Construction of Drains/Ditches etc.	5,308,800	558,821	2.64	96.37
9	Bench Terracing/Slope Land Reclamation	3,121,200	328,547	1.55	97.92
10	Drinking Water Wells	1,742,400	183,410	.87	98.79
11	Reforestation	908,440	95,621	.45	99.24
12	Pasture/Forage Development	422,339	44,457	.21	99.45
13	Irrigation Canals	421,200	44,337	.21	99.66
14	Fisheries Development	288,000	30,316	.14	99.80
15	Bridge Construction	210,000	22,105	.10	99.90
16	Fencing Agricultural Land	152,000	16,000	.08	99.98 ^c
17	Training/Ed. Vocational/Adult Literacy Classes	-	-	-	-
--	Miscellaneous Trainees	-	-	-	-
	Totals:	200,943,739	21,151,972		

^a Estimated value from CRS, Annual Pub. Summary of Activities, 1982, p.8. Since these estimates often include non-Food for Work components, they are not directly related to man-days expended.

^b Conversion based upon Rs. 9.5 = \$1.00 U. S.

^c Column totals are slightly below 100% due to rounding error.

Best Available Document

TABLE 2 - DESCRIPTION OF PROJECT SITES REVIEWED DURING JULY 1983 FIELD VISIT

Category	Abbreviated Description and Date of Construction	Photo-graph Key	Project Holder or Consignee Key(See App C)
Road construction	Short approach road to site of a quarry cooperative and surrounding agricultural land built (1981) upon existing pathway	1-1	2
Road construction	Approach road to newly constructed housing and health care facilities provided to displaced harijans (1981)	2-1	5
Road construction	Feeder roads for newly constructed primary road connecting two villages (in progress)	None	8
Road construction	Primary road connecting two villages built in part, upon existing pathway including red dirt surfacing, culverts and bridges (in progress)	4-1	8
Road construction	"Red dirt" surfacing material transported by county boat from nearby quarry	4-2	8
Road construction	Loading mud from paddy field into boat for building up road base	4-3	8
Road construction	Existing pathway bridge which is being replaced by new bridge	4-4	8
Road construction	Replacement "jeepable" bridge under construction with materials provided by governmental agency	4-5	8
Road construction	New road providing access to wasteland reclamation project utilizing social forestry (1980)	5-1	12
Road construction	Trees flourishing at roadside due to water accumulation in ditching at roadside	5-2	12
Road construction	"Brass" measures of work performed in standard work day	5-3	12
Low income housing	"Semi pucca" - laterite brick provided to subsistence farmers(1981)	6-1	2
Low income housing	Sand for cement surfacing over laterite bricks to be applied during the next low activity season	6-2	2
Low income housing	Cement surfacing applied to laterite brick	6-3	2
Low income housing	"Semi-pucca" - cement reinforced brick provided to subsistence farmer (1980)	7-1	3
Low income housing	"Semi-pucca" - brick housing provided to relocated harijans (1978)	8-1	11 & 13

Category	Abbreviated Description and Date of Construction	Photo-graph Key	Project Holder or Consignee Key(See App C)
Low income housing	"Semi-pucca" - brick housing provided to relocated harijans - weaving looms in some houses (1979).	9-1	11 & 13
Low income housing	Electrical conduit inside new house provided in anticipation of electricity which is to be provided by government <u>because</u> house is of "semi-pucca" standard	9-2	11 & 13
Low income housing	Multiplex housing for relocated harijans constructed several years ago	9-3	10
Tank	Community tank - deepening through desilting thereby providing silt for sealing paddy fields, fertilizer and improved percolation for adjacent wells (1982)	10-1	10
Tank	Bunding adjacent to community tank	10-2	10
Tank	Lined tank used for drinking water and irrigation of tree nursery (1980)	11-1	6
Tank	Bunding nearby lined tank. George Thomas, CRS, Father Mathew, Consignee, John Chudy, USAID (left to right)	11-2	6
Tank	New high yield rubber plants relying upon water from lined tank	11-3	6
Well	Surface well (approx 30 feet) for drinking water supply in housing project provided to displaced harijans (1981)?	12-1	4
Land levelling	To remove topsoil in preparation for cooperative quarry project (1980)	13-1	2
Land levelling	Exploding charge during quarry operations following topsoil removal to expose granite source	13-2	2
Land levelling	To prepare ground for planting rubber trees on .4 acre plot for subsistence farmer (1983)	14-1	3
Land levelling	Newly planted rubber tree sapling. John Koth of Cochin Zonal office, CRS	14-2	3
Land levelling	To prepare ground for rubber tree saplings and intercrop of bananas and aurvedic medicines. One year old rubber tree saplings planted by harijan on land newly titled to him as part of government land reform program	15-1	3
Land levelling	Harijan land owner (newly titled)	15-2	3
Land levelling	Back-up rubber tree saplings in case some trees die and need replacement	15-3	3

Category	Abbreviated Description and Date of Construction	Photo-graph Key	Project Holder or Consignee Key(See App C)
Land levelling	Aurvedic medicines planted as intercrop with rubber tree plantings	15-4	3
Land levelling	Initial levelling of wasteland new to agriculture provided to subsistence farmer in collective society (1982)	16-1	10
Land levelling	Typical idle land prior to first land levelling	16-2	10
Land levelling	Second levelling stage - provided to subsistence farmer in collective society (1983)	17-1	10
Land levelling	Levelling and bunding provided to harijan family newly relocated and land titled (1983)	18-1	9 & 10
Land levelling	Silt from community tank placed upon levelled land in order to provide nutrients and reduce percolation thereby reducing water requirements during dry season	18-2	9 & 10
Land levelling	Levelling and bunding provided to low income farmer in cooperative society - double crop now possible (1982)	19-1	9 & 10
Land levelling	Adjacent land which has received initial land levelling but not yet ready for second cropping	19-2	9 & 10
Land levelling	Beneficiary farmer (right) interviewed during development of Income Enhancement Analysis Form (Figure 3)	19-3	9 & 10
Land levelling	Pumphouse for 800 foot tube well providing water for levelled land during dry season	19-4	9 & 10
Social forestry	Planting of mosquit trees on wasteland to provide biomass and root structure to (1) allow percolation in brackish soil and (2) provide source of charcoal production (1981)	20-1	12
Land levelling	Newly planted mosquit trees experiment. Not yet working as well as hoped. Changes are being made in planting technique based upon experience.	20-2	12
Land levelling	Trees almost ready for harvest as a material source for newly established charcoal village cooperative project	20-3	12
Land levelling	Water buffalo grazing on reclaimed land	20-4	12
Vocational training	Trainees for rug weaving and cooperative management skills	21-1	11 & 13
Vocational training	Harijan rug weaving trainee	21-2	11 & 13

Category	Abbreviated Description and Date of Construction	Photo-graph Key	Project Holder or Consignee Key(See App C)
Vocational training	Designs, to be incorporated into future rugs, created by trainees in rug weaving program	21-3	11 & 13
	Newly established silk production and weaving	22-1	3
	Radio speaker fabrication	22-2	3
	Matchbook production	22-3	3
	Cottage industry fabrication	22-4	3

Program Goal Variations

We find it helpful to recognize that all FFW projects in India have three broad goals: a) generation of employment opportunity, b) the enhancement of income and c) improvement in the quality of life--especially for the most disadvantaged. (The generation of employment opportunity generally refers to the employment generated during the course of the project and paid for with food commodities and not to the subsequent employment which might develop in response to the completion of the project.) While, all of these goals are present in each project, there is usually an emphasis upon either income enhancement or the improvement of the quality of life in addition to the provision of employment. Projects which attempt to raise farmer income fall in the former category and low income housing, the latter. Distinctions between emphasis upon income enhancement or quality of life improvement will become helpful when specifying the design of a monitoring and evaluation system but again it is important to recognize that any single project contains both components. This distinction between the two categories is primarily a matter of emphasis. For instance, a land levelling in the Rabi (dry) season can be viewed primarily as an income enhancement project for the beneficiary. However, it also provides employment and, if successful, will raise the quality of life by providing the land owner and those employed with greater purchasing power. Similarly, a low income housing project, classified primarily as an improvement in quality of life, will also eliminate the annual rethatching expense. Net income of the beneficiary is thereby enhanced by substituting a thatch roof with one of tile. Nevertheless, making a distinction between these two categories is helpful when attempting to measure benefits derived from a project. Income enhancement projects can in part utilize an income and expense analysis while ones emphasizing quality of life improvement better

utilize notions of cost effectiveness. In a later section we shall expand upon these differences in approach but for now only a recognition of the distinction is important.

Mixing FFW With Other Project Components

From the point of view of monitoring and evaluation, it would certainly be convenient if the only input in a project was Food For Work. For such straightforward projects, it would be relatively easy to measure the costs and relate them to the consequent benefits. But such is not the case in India; nearly all projects involve complex inputs from multiple sources. In fact, often the FFW component is not even the primary input to the project.³ A road construction project which may seem straightforward is, in fact, very complex. Usually the road is built upon some existing pathway so there is already commerce travelling the route. Some bridges and culverts may already exist and others must be constructed. Often additional land must be acquired from private owners calling for negotiations which in turn are influenced by the perceived benefits of the road to adjacent landowners. Furthermore, the completed road will have little value unless it is surfaced with at least a hard rock. Otherwise, washouts are likely to render the road impassable. Thus, most roads will require substantial non-FFW inputs. Generally, income enhancement projects also have substantial non-FFW inputs. A simple land levelling project for a subsistence farmer often calls for a major change in agricultural practice. Crop selection, fertilizer type and dosage will change after FFW. If irrigation is now possible due to leveled land, a water source must be established. Often the ecology of the plot must be changed to render the improvement beneficial. Switching from a "dry" crop to a "wet" one in regions of sandy loam may call

³Exceptions to this general rule are disaster relief projects which, by their nature focus upon providing food rather than development.

for the application of some silt on the land in order to reduce the percolation rate and conserve water.

The Importance of the FFW Component

If FFW is but only one component of a project then perhaps it is reasonable to ask: would the project have occurred without Food For Work? How critical is a component which in some cases represents a relatively small percentage of the total effort? The answer to these questions is complex. Certainly, when there are substantial amounts of other inputs, it is difficult if not impossible to separate out analytically the FFW effects from those of the others. Perhaps a more useful approach is to consider reframing the question. Instead, a pair of questions might be asked: (1) would the project have been undertaken now rather than at some future time? and (2) would the effort have been curtailed in either scope or coverage without FFW? Framing the question in this manner explicitly recognizes that development is more a question of rate of progress rather than whether it will ever occur at all. Certainly many projects with FFW components would occur sometime in the future without FFW but perhaps with lesser coverage and with correspondingly fewer families benefiting. More important still is the roll FFW plays in providing the "risk capital" which otherwise would be unavailable to the most needy beneficiary.

Examples of FFW Projects in India

Before proceeding further it might be helpful to provide a couple examples of FFW projects carried out by CRS project holders. We purposely select one income enhancement project and one quality of life improvement project. While some FFW projects are clearly more straightforward than these examples, most projects contain many of the same elements.

"Rubber to the Poor" Project

Near Kottayam in the State of Kerala there is a FFW project intent on raising the income of farmers with small land holdings by encouraging them to grow rubber trees and harvest the resultant latex. Many of these farmers are harijans or other scheduled castes who have been displaced from other regions and, therefore, qualify for a government grant of between one half to one acre of land. While the soil is arable, it is often marginal, located on hillsides adjacent to more desirable bottom land. Theoretically, a subsistence income can be produced on such land.

The "Rubber to the Poor" project is designed to establish a portion of these farmers' holdings (.1 to .5 acres) as a small rubber plantation. The market for latex in Kerala is relatively stable and there is a governmental agency, the Rubber Board, which facilitates and regulates purchases. The balance of the farmer's landholding is generally planted in subsistence crops such as tapioca, banana, and legumes.

Food For Work is only one of many inputs necessary for success in this venture. In addition to the FFW portion for levelling and preparing the land for planting, requirements include fertilizers, pesticides, technical know-how, and a new rubber tree variety. This new variety, the RRII-105, yields substantially more latex than traditional varieties and is well suited for the climatic condition in the Kottayam region. In spite of the availability of technical assistance through both the Rubber Board and the CRS consignee, the farmer must take a substantial personal risk. Before latex can be harvested, newly planted rubber saplings require six to eight years to mature. Many of these farmers have never had the opportunity to invest in the future to such an extent because of their hand-to-mouth existence as landless laborers or subsistence farmers. Without the "entrepreneurial capital" provided by Food For

Work, most farmers would either be unable or unwilling to take such risk.

What of the economics of this project and will the farmer be truly better off after implementation? Two rubber trees can be planted on one cent (1/100 acre) of land. Under ideal conditions 100 grams of dry rubber is harvested from each RRII-105 tree every other day. Allowing, for no harvest during 65 days of harvest monsoon, each tree is capable of producing 15 kg. of latex per year.* At Rs.18/kg, gross income from one tree amounts to Rs.270 per year. In addition to the farmer's labor, there is need for both fertilizer and pesticides. .9 kg. of fertilizer is required per tree per year at a cost of Rs.2 and fungicide costs yet an additional rupee.† Therefore under ideal conditions the farmer can expect an income of Rs.267 per year per tree. Even if one expects only 80% of an ideal yield, a 40 cent (.4 acre) plot will net Rs.8,544 per year. If one related this to a daily wage, working six days per week it is equivalent to about Rs.27 per day throughout the year. Once the plantation is established, the actual daily work load is less than two hours per day for a 40 cent plot.

In comparison, the daily wage rate in Kottayam during high demand periods of the year is approximately Rs.15 to 20. But only for limited periods of time. A typical laborer ordinarily would expect to net closer to Rs.2000 per year. One can question some of the approximations used above but most likely any error is on the conservative side. For instance, greater amounts of land can be placed in cultivation over time to more than offset the replanting required after 30 years of effective tree life. In summary

* 100 gm. latex x 1/2 day x (365-65) days/1000gms/kg = 15 kg/year/tree.

† Current costs of fertilizers and pesticides are subsidized approximately 40% by the Rubber Board. The costs provided here are at the unsubsidized rate.

then, it is quite safe to say that annual cash income for this farmer could triple while at the same time leaving ample time to spend on cultivating basic foodstuffs required for his family.

In this instance, Food For Work has been a critical component in the bundle of inputs required to greatly enhance the income of a family in great need. Food For Work provided much of the "entrepreneurial capital" required of the farmer to enable his participation even though it may have been a relatively small percentage of the total package. But there is another aspect to this case example--namely the importance of technical input. In a recent publication of the Rubber Board,⁴ it was shown that average yield using the older varieties and non-optimal fertilizers was approximately one fifth as high. At these yield rates the new rubber plantation owner would have been back at subsistence income levels. Proper technological inputs and careful monitoring has the effect of changing the outcome from marginal to clearly successful. In this case proper technological input was the result of a consignee-project holder who had both educated himself sufficiently to provide proper assistance and who had helped the new landowner to tap other technical and financial resources of the region (This example is photo key number 14-1 Table 2).

The Road to Kallara Project

A seven kilometer road, which will eventually link the towns of Kallara and Vechoor, is currently under construction using Food For Work. Equally important to shortening the distance between two other principal cities is the effect it will have upon users in the adjacent paddy fields. Unlike many Food For Work projects, some construction is occurring during the monsoon because country

⁴ "Modi Village: An Experiment in Rural Development", Rubber Board Bulletin, Vol. 18 No.3, March 1983.

boats are being used to haul materials to the site. This new road like many others is following an already existing pathway traversing paddy fields. Negotiations were conducted with adjacent landowners to acquire the thirty additional acres of land necessary for the road right-of-way. Mud is dredged from adjacent paddy fields for building up the roadbed height. "Red dirt", a more stable surface material is being brought from a site several kilometers away. This dirt was acquired free of charge through agreement to level the quarry site as removal occurred. Both the road right-of-way and construction material negotiations were conducted by the project holder, an individual who had considerable experience in road projects elsewhere. Materials for the bridges and culverts were obtained from the state government and it is expected that the road will be "jeepable" within the next year and half. Construction is sometimes halted due to weather problems, a shortage of Food For Work commodity or lack of construction materials.

The real payoff of this road is expected to occur when the government takes on the final tasks of metalling (surfacing with stone aggregate) and tarring. These final steps will keep the road from washing out and will provide the necessary surface quality to permit buses to run. Generally when paving finally occurs either one of the private bus companies or the government supported rural bus system initiates service.

This road project is typical in many ways. First, it is being constructed in part upon an existing footpath. Second, and perhaps more important its major benefits begin to occur only after substantial work beyond the Food For Work component is completed. Without these other inputs the benefits would be marginal at best but with them it will substantially improve the quality of life of the surrounding residents. (This example is photo key number 4-1, Table 2.)

III STEPS TOWARD A MONITORING AND EVALUATION SYSTEM

Given the wide variation in program type, project goals and complexity of implementation, how can a monitoring and evaluation system function effectively? Moreover how can it be implemented in such a way as to not overburden consignees and project holders with additional work while at the same time avoiding misleading oversimplification. We begin by stating the general characteristics of such a system.

General Characteristics

1. The principal purpose of the monitoring and evaluation (M&E) system is to help consignees and project holders improve the effectiveness of their projects over time. At present, most consignees are already modifying and adjusting their programs based upon informal feedback from prior years operations. The M&E system is an attempt to facilitate that process and to extend the approach to their consignees and project holders.
2. The secondary purpose of the M&E system is to provide an indication of program operation to CRS/NY and USAID. We believe that a fortuitous consequence of emphasis upon the first priority is better information for this second purpose. Because the system is used at the local level for decision making purposes, errors are reduced and overall data and analysis quality is enhanced.
3. This monitoring and evaluation system is intended to measure changes that occur at the local level and to attempt to attribute those changes to a cause, whether it be Food For Work or some combination of other program elements. While unambiguous attribution of any given outcome to a specific cause is extremely difficult, if not impossible, the system should strive for such indication. This striving for attribution of an outcome to a cause does not mean the system must take on the character of a study using complex

experimental design. In fact the opposite is true. Rather, it should be as simple as possible and should work towards promoting a dialogue among those who have the local contextual knowledge which will allow them to bring judgment to bear upon program improvement. Case studies, results of specific analysis, and various program indicators are only exemplars which are then combined with judgment and local knowledge to suggest other alternatives.

4. The monitoring and evaluation system should place emphasis upon those variables which are most amenable to change by CRS. If a decision must be made between two types of information, selecting those data which are indicative of factors controllable at the local or zonal level should be the highest priority.

5. The M&E system must strive to avoid decisions based upon any single numeric indicator. Any one indicator, no matter how comprehensive, will fail to capture the entire story of a specific project. Moreover, there will be many aspects of the project which are not readily amenable to quantification but are nevertheless of paramount importance. The system's principal benefit will be in promoting a dialogue among knowledgeable change agents at the local level.

6. The M&E system must be manageable. It is quite easy to prescribe a system which looks fine on paper but is totally unmanageable in practice. Rather than specifying such an "ideal" but manageable system, we strive for one which embodies processes which will be both useful and capable of continuation.

7. The system and its implementors must continually keep in mind the nature of the consignees and project holders. These individuals, are, without exception, persons who have dedicated their lives to improving the lot of their fellow man. They derive no personal benefit from the commodities and are basically volunteers. Food For Work is

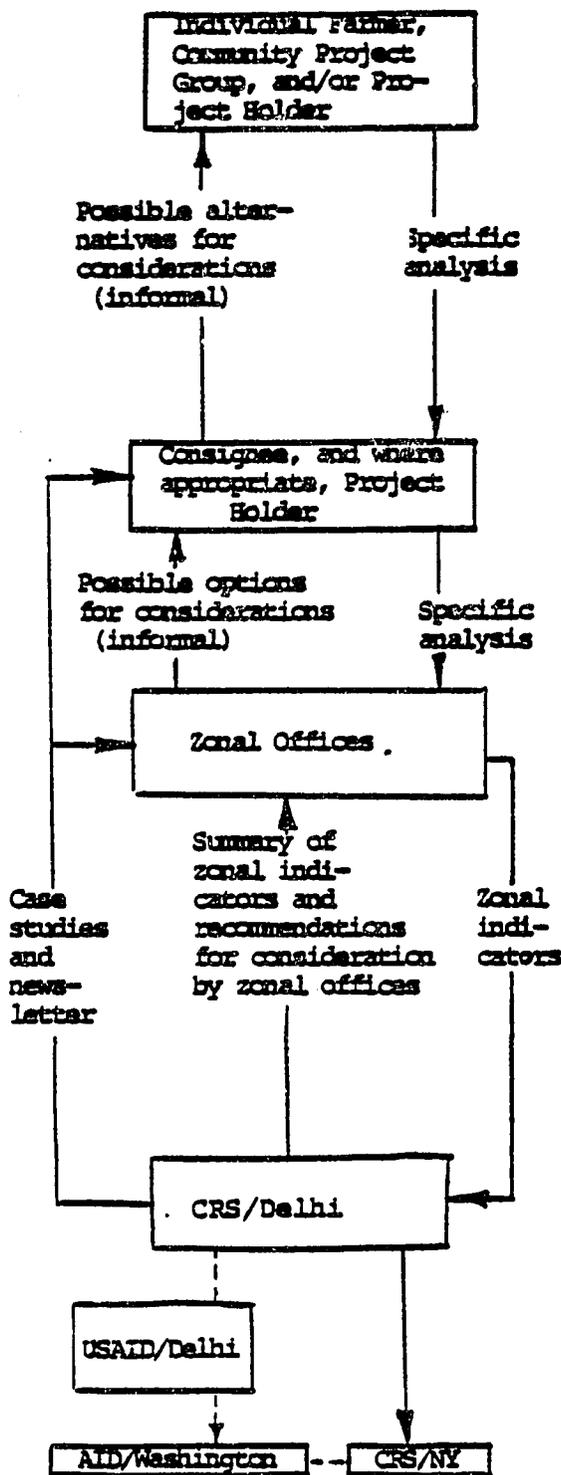
but one component in their overall development program. In fact, we suspect that those project holders and consignees who are deriving the most impact from Food For Work are those who have effectively integrated it with other elements of development. The M&E system must not be allowed to interfere with this creative synthesis. The same concern holds true for the existing commodity record keeping system. It would be tragic indeed if efforts undertaken to ensure that FFW is "properly" utilized drives away those change agents who are most effective at utilizing the commodities for development. (We shall return to this point in our conclusions and recommendations section).

8. Last and perhaps most important, we, the designers and implementors of the monitoring and evaluation system, must "practice what we preach". We have asserted that local development projects improve if modified as indicated by feedback from prior stages. The same holds true for monitoring and evaluation system themselves. In this report we have specified many of the characteristics of the system. But this specification was based upon several preceding phases and will be followed by subsequent ones. Feedback from the zonal seminars and consignee workshops should affect the design. Financial and personal constraints and further field tests of instruments should change the specifics of the design. (One of the field instruments is already in its third draft based upon a field test and other feedback).

Specific Characteristics

The overall monitoring and evaluation system is pictorially described in Figure 1. We envision a system which is based upon analysis conducted at the project holder/consignee level. Data is gathered from beneficiaries and/or project holders on the specifics of a project. Either of two different approaches is followed depending upon whether the project is intended to be primarily income

FIGURE 1 - PICTORIAL OF THE CRS/FFW MONITORING AND EVALUATION SYSTEM



Individual analysis carried out on-site by FFW evaluator and field reviewer in concert with project beneficiary and/or project holder. Data is gathered from the concerned parties and the analysis is performed on-site. The results are discussed and interpreted. Any errors are corrected, one copy is left on-site, with project holder/consignee and second provided to zonal office. Information on factors which might contribute to program success is gathered from project holder. (Workshops will focus upon prioritizing these factors and developing a data gathering scheme).

Collection of individual analysis are utilized by consignee to consider alternative approaches to accomplishing goals. Where possible FFW evaluation helps articulate options that seem to show promise elsewhere and might be worthy of consideration. Consignee is helped by FFW evaluator in explicitly formulating his goals whenever possible.

Dialogue continues among zonal staff and consignees concerning results occurring at project holder level. Emphasis is placed upon why indicators are not necessarily "better" when higher and why non-quantifiable factors should have equal importance. An effort is made to make specific those factors which are not readily amenable to quantification. Dialogue with consignee is informal and draws upon information from other zones.

CRS/Delhi reviews zonal indicators and attempts to provide useful information on benefits accruing (both quantitative and qualitative) by project type, management style, amount and type of follow up etc. Useful feedback to zones should not be expected to occur before at least one full year of operation.

CRS/Delhi working with FFW evaluators prepares case studies and disseminates to consignees through a newsletter.

Indicators and case study summaries portray FFW program progress in India.

enhancing or one which primarily improves quality of life. Income enhancing projects include, land levelling, bund construction, irrigation well digging, social forestry, and tank construction. Quality of life improvement projects include, low income housing, road construction and other community projects not intended primarily for increasing individual net income.

These individual analyses are carried out by CRS personnel, either the zonal Food For Work evaluator and/or the field reviewer. First, using the project holder as a link person, an interview with the beneficiary is conducted. Depending upon the project type, either of two instruments are utilized. Second, immediately following the interview while still on site, the Food for Work evaluator performs an analysis using the data just acquired. Finally, while still on site, the results are discussed with the project holder and beneficiary. Any errors which are discovered are corrected and the knowledge of local conditions provided by the project holder are used to insure proper interpretation of the results. A copy of the completed analysis is left with the project holder.

While the analysis itself is relatively straightforward, the practical difficulties of such an activity are substantial. The Food for Work evaluator must arrange: a) to meet with the project holder and beneficiary, b) for transport to the site, c) to conduct the interview, d) perform the analysis, e) discuss and interpret the results with both the project holder and beneficiary and, f) for transport back to his base. In addition, the Food For Work evaluator still has to deal with all the other functions for which he has responsibility. We therefore suggest that the number of individual analyses conducted per year be modest at least until the difficulties of implementation are better understood. Perhaps a reasonable target for the first year would be five completed analyses

per zone or twenty for the entire country. Beyond the first year, we anticipate a broader and more representative coverage of FFW projects. The selection of "test" cases for the first year should be based on expediency. Sites should be selected which are accessible and where the necessary interviews can be completed without difficulty. It is recognized that such a strategy is likely to produce "biased" results in favor of successful projects. This should not be a cause for concern--we are more interested, at first, in learning what works than in learning how well the entire FFW program is developing.

In moving toward broader coverage in subsequent years, it is advisable to include a more representative group of FFW projects for evaluation. In this way, a more comprehensive picture of FFW operations will emerge. However, even in broadening coverage, expediency in making the system function must be balanced against bureaucratic pressure to justify the entire program through a "scientific" program-wide evaluation.

Figures 2 and 3 are the current versions of the field instruments proposed for use in gathering data and carrying out the analysis. It is envisioned that these instruments will undergo further evolution based upon feedback from the zonal seminars and consignee workshops.

Note, these field instruments concentrate primarily on the income enhancement and quality of life improvement effects of FFW. This should not be construed as a derogation of the direct nutritional effects of supplying food to needy segments of a society. After careful consideration of the possibility of measuring the nutritional effect of the food in Food For Work, it was determined that the costs of establishing the necessary infrastructure to gather data on that aspect of FFW would outweigh the benefits. That nutritional evaluation is quite difficult under the best of circumstances is now well

FIGURE 2 - FARMER INCOME IMPROVEMENT ANALYSIS (Draft # 3)

A. BACKGROUND INFORMATION

Name of consignee _____ Name of Project Holder _____
 Type of FFW Project _____ Project Identification No. _____
 Location of FFW Project _____ Name of beneficiary _____
 Approx. annual family income Rs. _____ No. of family members _____
 (1) Annual income per family member Rs. _____
 Date of interview and analysis _____ Name of Analyst _____

B. FOOD FOR WORK PROJECT DESCRIPTION

Brief description of FFW project _____

 Date FFW project began _____ completed _____
 Number of beneficiaries in overall project _____ beneficiaries
 Size of FFW project _____ mandays
 (2) Number of acres improved for this beneficiary _____ acres.
 (3) Number of FFW mandays spent on this project beneficiary _____ mandays
 (4) Local market value of FFW commodities Rs. _____/day
 Value of all inputs associated with FFW improvement for this beneficiary:

	<u>Input Description</u>	<u>Value (Rs.)</u>
a.	FFW _____ mandays @ Rs. _____ per manday _____	
b.	_____	
c.	_____	
d.	_____	
e.	_____	
f.	_____	

(5) g. Total FFW project value = _____

C. YEARLY CHANGE IN YIELD DERIVED FROM FFW PROJECT

Yield for the year Before FFW:

<u>Crop - Season</u>	<u>Yield (# of units)</u>	<u>Unit Description</u>	<u>Market Price Per Unit</u>			<u>Yearly Value Rs.</u>
			<u>Low</u>	<u>Ave.</u>	<u>High</u>	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

(6) Total yearly market value before FFW = _____

Yield for the year following FFW:

<u>Crop - Season</u>	<u>Yield (# of units)</u>	<u>Unit Description</u>	<u>Market Price Per Unit</u>			<u>Yearly Value Rs.</u>
			<u>Low</u>	<u>Ave.</u>	<u>High</u>	
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

(7) Total yearly market value after FFW = _____

(8) Annual change in yield after FFW project = Rs. _____

D. YEARLY CHANGE IN COSTS OF PRODUCTION

Cost of Inputs before FFW:

	<u>Input Description and Valuation Basis</u>	<u>Total Cost (Rs.)</u>
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____
e.	_____	_____
f.	_____	_____
g.	_____	_____

(9)

Total cost of inputs before FFW project = Rs. _____

Cost of Inputs after FFW:

	<u>Input Description and Valuation Basis</u>	<u>Total Cost (Rs.)</u>
a.	_____	_____
b.	_____	_____
c.	_____	_____
d.	_____	_____
e.	_____	_____
f.	_____	_____
g.	_____	_____

(10)

Total cost of inputs after FFW project = Rs. _____

(11)

Annual change in production cost after FFW project = Rs. _____

E. DESCRIPTION OF AGRICULTURAL CONDITIONS DURING ANALYSIS YEAR

Were the last two years typical or unusual?

Typical _____

Unusual _____

If unusual, please explain in a way which will be helpful in interpreting or adjusting the analysis: _____

F. ANALYSIS FOR DETERMINING FARMER INCOME IMPROVEMENT

Calculating the annual cost of the FFW project:

(12) Estimate of the life of the improvement = _____ years
 Please describe the basis used for the estimate _____

(13) Annual cost of FFW improvement Rs. _____ \div _____ = Rs. _____ per/year
(item 8) (item 12)

Comparison of the benefits and costs of FFW project:

(14)
$$\left[\begin{array}{l} \text{change in income} \\ \text{after F.W project} \end{array} \right] - \left[\begin{array}{l} \text{change in cost} \\ \text{after FFW project} \end{array} \right] = \text{Net improvement in farmer} \\ \text{Rs.} \frac{\quad}{\text{(item 8)}} - \text{Rs.} \frac{\quad}{\text{(item 11)}} = \text{Rs.} \frac{\quad}{\quad} \text{per year} \\ \text{income per year after FFW}$$

(15) Benefit/Cost Ratio = Rs. _____ \div Rs. _____ = _____
(item 14) (item 13)

(16) Payback Period = Rs. _____ \div Rs. _____ = _____ years
(item 8) (item 14)

Net improvement in farmer income per acre $\frac{\quad}{\text{(item 14)}} + \frac{\quad}{\text{(item 2)}} = \text{Rs.} \frac{\quad}{\text{year}}$

Based upon discussion with farmer and others, how would you adjust the results to accommodate weather variations etc? Please be as specific as possible. _____

G. NON-ECONOMIC CHANGES ARISING FROM FFW PROJECT

Examples:

- Ability of community to initiate development
- Heightened awareness and use of appropriate technology
- Formation of cooperatives, collectives societies and organizations given responsibility to manage
- Improvement in social behavior such as
 - Reduced discrimination
 - Increased independence from landlords
 - increased independence from money-lenders

(Factors such as these will be discussed, prioritized and built into the survey instrument during the zonal seminars).

FIGURE 3 - ASSET EFFECTIVENESS ANALYSIS (Draft 2)

A. BACKGROUND INFORMATION

Name of consignee _____ Name of Project Holder _____
 Type of FFW Project _____ Project Identification No. _____
 Location of FFW Project _____ Name of beneficiary _____
 Approx. annual family income Rs. _____ No. of family members _____
 Annual income per family member Rs. _____
 Date of interview and analysis _____ Name of Analyst _____

B. FOOD FOR WORK PROJECT DESCRIPTION

Brief description of FFW project _____

 Date FFW project began _____ completed _____
 Number of beneficiaries in overall project _____ beneficiaries
 Size of FFW project _____ mandays
 Number of acres improved for this beneficiary _____ acres.
 Number of FFW mandays spent on this project beneficiary _____ mandays
 Local market value of FFW commodities Rs. _____/day
 Value of all inputs associated with FFW improvement for this beneficiary:

	<u>Input Description</u>	<u>Value (Rs.)</u>
(1)	a. FFW _____ mandays @ Rs. _____ per manday _____	
	b. _____	
	c. _____	
	d. _____	
	e. _____	
	f. _____	
(2)	g. Total FFW project value _____	= _____

Percentage of asset cost which is FFW: $\frac{\text{Rs. 1}}{\text{Rs. 2}} \div \frac{\text{Rs. 2}}{\text{Rs. 2}} \times 100 = \text{ } \%$

C. EFFECTIVENESS INDICATORS

1. Project Specific indicators -

Cost per unit of output i.e. cost/low income house etc. change in travel time to market, school etc.

Other infrastructure now available because of improvement such as electricity in home, bus on road etc.

2. Community wide indicators

Examples:

- . Ability of community to initiate development
- . Heightened awareness and use of appropriate technology
- . Formation of cooperatives, collectives societies and organizations given responsibility to manage
- . Improvement in social behavior such as
 - Reduced discrimination
 - Increased independence from landlords
 - increased independence from money-lenders

(Factors such as these will be discussed, prioritized and built into the survey instrument during the zonal seminars).

documented by this author and others.' Therefore, we chose, explicitly, to concentrate on the developmental aspects of FFW in the M&E system.

These individual beneficiary analyses are grouped together and discussed with the consignee. Whenever possible, the Food For Work evaluator helps to articulate options that seem to have shown promise elsewhere and, therefore, might prove useful to the consignee. We favor an approach featuring an informal discussion or dialogue which is free of judgment. Emphasis is placed upon why quantitative indicators are not necessarily "better" when higher and why non quantifiable factors should have equal importance.

At the zonal office level, groups of individual analysis from different consignees are used to discuss various alternatives. Patterns which may appear and judgments about which factors seem to relate to effectiveness are discussed. It is in these discussions that the outcomes of the analysis are matched up with factors thought to be related to effectiveness. Figure 4 is an enumeration of those factors based upon our current thinking.

'William D. Drake, Roy I. Miller and Margaret Humphrey, Final Report: Analysis of Community-Level Nutrition Programs (Community Systems Foundation; Ann Arbor, Michigan, 1980) and

James E. Austin, "The Perilous Journey of Nutrition Evaluation," American Journal of Clinical Nutrition 31 (December, 1978).

FIGURE 4
FACTORS WHICH MIGHT CONTRIBUTE TO EFFECTIVE FOOD FOR WORK PROJECTS IN INDIA

1. Project type and sub-category.
2. Geographic region: in turn related to magnitude of need and other intervening variables.
3. Areal SES characteristics: employment, income, density etc.
4. SES characteristics of beneficiaries: age, education, migrant or permanent, etc.
5. Ownership (clear title) of land improved with FFW.
6. Extent to which the project is built upon an existing facility: i.e., pathway for road, traditional tank site for tank, existing cultivated land for land levelling project etc.
7. Proximity of beneficiary to infrastructure: consignee, government extension facilities, credit facilities, AFPRO, IIN, etc.
8. Amount and quality of technical advice available and utilized.
9. Amount and type of follow up and/or support provided by project holder or other resource.
10. Number of different projects undertaken by consignees and/or project holder.
11. Continuity of projects/programs over the years.
12. Project originated from an articulated request from the community.
13. Degree of integration with other projects in the community.
14. Degree of integration with other FFW projects.
15. Availability and utilization of other non-FFW resources in project.
16. Degree to which the project is part of an overall development plan for the community.
17. Difficulty consignee/project holder has in gaining initial project approval.
18. Length of time project holder has between definite project approval and the best time to initiate project.
19. Reliability of food availability at project site.
20. Amount and skills level of supervisory staff available to consignee/project holder.
21. Financial capability of consignee/project holder:
 - a. Ability to manage funds
 - b. Amount of non-FFW funds available to him.

During the upcoming zonal seminars both the factors thought to promote effectiveness and the non-economic indicators can be discussed and incorporated into the survey instruments. We view these discussions as a principal feature of the workshops. Consequently, it is most helpful to leave unanswered the question of which factors are most important to be captured in a survey instrument. Surely trying for all of them would be unmanageable. Therefore priorities must be established based upon feedback. To a large extent the monitoring and evaluation system will be accomplishing its purpose if patterns can be discovered through dialogue which match these factors to program effectiveness. While there are analytic methodologies which could be utilized to seek the match mathematically, we do not favor such an approach. Often, whenever sophisticated methodologies are employed, there is a price paid in loss of understanding of the underlying processes. Furthermore, the payoff of such an endeavor is minimal given the complex environment in which these projects are being implemented and the absence, at this time, of a well formed model of development.

It is envisioned that eventually zonal office staff will be able to develop some simple zonal indicators which will be helpful in CRS/Delhi programming decisions. Examples of zonal indicators would include local market value of the FFW commodities, local daily wage rate, average percentage of project represented by FFW, and percentage of projects curtailed due to food shortages. The guiding principle for developing and specifying zonal indicators should be their usefulness at CRS/Delhi or zonal offices in making decisions. Care should be taken to avoid indicators which may be interesting but not useful in decision making.

At the national level, CRS/Delhi would act as a clearing house for information coming from the zones. On an occasional basis CRS/Delhi would prepare a summary of zonal

indicators and comments on patterns which might be more apparent from their viewpoint. Special emphasis would be placed upon these patterns which were amenable to control at the zonal level.

In addition to the aforementioned elements we see a part of this monitoring and evaluation system including case studies. Depending upon the resources available and the approach finally decided upon, between three and ten studies could be conducted each year. One of the topics of the zonal seminars will be to discuss the format of these case studies. Regardless of the implementation scheme chosen, we see them building upon an already completed field analysis such as Figures 2 and 3, and being limited to approximately ten pages in length. Funds permitting, a brief quarterly newsletter featuring a summary of a different case each issue would be published and distributed to consignees and project holders.

Finally, overall indicators of program activity by type, together with the summarized case studies would be provided to USAID/India and AID/W. These indicators and studies would constitute the principle component of the USAID/India FFW monitoring and evaluation system.

IV CONCLUSIONS AND RECOMMENDATIONS

• Our first recommendation concerns the Asset and Recipient Profile studies carried out during Phase I. We suggest that without further substantial delay a summary report be prepared. While there are field protocol and analysis methodology problems that might result in misleading interpretation of some results, the other findings could be very useful if made available. Appendix A of this report is a memorandum discussing which findings are most useful and which should perhaps go unreported without further analysis. A possible summary report outline is also attached.

• We recommend implementing the next stage of the emerging monitoring and evaluation system described in this report. But this recommendation is, in turn, based upon two premises which may merit elaboration.

The first premise is that the monitoring and evaluation (M&E) system will "practice what it preaches": namely, utilize the results of prior experience to learn what to do next. Zonal seminars and consignee workshops are purposely designed to incorporate the users of the system more fully into the design process. The M&E design embodied in this report already reflects considerable dialogue with users. However, we still believe that further changes and refinement should stem from the workshops.

The second premise has to do with the motivation and capabilities of the staff within CRS. Briefly stated, the author's suggestions would have been quite different had the personnel with whom he worked been more ordinary. Quite the opposite was true. Both the CRS/Delhi and the two zonal staffs which were visited are already highly motivated to develop schemes for improving program operations and are doing so on an informal basis now. But beyond motivation is the question of capability. Time and again they exhibited careful thought and a very deep understanding of both the

overall development process and how Food for Work can be used in that endeavor. This within organization capability bodes well for the next phases of implementation.

- Without exception members of this study team believe that some of the most important elements of development are perhaps least amenable to quantification. Yet there is a tendency to focus upon quantified variables in any M&E system. Because of the importance of these factors, they are one of the principal agenda items of the zonal seminars and consignee workshops which are about to be conducted.

- Finally, we urge careful consideration of the maintenance of a proper balance between the audit-evaluation function for FFW and the need for stimulating creative and imaginative uses for FFW resources. While some of the current audit practices employed by USAID are necessary and, at times, useful to the consignees and project holders in the field, they are frequently applied so rigorously that they constrain consignee and project holder behavior in unhealthy ways. Pressure to fill out the multiplicity of forms which have evolved in response to audit requirements sometimes constrains consignees and project holders from flexible application of the "rules". Furthermore, the amount of energy required to be expended by CRS staff on audit issues is clearly disproportionate to the benefit which could be derived therefrom.¹

It is conceivable that the M&E system might evolve similarly; that is, pressure to come up with the "right" answers might force a suspension of sound judgment in the field and/or suppress creative attempts to improve program operations. Such an evolutionary trend would be absolutely

¹This conclusion is based on the observations of two members of the study team--Kiron Wadhwa and William Drake. For obvious reasons the CRS members have chosen to disassociate themselves from it.

contrary to the stated purpose of the M&E system--to improve local use of FFW resources through better use of information. Thus we urge those responsible for directing future audits to accept the notion that the rural parish priests and other project holders are basically running their programs with integrity and to the best of their ability and to view the M&E system as a means to assist them rather than to check up on them.

APPENDIX A

memorandum

DATE: August 5, 1983

REPLY TO
ATTN OF: William Drake

SUBJECT: Preparation of a synopsis of the Asset and Recipient
Profile Studies of CRS/FFW programs in India

TO: John Paul Chudy - FFD

Attached is a possible outline for your proposed CRS/FFW program summary. As you know, it is based only on a review of the nine draft and final reports available to us at this time. No doubt, as we discuss this outline during coming two weeks in the field, we will find areas for improvement. There are two points, however, that are quite clear to me at this time which I will comment upon now.

1. You recall that I suggested that we try for a five page summary and you suggested perhaps 30-35 pages. I then proposed a target of 10 pages. Well, you were more correct than I. Estimates for all the outline headings total 24-1/2 pages. I still think it would be better to have a shorter summary, but if that goal is to be met, a different organization would be required.
2. The second point pertains to what we have already discussed but I thought it might be helpful to put it down in writing anyway. In my opinion, there are some portions of both the Asset studies and the Recipient Profile studies which are more useful than others. I suggest that consideration be given to not reporting the results of the questionable sections at this time. The sections I am most concerned about together with my rationale follows:
 - a. Asset Studies - In some of the sections, these studies make comparisons between beneficiaries and non-beneficiaries. While the original experimental design was potentially OK, the implementation resulted in a quite different profile for each group. Therefore, comparisons between these groups could be very misleading without statistically adjusting the two groups in order to gain better comparability. There is ample evidence that this adjustment was not done by the analysts.

After attempting a preliminary benefit cost analysis, shown as appendix B of the August 5 report, and surfacing all the existing problems as a result of that study, I suggest that B/C results not be presented. There is no way of attributing the obscured changes to Food for Work because data which would resolve attribution questions were not gathered. Furthermore, there are other problems too numerous to discuss in detail here concerning measurement, data reliability, and the differential effects of inflation.

- b. **Recipient Profile Studies** - The disaggregated data on child nutritional status looks extremely questionable to me. It neither conforms to what one would expect nor are the values in some of the tables internally consistent. Female children are better off than male children and malnourishment rates are at the "drought condition" levels. In addition some percentages don't total to 100. The resubmitted tables which utilized the correct "control cards" still show extremely unusual patterns at the disaggregated level. Of course, at this time, I have no way of knowing for sure, but I believe that except for child height data the problems lie more in tabulation and analysis rather than in data gathering. This hunch is based upon your description of the field protocol utilized in these studies. On the other hand given the measuring instruments and field protocol employed in gathering child height, I would disregard this data altogether.

The other difficulty is in comparisons between active and inactive recipients. Before comparisons are made between these two groups, statistical adjustments must be made in the analysis to control for time lags between curtailment of FFW commodity and the measurement of child nutritional status and differences in socio-economic status in the two groups.

There is no reason why some of these problems such as the nutritional status analysis and comparisons between groups could not be pursued further at some future time. However, I would suggest that a summary be prepared now. Some of the benefit of these studies will diminish with time. Furthermore, we will know better after a few months' deliberation if further work would be worth the effort.

Perhaps staff within USAID/Delhi could be urged to pursue whatever improvements to they can accomplish while you are on home leave. The "cutoff" to their activities might be your return date which would then allow you to proceed without harmful delay.

Finally, I think it is important to note that these studies are pioneer efforts. Because there are some methodological and timing difficulties in certain areas should not detract from the insights they can provide. Given that it is a first time effort, and providing the aforementioned constraints are considered, the overall results are first-rate.

PRELIMINARY OUTLINE FOR CRS/FFW PROGRAM STUDIES
SUMMARY (Approx. 25 pages)

PREFACE (1 page)

1. Purpose of Studies

- A. To see if it is possible to demonstrate development
- B. To better profile setting in which programs are carried out

2. Development of scope - how and by whom

3. Asset and Recipient Study implementation - by whom, timing, study monitoring

I INTRODUCTION (2-1/2 pages)

A. Description of FFW in India

- 1. History, magnitude, CRS and how it carries out its activities, map showing CRS activity and study areas
- 2. Relationship to other USAID, other Volag and GOI programs
- 3. Recognition of two types of benefit - asset creation and social welfare
- 4. Recognition of inter-relationship between both benefit types
- 5. Concern over both efficiency and distributive aspects of benefit

B. Description of two types of studies

1. Asset studies

- a. All CRS activities (include table 1 in Drake August 5 report).
- b. Subset selected for study and why
 - 1. Brief description of each asset - tank, land levelling and clearing, deepening irrigation wells, low cost housing
 - 2. Study scope and experimental design
- c. Items surveyed but not reported and why
 - 1. Beneficiary and non-beneficiary
 - 2. Possible future remedy

2. Recipient Profile Studies

- a. All CRS activities
- b. Subset selected for study and why
 - 1. Brief description of each study
 - 2. Study scope and experimental design
- c. Items surveyed but not reported and why
 - 1. Nutritional status of children
 - 2. Control groups - active and "non-active"
 - 3. Possible future remedy

II ASSET STUDY RESULTS (9 pages)

A, B, C, D, E, F for each of six asset studies (1-1/2 pages per study)

1. Sample frame and description
2. Social economic profile of recipients and beneficiaries
3. Income change of beneficiary
4. Long term beneficiary employment resulting from asset (primary long term)
5. Long term hired employment resulting from asset (secondary long term)
6. Temporary employment from asset construction
7. Agricultural output changes (tanks, wells, land levelling studies)
8. Irrigated land changes (tanks, wells, land levelling studies)
9. Housing changes (housing study)
10. Perception of changes
11. Other changes if reported - social obligations etc.
12. General comments

G. Summary table of all asset studies.

H. Factors not included in asset studies (1 page)

1. Technical issues
 - a. Long term effects - i.e. water table changes etc.
 - b. Second order effects - production disincentive, etc.
2. Potential for dependency creation and potential for greater independence.
3. Other

III RECIPIENT PROFILE STUDIES (10-1/2 pages)

A, B, C, D, E, for each of five studies (1-1/2 pages per study)

1. Description and sample frame
2. Socio-economic characteristics
Income, male-female, age, literacy, scheduled castes, religion, farm size/occupation, income, water, electricity, housing type, latrine facilities
3. FFW employment (food) benefits while on project
 - a. Magnitude of benefit (1980) as a percent of total
 - b. Who benefits - laborer, family member
4. How recipient related to FFW program
 - a. Method of introduction
 - b. Method of payment
5. Comments on nutritional effects
 - a. Recipient - calories protein provided by FFW
 - b. Children aggregate level using weight for age only

F. Summary table of all Recipient Profile Studies (1/2 page)

G. Factors not included in RPS (1 page)

1. Magnitude of repeated experiences
2. What would have been alternative activity and life style in absence of FFW
3. Other

IV CONCLUSIONS AND RECOMMENDATIONS (1-1/2 page)

A. Summary

B. Lessons learned on conducting studies

C. Recommendations regarding:

1. CRS and FFW in India (perhaps do separately)
2. Implementation of future similar study elsewhere
3. Relationship between these studies and an ongoing monitoring and evaluation system

APPENDIX B

A PRELIMINARY BENEFIT COST ANALYSIS ON IRRIGATION TANKS IN THE DELHI ZONE

In order to move the development of a monitoring and evaluation system along in the most propitious manner, it was believed helpful to attempt a benefit cost analysis with data available and on-hand at the start of this consultancy. Considerable time and effort had already been expended on the six asset studies--time and effort which generated much of the needed data. Note, we felt that the precision of the resultant numbers was less important than the need to proceed completely through an analysis cycle in order to highlight those areas most in need of further work. In addition, we believed that having a "completed" cost benefit study would shed light on the practical nature of how such a study can help in the decision process and where it must take a "back seat" in favor of other decision criteria.

In any benefit cost analysis there are four issues which must be resolved before analysis can commence: (1) valuation methodology, (2) perspective, (3) time value of money, and (4) the degree of reliability and validity of data. In the ensuing section we will discuss each issue as it pertains to Food for Work (FFW) in India and then work through a specific example for one category of asset, namely, irrigation tanks in the Delhi zone. Data will be drawn from CRS records, USDA cost estimates, and the Impact Evaluation report recently completed by the Centre for Research, Planning and Action.'

1. Valuation Methodology - The determination of value for both costs and benefits can be implemented in

' "P.L. 480 Title II, Food for Work Impact Evaluation, Study of Tanks and Dams, Catholic Relief Services: Delhi Zone", The Centre for Research, Planning and Action, New Delhi, April, 1983.

many ways. For example, costs can be based upon actual incurred expenditures or on the local market value of the commodity. Benefit can be estimated by actual survey of beneficiary experience or inferred based upon the change in farming practice resulting from the Food for Work project.

2. Perspective - The perspective from which a benefit-cost analysis is conducted determines which cost and benefit elements should be included in the study. For instance, is the analysis to be conducted from the perspective of the USG, the GOI, CRS, Consignee, Project Holder, FFW beneficiary or FFW recipient? Of course, there is no universally correct answer to this question. Rather, a determination must be made of what management decisions are needed and by whom. Once the purpose of the study is established, the appropriate perspective can be selected which, in turn, fixes what cost and benefit elements should be included.
3. Time Value of Money - Generally project costs are incurred at a different time period than benefits are realized. In the case of a Food for Work project, costs are incurred prior to or during the construction period. The resultant benefits from the assets begin only after completion of the project and continue throughout their lives. Therefore, adjustments in the cost and benefit elements must be made to reflect the different time periods in which they occur. (Expending Rs.100 now is different than deriving Rs.100 of benefits five years from now). One way of "equalizing" these monies is to use a time value of money discount in the analysis. Consequently, the issue of whether time value of money should be included requires

resolution and, if so, at what interest rate.'*

4. Reliability and Validity of Data - Validity generally refers to the degree of correspondence between the cost or benefit element and the true or total cost or benefit of the asset. For instance, is the benefit of a tank fully measured by simply looking at the change in agricultural productivity? What about the positive impact on personal hygiene or other quality of life indicators? Are there other features such as increases in insect level due to an increase in standing water which are not captured by the benefit estimate? Are there community organizational benefits which accrue in the course of planning and implementing the project? Reliability refers to the repeatability of the sample estimate of costs or benefits. That is, would a second independent estimate of the measurement yield nearly the same value or one which is quite different? Again, there is no correct answer. Instead one must determine the purpose of the analysis and the existent constraints, both time and financial, and, then, make a decision.

Our approach to the analysis is to be as transparent as possible regarding the valuation of costs and benefits, the perspective employed, and the method of incorporating notions of the time value of money into the study. The basis for estimates will be stated and, more importantly, the assumptions implicit in the analysis will be made clear. It should be remembered that, at this moment, the resultant

* An alternative formulation which begs the question of interest rate determination is "internal rate of return". This approach is particularly helpful when comparisons are being made among projects. However, it is especially difficult to operationalize when there are both joint cost and benefit elements.

numbers(s) are less important than the dialogue required to obtain those numbers.

Table 1 - Food For Work Commodity Costs⁺

Year	U.S. Commodity Costs excl. of 60% Ocean Freight, & GOI Rail (Rs./Kg.)			Approximate Local Market Price (Rs./Kg.)		
	Bulgur	Wheat	Oil	Bulgur	Wheat	Oil
1982	2.48	1.84	8.42	2.50	2.50	15.00
1981	2.06	-	7.94	2.00	-	14.00
1980	1.50	-	7.10	1.75	-	13.00
1979	1.54	-	5.64	1.50	-	12.00

⁺ U.S. commodity costs are based upon CRS invoices. Local market prices are estimates provided by CRS and reflect market conditions outside the fair price shops.

The Impact Evaluation for tanks in the Delhi zone drew upon data from the period 1979 through 1981. We therefore use cost and benefit elements for that time period. While one could argue in favor of using actual U. S. food commodity costs, we suggest that local market prices are more appropriate, given that decisions are being made in India on behalf of Indians. Table 1 presents an estimate of both local market prices and U. S. commodity costs. While the difference between the commodity cost in the U. S. and the local Indian market prices are nominal for wheat and bulgur, the addition of shipping expense result in a U. S. cost approximately sixty percent higher than the Indian market prices. Oil on the other hand is considerably less expensive using a U. S. cost basis than an Indian market price.

It should be noted at the onset of the following calculation that the basic unit of analysis is the beneficiary farmer. Of course, any of many other units of analysis could have been selected. Beneficiary farmer was chosen because the questionnaire was administered to this individual and the resultant data was organized accordingly.

A. Determination of number of FFW man-months expended per beneficiary farmer:

1. Total number of man-days expended in sample of three consignees in Delhi zone:

Mirzapur:
29 tanks x 55,837 man-days per tank = 1,619,273

Miriabad:
5 tanks x 7200 man-days per tank = 36,000

Majghai:
3 tanks x 8133 man-days per tank = 24,399

Total man-days for 37 tanks = 1,679,672

2. Total number of beneficiary farmers in 37 tanks sample = 825 farmers
3. Average man-days per beneficiary farmer:
 $1,679,672 \div 825 = 2036$ man-days
4. Estimated number of work days per month in Delhi zone = 24 days.
5. Average number of man-months per beneficiary farmer: $2,036 \div 24 = 84.83$ man-months

B. Determination of FFW cost per beneficiary farmer:

1. Ration size per FFW man/month:

Bulgur = 72 kg/month.
Oil = 2.5 kg/month

2. Cost per Kg. of ration by commodity in 1980 (from Table 1):

Bulgur - Rs. 1.75/kg

Oil = Rs. 13/kg

3. FFW commodity cost per beneficiary farmer:

$$[(72\text{kg} \times \text{Rs.}1.75) + (2.5\text{kg} \times \text{Rs.}13)] \\ \times 84.83 \text{ man-months} = \text{Rs. } 13,455$$

C. Estimate of yearly cost for tank constructed under CRS/FFW in Delhi zone per beneficiary farmer:

1. Range of estimated life for unlined tank = 3 to 30 years.
2. Estimated life on unlined tank = 7 years.
3. Estimate of non-food for work costs of tank construction = 20% of direct labor
4. Estimated total yearly cost of tank per beneficiary farmer:
FFW costs + 20% non-FFW expenses = total costs =
(Rs. 13,445 x 1.2) = 16,134

$$\text{Total costs} \div \text{tank life} = \text{tank cost/year/} \\ \text{beneficiary farmer}$$

$$16,134 \div 7 = \text{Rs. } 2,304/\text{year/beneficiary farmer}$$

D. Estimate of benefit accruing to the beneficiary farmer:

1. Estimate of increase in crop value, possibly due to improved yield during Kharif as measured by Rs. earned:
Rs. 10,843 - Rs. 8,680 = Rs. 2,163
2. Estimate of increase in crop value, possibly due improved yield, during kharif as measured by Rs. earned:
Rs. 11,706 - Rs. 7,392 = Rs. 4,314
3. Estimate of annual increase in crop value:
Rs. 2,163 + Rs. 4,314 = Rs. 6,477/year
4. Estimate of additional hired labor cost required by beneficiary farmer (P. 17 of Delhi report):
(136 - 109 man-days) x Rs.5/manday = Rs.135/year

5. Estimate of opportunity cost of additional labor provided by beneficiary farmer family including, land preparation, sowing and transplanting, irrigation, interculture, harvesting and threshing and transport to market (p. 19 Delhi report):

$$\begin{aligned} & (\text{man-days after} - \text{man-days before}) \times \text{Rs. } 5 = \\ & (627-537) \times 5 = \text{Rs. } 450/\text{year} \end{aligned}$$

6. Net increase in benefit per beneficiary farmer:

$$\begin{aligned} & (\text{annual increase in income} - \text{annual increase in costs}) \\ & = 6,477 - (135+450) = \text{Rs. } 5,892/\text{farmer/year} \end{aligned}$$

E. Presentation of Benefit Cost Analysis

1. Net benefits assuming no time value of money (0% discount rate):

$$\begin{aligned} & (\text{benefits} - \text{costs}) = 5,892 - 2,304 = \\ & \text{Rs. } 3,588/\text{year} = \text{Rs. } 25,116/\text{tank life} \end{aligned}$$

2. Net benefits assuming a 9 discount rate:

$$\begin{aligned} & \text{benefits} = 5,892 - 5,033' = \text{Rs. } 29,654 \\ & \text{costs} = \text{Rs. } 16,134 \\ & (\text{discounted benefits} - \text{costs}) = \\ & \text{Rs. } 29,654 - \text{Rs. } 16,134 = \text{Rs. } 13,520/\text{tank life} = \\ & \text{Rs. } 1,931/\text{year} \end{aligned}$$

3. Benefit cost ratio assuming no time value of money (0% discount rate):

$$\text{benefits} + \text{costs} = 5,892 + 2,304 = 2.56$$

4. Benefit cost ratio assuming a 9% discount rate:

$$\begin{aligned} & \text{discounted benefits} + \text{costs} = \\ & 28,975 + 16,134 = 1.79 \end{aligned}$$

5. Internal rate of return = approximately 30%

F. Further assumptions implicit in the foregoing analysis.

1. All tanks are used primarily for irrigation purposes.
2. Changes in off-farm activities are disregarded.

'Present worth factor for a 9% discount rate of a 7 year uniform series.

3. Under a seven year tank life estimate the cost of tank maintenance may be disregarded.
4. While the mix of crops changes following the construction of a tank the cost of inputs (fertilizers, fuel, etc.) remain approximately constant except for labor.
5. Benefits remain constant over the seven year tank life.
6. The market value of the commodities produced remain constant over time.
7. 9% discount rate used in analysis based upon estimate of Rural Development Corporation rate for 1980. (Typical commercial rates could be twice as high.)
8. Hired day labor and beneficiary farmer family labor is valued at Rs.5/day in 1980.

Lessons from Our Attempt at Calculating Benefit-Costs

What have we learned from attempting a benefit cost analysis for irrigation tanks in the Delhi zone? First, and perhaps obviously, is the sensitivity of the analysis results to the decisions we make concerning how to value commodity cost and benefit. Had we used U. S. costs for commodities and then added ocean freight and in-country transport costs the costs would have risen by approximately forty percent. Had we chosen a different estimation procedure for determining benefits, the difference in outcome might have been greater still. An alternative benefit estimating procedure which relied upon cropping intensities, crop yield rates, and other farm inputs together with a different valuation of labor input could yield estimates which easily change the result by fifty percent. The seven year estimate of tank life is clearly an approximation. Depending upon the degree of silting, amount and rate of flooding, tank depth, soil type, type of lining, if any, and other variables, the life could range anywhere from 3 to 100 years. This variation would by itself change

the B/C ratio several hundred percent. Finally, whether or not the time value of money is incorporated into the analysis changes the B/C ratio substantially. For instance, in our example the B/C ratio is 2.50 at a zero discount rate and drops to 1.79 at 9 percent discount. The internal rate of return (the discount rate where the discounted benefits equal the costs) is approximately 30%.

Finally, the perspective we selected was societal. That is, we estimated all the principal cost and benefit components in the system. Had we selected the perspective of the beneficiary farmer only, many costs of the FFW commodities would have been excluded because they are free to him. Consequently, from the farmer's perspective, the benefit-cost ratio would have been far greater.

So, why do the study? If we had absolutely precise estimates for all the variables from the field, the results could vary by 100 percent just based upon the specifics of methodology employed. But we never will have absolutely precise estimates so the variation could be greater still. Under these conditions should we continue to pursue the topic? Our answer is yes. We believe there are very real advantages to the approach but only under certain conditions. This is the topic of the next section.

The Role of Benefit Cost Analysis in a Monitoring and Evaluation System

Perhaps the most useful way to proceed is to begin with an enumeration of what we believe benefit cost analysis should not be used for.

- It should not be used to decide whether to continue funding FFW programs. Sensitivity to variable estimates and to the specific methodology is too great to entrust to such a decision process.

- It should probably not be used by USAID/India or

AID/W for determining funding levels or for deciding on relative emphasis among countries at this time.

• It should not be the sole or even the principal component of the decision process within CRS.

On the other hand B/C analysis and or cost effectiveness analysis could be a useful input in the local or zonal decision process within CRS. When this analysis technique is used to promote a dialogue about which of several alternatives to select, many of the problems of data and methodology are minimized. If such a use is envisioned, then the next steps for incorporating it into a monitoring and evaluation system are relatively straightforward.

1. Make an attempt to conduct a rudimentary analysis for each of the major components in the CRS FFW program. That is, apply the approach to land levelling, well digging and low cost housing in a manner similar to that done in the foregoing example. Do not spend much time trying to gather more accurate cost and benefit estimates prior to the first analysis cycle. Instead, rely upon existing knowledge or easily obtainable information and push through to completion.
2. Be sure that each analysis is transparent to any reader. List the assumptions, announce what is not being captured in the analysis, record the steps in calculation and describe where the data estimates have come from. This transparency is extremely important for all the following stages of development.
3. Use these prototype analysis to promote a dialogue about improving the appropriateness of the analysis methodology and data validity. If the analysis method is transparent, knowledgeable field staff can more easily suggest improvements. Transparency will

also allow the reader to judge which data are most important to improve accuracy.

4. At the same time that the dialogue on methodology improvement is underway, there should be a parallel discussion on how the analysis might be used in the decision process.
5. After some effort has gone into steps 1 through 4 above, decide what data is needed from the monitoring and evaluation system. The key to success in this step is not in deciding what information might be useful for analysis but rather what data are absolutely necessary for analysis. The typical mistake made is to gather too much unnecessary data rather than not enough.

We can not emphasize enough the value of the dialogue associated with developing a cost benefit or cost effectiveness analysis. For instance, if the dialogue on tank irrigation shows that the life of the tank is particularly important in determining the results perhaps an auxiliary investigation of why some tanks last longer than others will stimulate improvements in program implementation. A discovery that some land levelling projects yield large returns in comparison to other levelling projects may point the way towards better schemes. Variation in estimates then changes from a problem to be overcome to an opportunity for programatic improvement.

APPENDIX C - PERSONS CONTACTED

AID/Washington

Ms. Maureen Norton - ASIA/PPE
Ms. Judy Gilmore - FVA/PPE
James Manley - ASIA/BI

USAID/Delhi

Mr. Harry H. Houck, Chief, Office of Food for Development
Mr. John Paul Chudy
Mr. N. Krishnamurthy
Ms. Priscilla M. Boughton, Mission Director
Dr. Richard M. Brown, Deputy Director
Ms. Mary Ann Anderson, Office Health, Population and Nutrition

Catholic Relief Services - NY Office

Mr. Donald J. Crosson, Regional Director, Asia and Pacific
Mr. Anthony M. Foddai, Director, Program and Supply

Catholic Relief Services - Delhi Office

Mr. Terrence M. Kirch, Director, India
Mr. Joseph Gerstle, Deputy Director
Mr. Donald Rogers
Mr. George Thomas

CRS Cochi Zone

Mr. F.M. Paynter, Zonal Director
Mr. John Koth, Program Reviewer
Mr. Joseph . Food For Work Evaluator

CRS Bombay Zone

Mr. Michael E. McDonald, Zonal Director
Mr. P.M. Jose, Food For Work Evaluator
Mr. Clarence Silva, Zonal Administrator

Project Holders and Consignees in Order of Visit

(See Key Table 2)

1

Fr. Alex
Director, Social Service
Post Graduate Institute of Social Works
Rajagiri, Kalamasserry
(Consignee)

(See Kay Table 2)

- 2 Fr. John, CMI
Christ King Church
Karukutty
Dt. Ernakulam
Kerala
(Project Holder)
- 3 Fr. Mathew Vadakemuriyil
Secretary cum Treasurer
Malanadu Development Society
Kanjirapally, Dt. Kottayam
Kerala
(Consignee)
- 4 Mr. Babu Thomas
Snehaniketan
Panachachira
Dt. Kottayam
Kerala
(Project Holder)
- 5 Sr. Sophie
Snehaniketan
Panachachira
Dt. Kottayam, Kerala
(Project Holder)
- 6 Sr. Grace, FCG
Malanadu Development Society
Parathode
Dt. Kottayam, Kerala
(Project Holder)
- 7 Fr. Joseph John
Secretary
Vijayapuram Social Service Society
Post Box No.82
Kottayam, Kerala
(Consignee)
- 8 Fr. Thomas Parambil
Infant Jesus Church
Maduravely
Kottayam, Kerala
(Project Holder)
- 9 Fr. M. Garriz
Catholic Ashram
Kalol
Dt. Mehsana
Gujarat
(Consignee)

(See Key Table 2.)

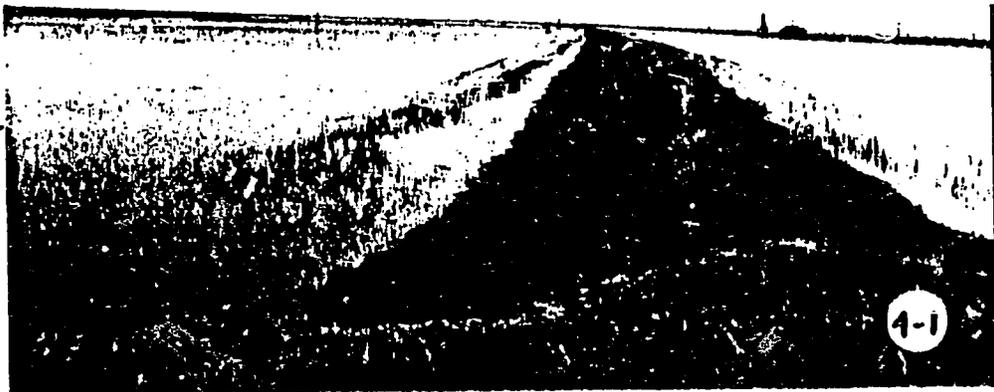
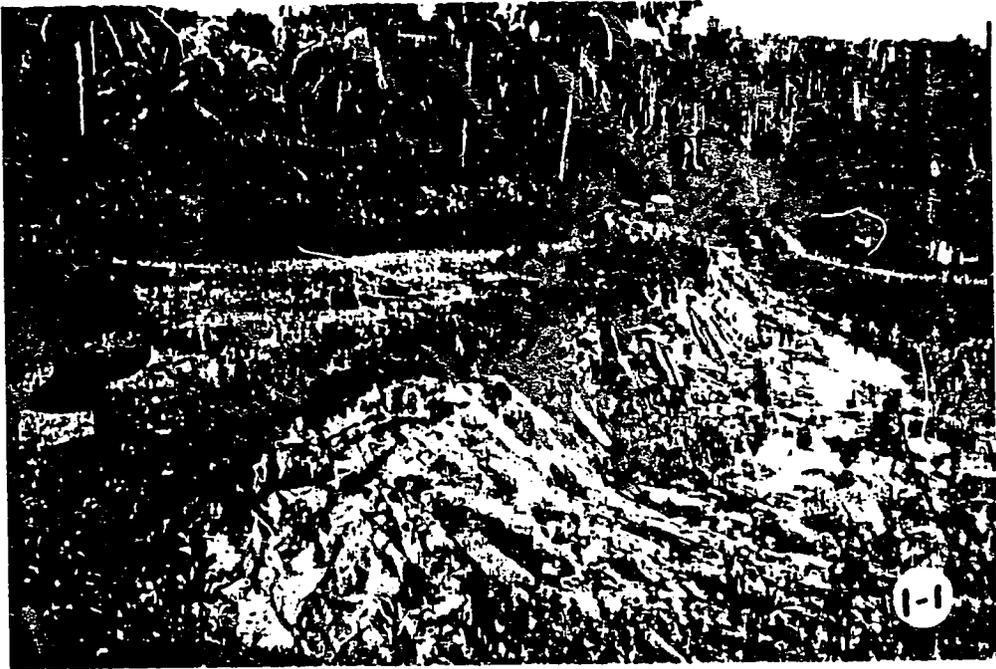
- 10 Fr. R. Mascarenhas
 Catholic Ashram
 Kalol
 Dt. Mehsana
 Gujarat
 (Project Holder)
- 11 Fr. R. Ervise, JJ
 St. Xavier's Social Service Society
 P.B. 4088
 Navarangpore
 Ahmedabad, Gujarat
 (Project Holder)
- 12 Fr. J.M. Heredero
 The St. Xavier's Non-Formal Education
 Society
 St. Xavier's College
 Ahmedabad
 (Project Holder)
 Mr. Gagan Seth)
 Mr. A.R. Paotkia) Research Team
 Mr. Martin Mackwan)
- 13 Mr. Jagdish Mehta
 Ahmedabad Study Action Group
 Dalal Building
 Behind Hotel Capri
 Relief Road
 Ahmedabad
 (Project Holder)

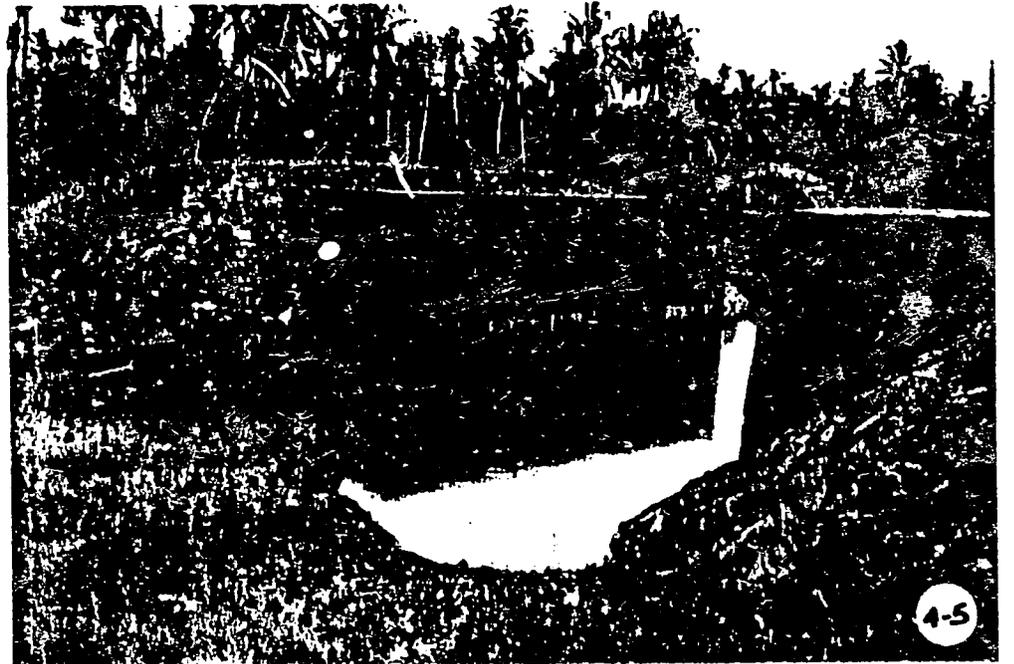
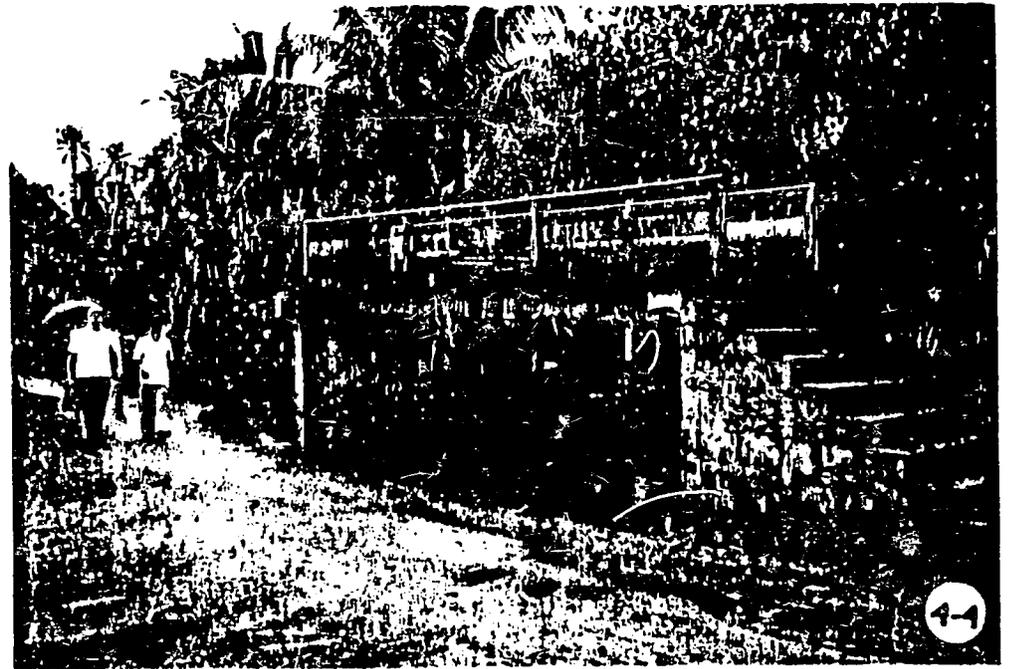
APPENDIX D

SELECTED PHOTOGRAPHS OF FFW SITES

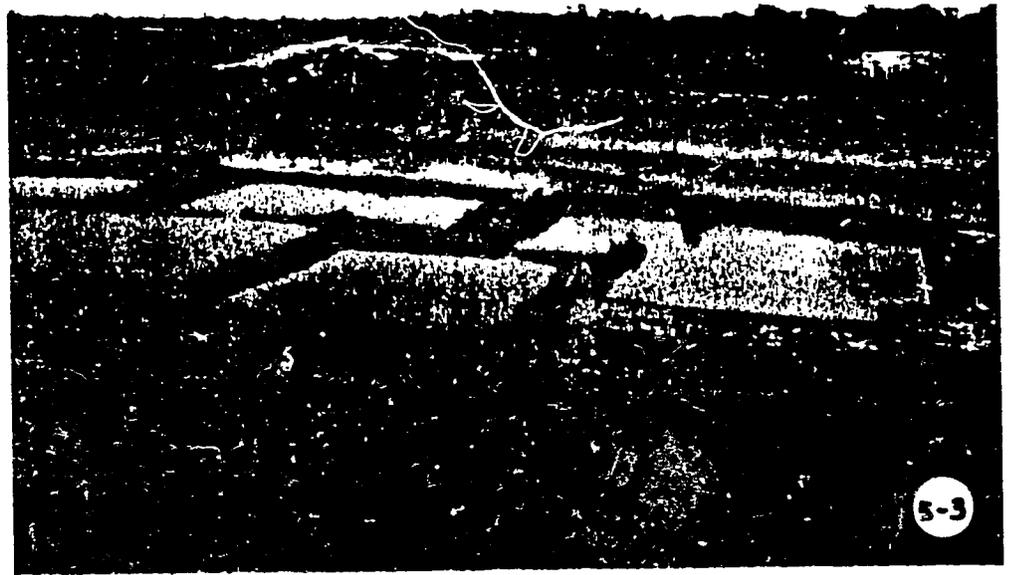
This appendix contains Xerox copies of selected photographs of Food For Work Sites in India. One complete set of all eighty-six site photographs taken during July of 1983 has been provided to AID/Washington, USAID/India, CRS/India and to the relevant consignees.

Best Available Document





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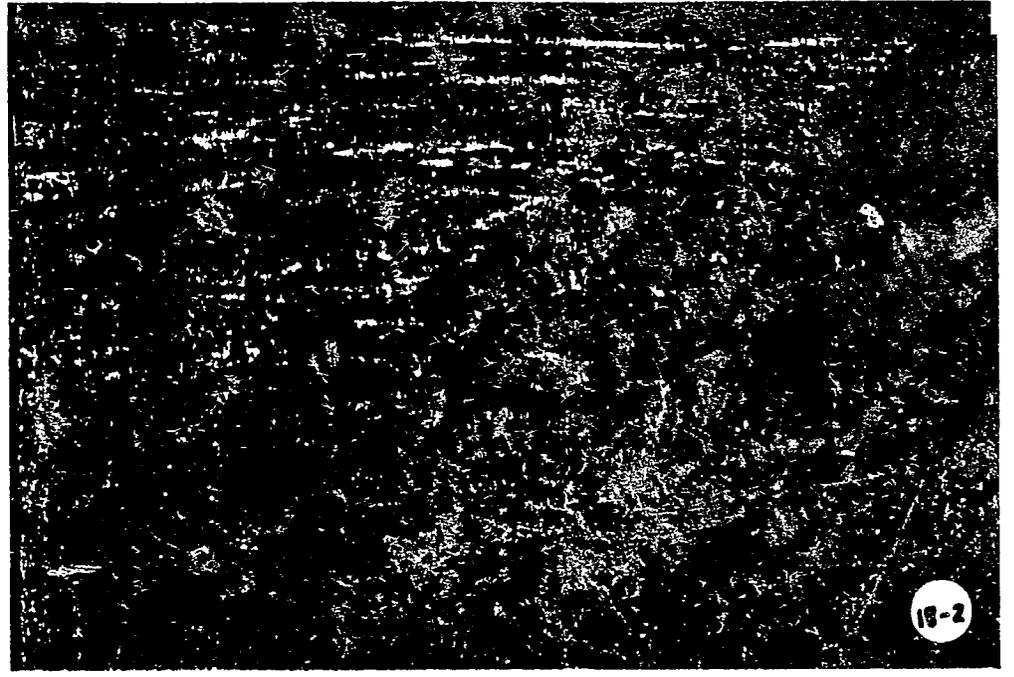


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